INSECURITY OF LAND TENURE AND ITS IMPACT ON THE ENVIRONMENTS OF MUYEYE, MALINDI, KENYA.

BY

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DECLARATION

This thesis is my original work and to the best of my knowledge has not been submitted for a degree in any other university.

Signature…… Date…….

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

Signature…… Date…….

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

Signature…… Date…….

DR. ROSE MUSYOKA

DEDICATION

To my dear wifeEmmahAchiengChawere, sons JamesOdhiamboChawere and Peter OmondiChawere for the great inspiration you gave me.

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ABSTRACT

Security of land tenure influences the quality of development and the physical environment. Security of security of land tenurevaries from one settlement to another and from one plot to another. Any effort that increases security of land tenurein most cases if not all leads to a corresponding improvement in the quality of the physical environment. Likewise, an effort that leads to improved quality of the environment increases the security of land tenure to some extent. This is the idea behind all informal settlement upgrading projects whose approach is providing adequate security of land to the occupiers of informal settlements.

This research therefore aimed at providing practical and appropriate land tenure options for increasing security of land tenurethat can be applied together with other mechanisms in upgrading informal settlements.

The researchinvestigatedland tenure conditions within Muyeye informal settlement under which various plots exist, both the ones with comparatively higher quality of the physical environment and those with comparatively lower quality of the physical environment, so that lessons on increasing security of land tenure can be borrowed from the plots with comparatively higher quality of physical environment and used to develop mechanisms for increasing security of land tenure for the plots with comparatively lower quality of physical environment. The research also investigated a number of mechanisms successfully applied elsewhere both within and outside Kenya and borrows heavily in developing mechanisms for upgrading informal settlements in Kenya.

Findings of the research revealsthat for Muyeye informal settlement, land tenure insecurity of the plots varies from comparatively very low levels to comparatively high levels depending on the conditions under which the plots are held and that the quality of the physical environment was directly proportional to the level of security of land tenure. Italso proves that it is possible to increase security of land tenure and thus improve on the quality of the physical environment within an informal settlement by adjusting internal circumstances through internal arrangements as opposed to providing title deeds to the occupiers. The research also reveals that bodies and

agencies mandated to provide security of land tenurecontributeeither knowingly or unknowingly towards increasinginsecurity of land tenure.

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List of Acronyms

CLT : The Community Land Trust.
CBOs : Community Based Organizations.
CDIA : Cities Development Initiative for Asia.
CORs : Certificates of Rights.
EPAP : European Partnership Action Plan
EMCA : Environmental Management and Coordination Act.
EIA : Environmental Impact Assessment.
GTZ : German Agency for Technical Cooperation.
GOK : Government of Kenya.
GPS : Global Positioning System.
GIS : Geographic Information System.
IBEACO : Imperial British East African Company.
KISIP : Kenya Informal Settlements Improvement Project.
KSIP : Kosovo Standards Implementation Plan
KENSUP : Kenya Slum Upgrading Program.
LPGs : Local Public Goods.
MLG : Ministry of Local Government.
MINA : Minimum Intervention Approach.
MMC : Malindi Municipal Council.
M3M3A : Muyeye 3 and Muyeye 3 A.
MoLG : Ministry of Local Government
NGO : Nongovernmental Organizations.
NACHU : National Association of Cooperative Housing Unions.
PSUP : Participatory Slum Upgrading Programme.
PC **:** Provincial commissioner.
PDP : Partial Development Plan.
RAP : Relocation Action Plan.
RC : Residents' Committee.
RDA : Registration of Documents Act.
STDP : Small Towns Development Project.
SEC : Settlements Executive Committee.
SIDA : Swedish International Development Agency.
SPSS : Statistical Package for the Social Science.
TOL : Temporary Occupation License.
UNCHS : United Nations Centre for Human Settlements.
UN : United Nations.
UNICEF : United Nations International Children's Emergency Fund.
VMC :Voi Municipal Council.

Translation of non-English words.

Wazeewamitaa **:** Village elders.

Kilio cha umojawanashungi: Cry from the united people Wanashungi.

Changaa **:**Local brew.

1 CHAPTER ONE: INTRODUCTION

Development of urban informal settlements is largely attributed to poor access to land and insecure land tenurewhich is a common phenomenon in most parts of Kenyan urban settlements especially the Coastal region. The problem is as a result of the twin problem of landlessness and absentee landlord (Kenya,2004:2). Varying levels of insecure land tenure have different effects on the condition of the physical environment as manifested in MuyeyeMalindi, the study area.

1.1 Background to the Research Problem

Informal settlements in urban centers are a growing phenomenon in the developing world. Half the world's population is housed in them. The case of informal settlements has been explained as being due to increase in number of urban poor through migration from rural areas, natural population growth and lack of affordable serviced houses in the urban centers. This has led to the invasion of publicand private land by low income groups without prior planning. It has also led to acquisition of land through unauthorized and unregulated means with no security of land tenure and in areas where basic social services and infrastructure are lacking (Muthoni, 2003:1). This invasion is also attributed to the difficulty, beurocratic and expensive nature of acquiring land through formal legal channels.

In most case developing countries they have a historical aspect dating from the colonial period. Cities by then were exclusively for the colonizers. The locals were allowed in for the services they could offer and were housed in certain localities with free means of acquiring land. *Jere* points out that with independence, the flow of locals to the cities was and has been too large for services planned for a small number of people.

According to Abbott the informal settlements in most developing countries have undergone a historical process starting with denial of basic services by respective governments to accepting that they are social and economic entities in their own right and should be supported and encouraged to grow. It is with this regard that governments with the assistance of donorcountries and international organization have embarked on housing and formalization programs to the present day upgrading schemes (Muthoni, 2003:1).

However, government efforts have not been successful because of corruption among concerned authorities, nepotism and tribalism, gentrification or the windfall effect, lack of corporation of the local community and lack of a clear informal settlements upgrading policy which is able to address the challenges that may be caused by selfish interests of the authorities which are concerned with the increasing security of land tenure as an approach to upgrading of informal settlements.

The research thereforeinvestigated the cause of failure of these efforts and come up with practical and appropriate land tenure options that can be applied in informal settlements upgrading.

1.2 The Problem Statement

There are problems that are common to various parts of urban settlements with insecurityof land tenureworldwideand within the Kenyan coast (Mohamed, 2010:3).

The failure of past action by Government agencies to provide security of land tenureto informal settlements is an indication that there is a shortage of land tenure options for upgrading of urban informal settlements. In fact there are resistance to action on land for housing the urban poor which is as a result of land owning groups who see their control over land endangered, from middle income groups who feel that they should be ahead of the poor in the housing queue, or from radicals who see such measures as subduing the revolutionary zeal of the masses (Angel et al, 1983:4).

The study problem was therefore the lack of information on practical and appropriate mechanisms and techniques or land tenure options for increasing security of land tenure and which can be applied as guidelines for upgrading of informal settlements.

1.3 Purpose of the Study

The purpose of the study was to provide a solution to the problems, challenges and circumstances that have led to the failure of the existing informal settlements upgrading techniques and the agencies concerned with informal settlements upgrading. In particular, the study aimedat generating practical security of land tenure options for the study areawhich can be replicated in other urban informal settlements especially those within the Kenyan Coast region. The study also aimed at making policy recommendation for flexible and practical development laws for informal

settlements whose main characteristic is insecurity of land tenure and proposes approaches to the regularization of settlements and landin informal settlements for upgrading purposes.

1.4 Scope of the Study

The scope of this study focused on two main areas, the spatial scope which is the geographical boundary of the study area and the theoretical scope which indicates the limit of the variables to be introduced and tested within the study area.

The study was limited to Muyeye Village, Muyeye Location, Malindi Division in Kilifi County. The village starts from Sabasaba to Mayungu Road and Takaye to Kijiwetanga. The study area is to the west of Muyeye secondary school, east of Malindi High School and south of Maweni settlements. The land size is of the settlement is 57.31 acres(Wairitu and Simiyu, 2011:26) See Figure 10.

The study also aimed at understanding how insecurity of tenure influences the quality of the physical environment.

1.5 Research Questions and Objectives

The objectives of the study were based on the need to solve existing problem in the area of study. This problem was environmental degradation which isas a result of insecurity of landtenure.

1.5.1 Study Objectives

i. To determine the land tenure status ofMuyeye settlement.
ii. To map the status of the physical environment ofMuyeye settlement.
iii. To derive the relationship between the various land tenure insecurity levels and the condition of the physical environment of Muyeye settlement.
iv. To come up with land tenure options that can increase security of land tenure forMuyeye settlement.

1.5.2 Research Questions.

i. What is the land tenure status of Muyeye settlement?
ii. What is the status of the physical environment ofMuyeye settlement?
iii. What is the relationship between the various land tenure insecurity levels and the condition of the physical environment ofMuyeye settlement?
iv. What are the land tenure options that can increase security of land tenure forMuyeye settlement?

1.6 Research Hypotheses

The hypotheses for this study were based on the study objectives which dwelt on finding the correlation of land tenure insecurity and the condition of the urban environment of the study area. There was substantial evidence that indicates that there is a direct relationship between insecurity of land tenure and the condition of the physical environment within urban informal settlements.

1.6.1 Alternative Hypotheses (H1)

Insecurity of land is the main cause of degradation of the physical environments ofMuyeye.

1.7 Justification and Significance of the Study

Land has been characterized as a key factor of production for development, whether from basic needs or a more market-orientated perspective, 'the central place of land in the development process is acknowledged on all sides' (McAuslan,2003: 4). Land tenure insecurity is the main contributor to environmental degradation which is manifested through the upcoming of informal settlements.The upgrading of informal settlements has become the official government policy on informal land development (Lamba,2005:46). The attempts to solve the problems of informal settlements have to be coupled with improving security of land tenure. The squatters in these informal settlements are also great contributors to the urban economy since they provide urban cheap and affordable skilled and unskilled labor and are major consumers of urban goods and services. There is no question that these people fulfill an essential role in the urban economy, and there is no hope at all that they will leave the city and return to their villages. On the contrary, more will be coming (Angel et al,1983:6). The eviction of these people from the land does nothing but shift the "problem" to some

other location in the city (Angel et al, 1983:6). For most of the poor urban dwellers, access to land through the legal means is almost impossible. In majority of the developing countries, the urban land market does not operate as a free market. It is subject to varying degrees of control over land use, to regulations governing land transfer, to restrictions on development rights, to compulsory acquisition and to taxation. Government controls are, in turn subject to political pressures by different groups with interests in using land and benefiting from land transactions (Angel et al, 1983:8). Action on land and housing for the urban poor is usually motivated by the need to reduce the visible human suffering, obey the rights of the poor, prevent street riots, keep cost of housing low and in some cases it is usually driven by politicians appealing for votes (Angel et al, 1983:4). A long lasting solution must therefore be found for the problem of land tenure insecurity and its consequences which are degraded urban environments.

The research study therefore contributes to the body of knowledge by revealing the major hindrances to achieving security of land tenureand the coping mechanisms by community members in their efforts to achieve security of land tenure and improve on the conditions of their physical environment.

The research also recommendsmethodologies for providing security of land tenure in informal settlements upgrading projects which can be used in the development or improvement of existing policies on informal settlements upgrading projects.

Muyeye as a settlement was justified because it falls within the coast region. Land ownership within the 10 mile coastal strip has experienced a condition of changing ownership and legislations especially The Land Titles Act, Cap 282 of 1908 which left several indigenous inhabitants landless(Wanyumba et al, 2013:7) (See page 29). This makes the Kenyan Coast to have the highest levels of insecure land tenure. The settlement selected is therefore justified based on the fact that it is located within the Coast Region.

Almost all the urban areas of the entire Coast region experience challenges of insecure land tenure. These challenges arebeing experienced in a number of urban centers such as Mombasa, Kilifi, Malindi and Voi. However the research focused on Malindi town because it has 20 informal settlements, all of these are found within Malindi municipality (Wairutu and Simiyu, 2011:1). Past research on insecure land

tenurefocusesmainly on major urban centers such as Nairobi, Kisumu, Nakuru and Mombasa. Out of all these only Mombasa iswithin the coast region.Malindi being a small town compared to Mombasagives a new dimension to the topic of insecurity of insecurity of land tenure and its impact on the environment which is explored by this research.

Table 1: Past studies on the topics related to insecurity of land tenure. (Source: Author 2015)

Study	**Town**	**Year**	**Author**
Kibera Soweto East A Case Study In Slum Upgrading	Nairobi	2007	Michelle Mulcahy and Ming-Ru Chu
Understanding The Grassroots Dynamics Of Slums In Nairobi: The Dilemma Of Kibera Informal Settlements	Nairobi	2011	Mutisya. A and Masaru Yarimea
Soweto East Project Concept Note	Nairobi	2008	Leah Muaguri
Kisumu, Kenya Kondele, Manyatta, Nyalenda	Kisumu	2013	AlexandreApsanFrediani, Julian Walker and Stephanie Butcher, Editors
Nairobi Situation Analysis. Nairobi		2002	Syagga, P.M., Mitullah, W. &Kariara-Gitau, S.
Kenya Coast Province Mombasa - Informal Settlements Monitoring The Situation of Children And Women Multiple Indicator Cluster Survey	Mombasa	2009	Government of Kenya And UN-HABITAT

Out of the twenty informal settlements in Malindi, only Muyeye and Kibokoni have individual plots with varying conditions of physical environment. To add on this, they were the only informal settlements which had been identified by the central Government as priorities for upgrading because of the achievability of their upgrading exercise. Muyeye is purposively selected because it coversa total area of 57.31 acres which gives a wider scope of study as opposed to Kibokoni settlement which coversapproximately 15 acres only. The study is interested in Muyeye because of the fact that despite being in an area with high levels of insecurity of land tenure, it still

has unexplained variation of condition of physical environment among individual plots and zones within it.The aim is to find out if there are varying levels ofinsecurity of land tenure within Muyeye settlement which is the reason for the varying levels of quality of physical environment.

1.8 Assumption of the Study

The study wasbased on the assumption that the variation of the quality of physical environments within plots and zones in Muyeye was as a result of variation in insecurity of land tenure among the individual plots and zones within Muyeye.

This chapter has introduced the study by discussing about the background to the research problem, the problem statement, the purpose of the study, the scope of the study, the research questions and objectives, the research hypotheses, the justification and assumptions of the study. The chapter also introduces Muyeye settlement in Malindi town which is the study area. In order to clearly understand thejustification of the study topic and the study area, it is important to look into the literature review which is discussed in the next chapter.

2 CHAPTER TWO: LITERATURE REVIEW

This chapter represents literature review on insecurity of land tenure and its impacts on urban environments. It aims at bringing out the problem of insecure land tenure, its persistence, efforts made to overcome it, challenges experienced in these efforts, achievements and failures in handling it at the global, regional, national and local level. The objective of this is to understand the source and persistence of the problem with an aim of developing an appropriate methodology for the research that would lead towards developing solutions to the problem of insecurity of land tenure and its impacts on the urban physical environment. Specifically, the reviewfocuses on informal settlements upgrading projects which areefforts of national Governments towards improving on security of land tenure and the condition of the physical environments which should at the end lead to descent housing to the urban poor. The review also explores the mechanisms and techniques applied in a local case which is a Community Land Trust Project in Tanzania Bondeni in Voi town.

2.1 Definition of Terms and Variables

Before we get into the review of literature, there are a number of terminologies that have been used and have specific definitions that apply to this research. The terminologies to be defined include land tenure, secure land tenure, informal settlements, slum upgrading, land tenure systems, informal tenure, legalization/regularization,gentrifying and the urban poor.

2.1.1 Land Tenure

Land tenure refers to rights belonging to individuals or groups in relation to land, broadly speaking ‘rights of access and use of land’ (USAID 2005, 3).

2.1.2 Secure Land Tenure.

Security of tenure is a situation that exist when individuals perceive that they have rights to a piece of land on a continuous basis, that land is s free from imposition or interference from outside sources and they have the ability to reap benefits of labor and capital invested in the land either in use or upon transfer to another holder (Asperen, and Zevenbergen, 2007:3).

2.1.3 Informal Settlements

According to the UN Habitat, informal settlements can be categorized into two based on the mode of gaining access to the land and informal development of the land.

i. **Squatter Settlements:** Settlements where land and/or buildings have been occupied without the permission of the owner.
ii. **Illegal Land Development**: Settlement where initial occupation is legal but where unauthorized land development have (e.g. change of land use that breach zoning plans, building extensions without building permissions, subdivisions without regard to services and infrastructure, etc.)(UNHSP, 2003: 82-83).

2.1.4 Slum Upgrading

Slum upgrading is a process of intervention for economic, organizational and environmental improvement to an existing human settlement undertaken collectively among citizens, community groups, governments (national/local) and any other development partners (Non-governmental, multi-lateral/bilateral organizations). Although the reasons for slum upgrading may vary from place to place, the main push factors have included the demand for affordable tenure options, environmental health considerations and poverty reduction (Syaaga, 2011:4).

2.1.5 Land Tenure Systems

Land tenure systems are those legal, contractual or customary arrangements whereby individuals or organizations gain access to economic or social opportunities through land (Lamba, 2005:24)

2.1.6 Informal Tenure

Informal tenure refers to situations of de facto tenure (actual occupation of land without a legal basis) where groups of people occupy public or private land without the permission of the land owner. It's the situation where people exercise 'land rights', without having acquired them through the customary or statutory channels (Lamba, 2005:44)

2.1.7 Legalization/Regularization

Legalization/regularization as the formal transmission of ownership to the settlers(Azuela and Duhua, 1998:160).

2.1.8 Gentrifying

Purchase of land within an upgraded informal settlement by the middle class and either developed for their own occupancy or for the rental market(Bassett,1997: 217).

2.1.9 The Urban Poor

They comprise of the urban groups which cannot gain access to the formal market for land and housing because they cannot afford to (Angel, 1983: 4).

Having defined some of the terms and variables to be used in this research, the discussion that follows introduces the problem of insecure land tenure at the global level, in Africa, in Kenya and finally at the Kenyan Coast.

2.2 Insecurity of Land Tenure at the Global Level

In the late 20th century, slums have exploded worldwide becoming a cause for serious concern among humanitarian organizations as an alarmingly high number of people live in regions which could be considered slums.

According to the UN-HABITAT (2008) If nothing is done to stop the current trend, the current number of approximately 1 billion people worldwide living in slums and informal settlements is expected to rise by 1.6 billion by the year 2020 and to 2 billion by 2030. In African, Asian and Latin American cities, slum dwellers comprise of over 50% of the total population.

The global land tenure and property rights regional report prepared by USAID reveal the development constraints related to land which includes violent conflict/post conflict instability, insecure tenure and property rights, inequitable access to land and natural resources and poor land market performance (See Figure 1; Figure 2; Figure 3 and Figure 4). In Latin America, the challenge of insecurity of land tenure is experienced in Colombia, Ecuador, Peru, Bolivia, Brazil and Guyana. In the Caribbean America the problem is in the Dominican Republic and Haiti. In Asia, the challenge is in Indonesia, Philippines, Cambodia, Vietnam, Laos, Bangladesh, Myanmar, Sri lanker, India, Nepal, Pakistan, Afghanistan, Tajikistan, Kyrgyzstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Mongolia and Azerbaijan (USAID, 2007:55 - 65)

In 2005, Kosovo signed the Vienna Declaration on Informal Settlements, which calls for both the prevention of new informal settlements and the regularization of the

existing ones. The prevention and regularization of informal settlements was also included in the Kosovo Standards Implementation Plan (KSIP) and in its successor, the European Partnership Action Plan (EPAP). The issue of informal settlements is also an important part of Kosovo's progress towards meeting the Millennium Development Goals (UN-Habitat, 2007: 1).

The international ambitions in this aspect have been specifically formulated in "Target 11" of Millennium "Goal 7", which concerns the broad topic of environmental sustainability, and reads: "To have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers"(UN-Habitat, 2003a: 2).

In order to measure the progress made towards achieving target 11, also called the "Cities without Slums" target, one single and outstanding indicator was agreed upon by the UN.21 The indicator, which is monitored by UN-HABITAT, concerns the issue of secure tenure of slum inhabitants and is stated as follows: "Proportion of households with access to secure tenure."

The discussion that follows is on insecurity of land tenure in Africa, its origin and evolution.

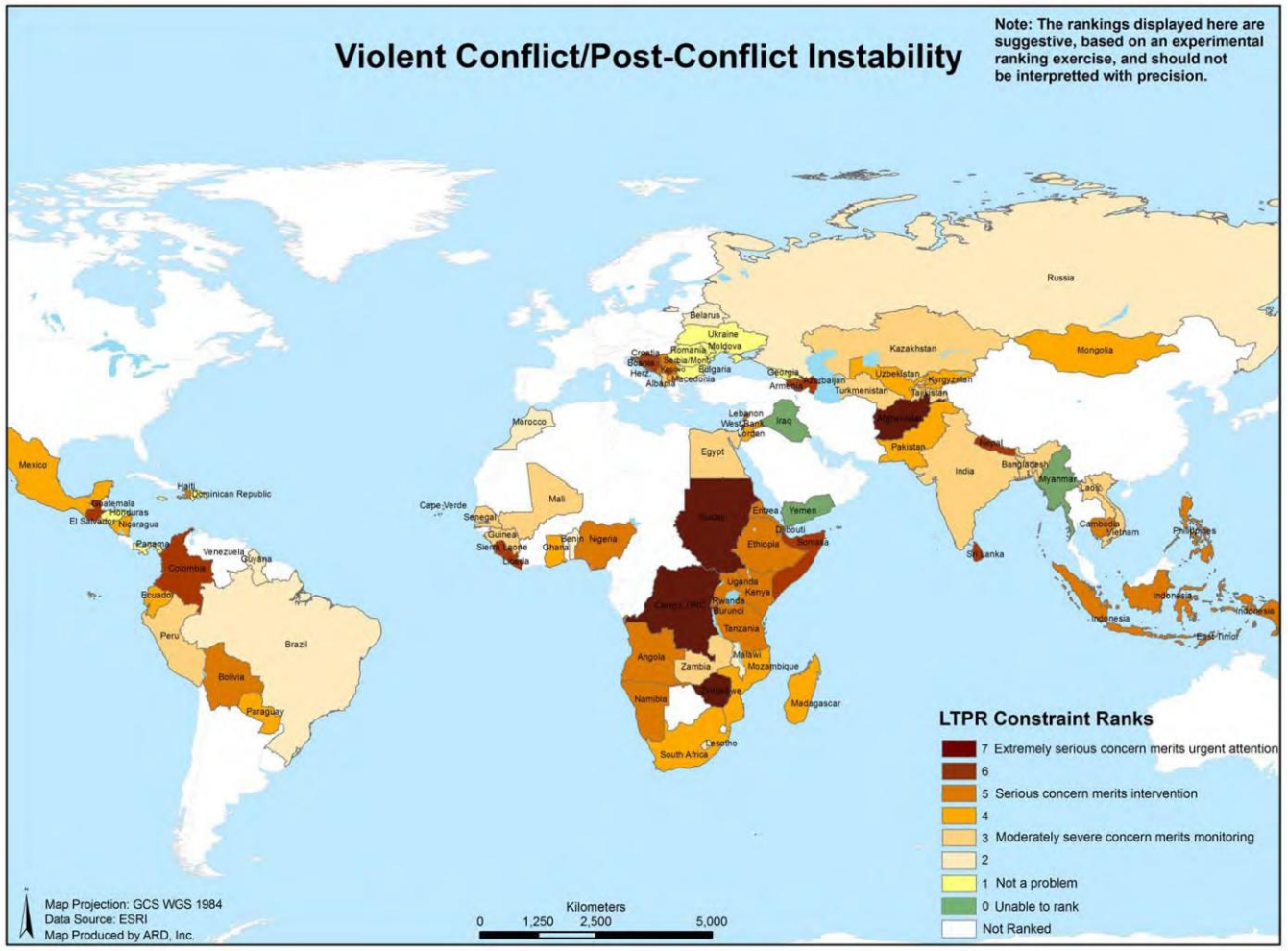


Figure 1: Global LTPR constraints map for violent conflict/post conflict Instability (Source: USAID, 2007).

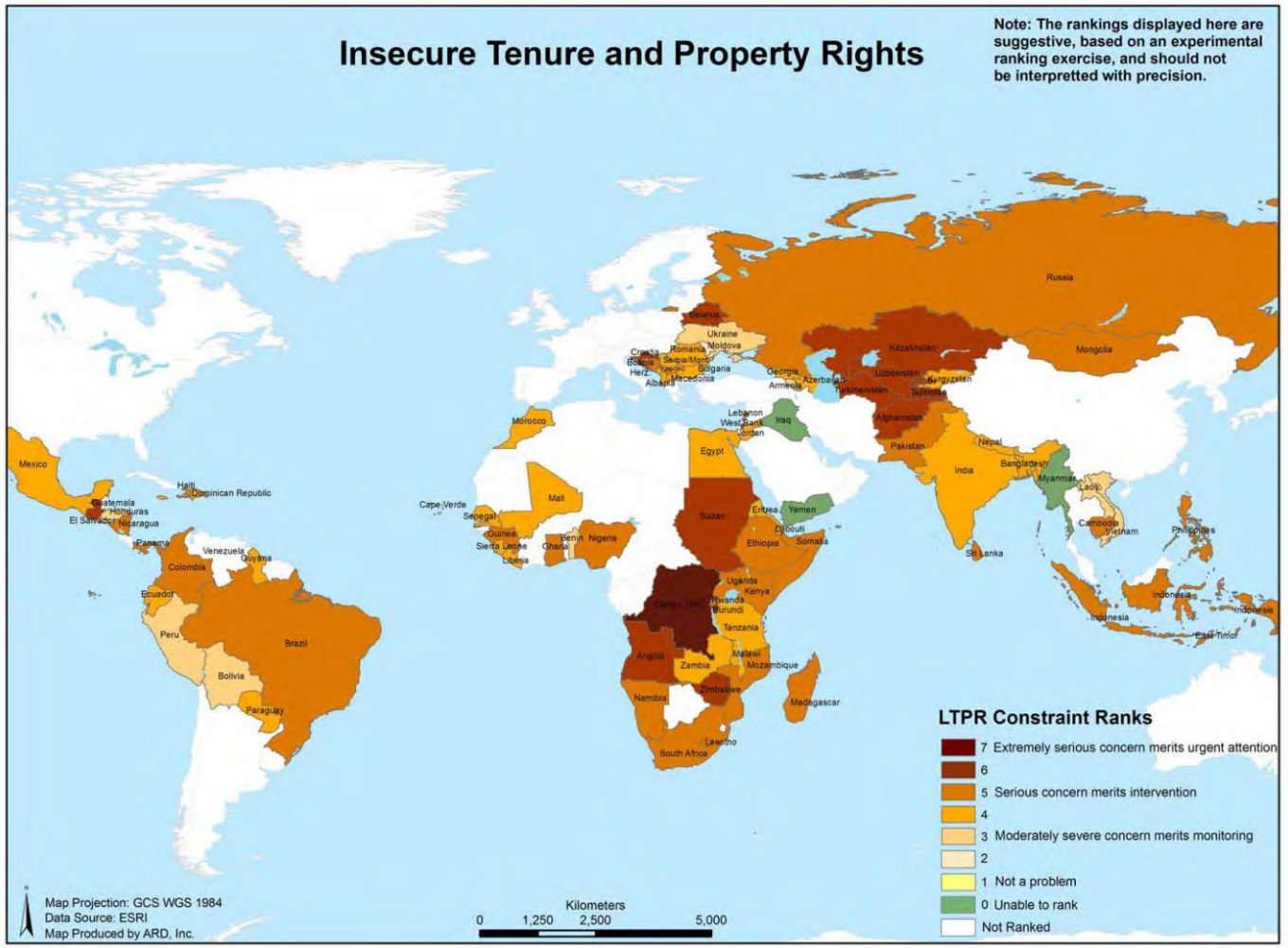


Figure 2: Global LTPR constraints map for insecure tenure and property rights (Source: USAID, 2007).

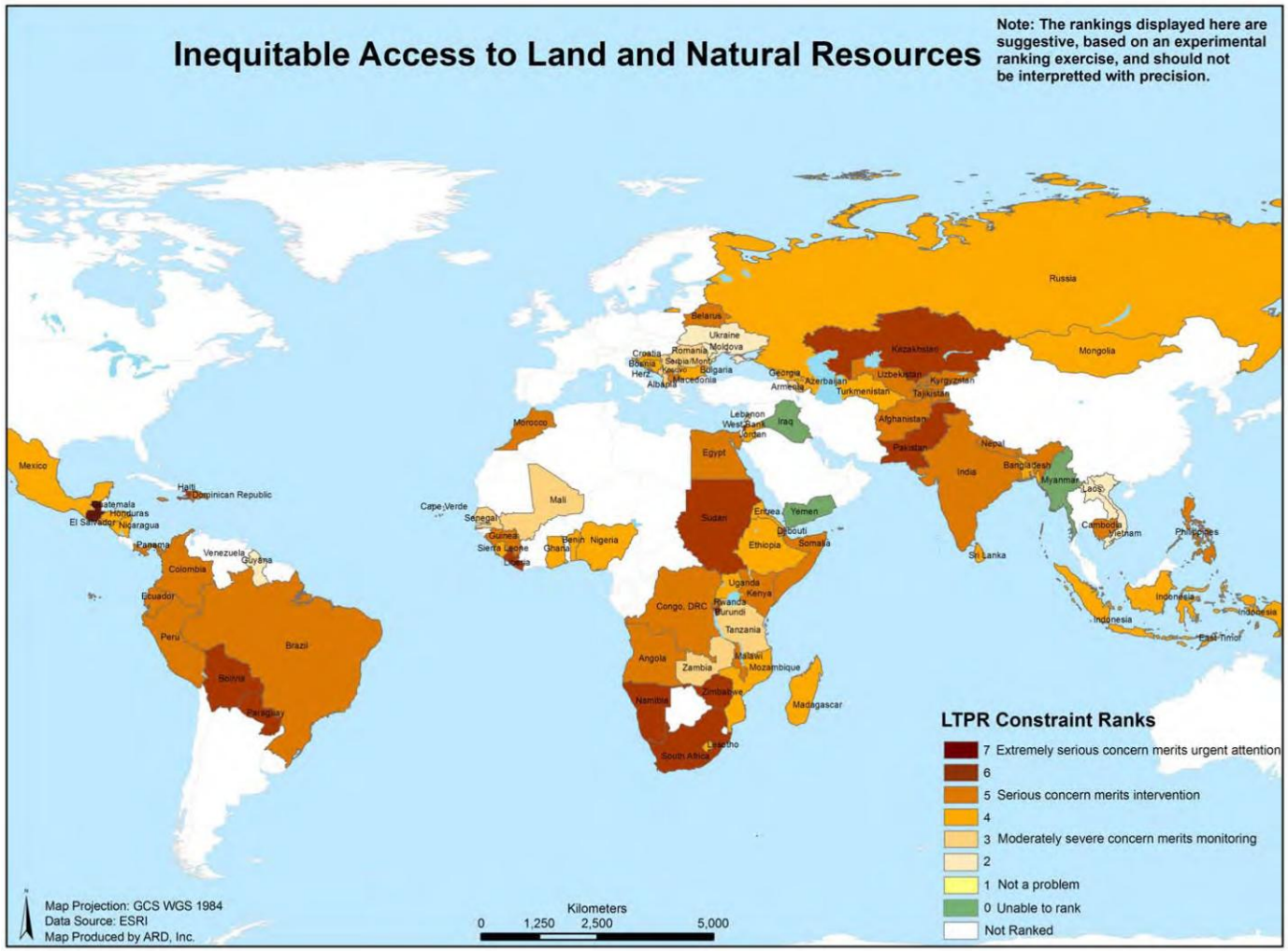


Figure 3: Global LTPR constraints map for inequitable access to land and natural resources (Source: USAID, 2007).

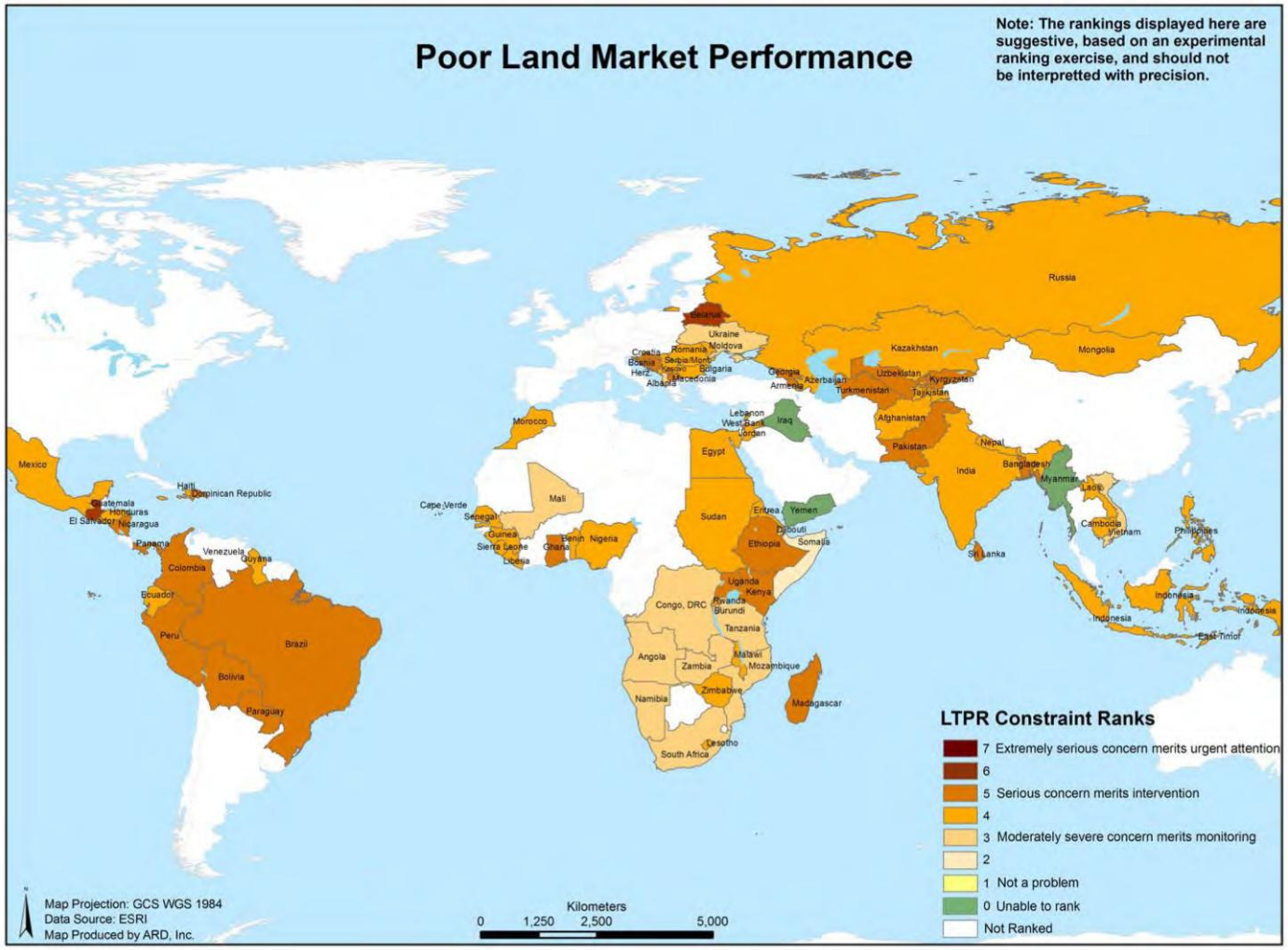


Figure 4: Global LTPR constraints map for poor land market performance (Source: USAID, 2007).

2.3 Insecurity of Land Tenure in Africa

Africa is a vast continent with diverse political and cultural heritages amongst its 53 countries. The most notable common features of the continent, however, are the subjection of almost all its countries to colonialism in the last century, the different paths taken to redress effects of the colonial domination and the struggles towards controlling fast urbanizing population in the last 50 years. Throughout the history, the struggle for land by indigenous peasants, pastoralists and large commercial farmers has created conflicts, some of which have epitomized in ugly fighting. Within the individual countries, land conflicts manifest themselves on two palates- the urban and rural divide (Komu, 2012:2).

In the urban sectors, land rights are secured against registered land titles while in the countryside, these rights are generally recognized through local communities under a general umbrella that is popularly referred to in almost all official United Nations documentation as ’Customary land’ (Komu, 2012:2).

Table 2: Slum growth in selected developing countries(Source: UN-Habitat, 2010/2011).

COUNTRY	SLUM ANNUAL GROWTH RATE %	SLUM POPULATION (000)	SCENARIO 2020 WITH NO CHANGE
Angola	5.28	3,918	10,677
Kenya	**5.88**	**7,605**	**23,223**
Nigeria	4.96	41,595	76,749
South Africa	0.19	8,376	8,677
Uganda	**5.32**	**3,241**	**8,904**
Tanzania	**6.16**	**11,031**	**35,561**
Brazil	0.34	51,676	55,074

2.3.1 Evolution of Land Tenure in Independent Africa

A typical African country awakening from the yoke of colonial rule and nationalistic independence era exhibits three distinct epochs of times that shaped its land tenure system. The first epoch is the colonial times when large chunks of land were alienated many a times against the indigenous interests and occupied by colonial settlers. Many of the present pieces of legislation had their origins from these times. The Colonial

system was followed by the nationalist independence era during which the new nationalistic governments grumbled against what they considered an unjust land holding system. Most of the new legislation promulgated by the new independence governmentsis paradoxically a replicate of similar laws of the countries from which the colonial system was introduced into the African countries. This was to be expected mainly because the freed African had little training and poor grasp of economic affairs of the new nation. It is during this period that we witnessed alarming rate of rural-urban migration that ushered in new problems associated with urbanization. Interesting however is the fact that in all three eras, the State assumed the radical title to land(Komu, 2012:3).

The advent of the rural people to urban areas that were considered the den of the nonindigenous brought with it a variety of differing customs. These customs have had a strong bearing on land use and occupation in the African cities. The customs shrouded with nationalistic sentiments and the 'African Socialism' bred fertile grounds for abrogating existing laws on the use and occupation of land to the effect that hazard and wetlands were brought to use and squatting on planned areas became fashionable. It should however be noted that squatting and creation of slums in the African city was not solely for the nationalistic reasons as just said. Inability of the new independence governments to contain the fast urbanizing towns and local politics as well as bad land governance were other reasons for the disorderly developments in the African towns (Komu, 2012 :3).

The two historical epochs were followed in the last two decades by a more complicated system embodied in globalization of the world economy. During this era, many of the legislation from the two preceding epochs have been reviewed, and a new international trade relation has re-instated features that smut the colonial era. It is during this era that the Eastern Africa countries carried out major land reforms that ended up with National Land Policy Frameworks in place at various times during 1989-1999. Unlike the second epoch which was characterized in many of the African Countries with communal ownership, the last epoch embraced the 'western concept of individual property ownership'. What is of greatest interest to us is however the recognition accorded to 'customary land ownership rights' throughout the three epochs amidst these varying political-economic systems and cultural structures. Indeed, despite the continued commoditization of land and real estate, as observed by

Andersen (2011), NGOs and other civil society organizations are mounting campaigns calling for governments to legally recognize customary communal tenure to safeguard community interests and the environment. Customary land tenure system has been a pinnacle of both rural and urban economies in all the African countries and yet the most vulnerable(Komu, 2012:3).

Having looked at insecurity of land tenure in Africa, the discussion that follows is on the origin, evolution and current status of insecurity of land tenure in Kenya.

2.4 Insecurity of Land Tenure in Kenya

Land tenure insecurity and informal settlements have a long history in Kenyan urban centers dating from colonial period, wheremost Africans were barred from the city's designated residential areas since they were reservedfor Europeans and Asians. Kenyans who came to the cities in search of work had to createinformal residential settlements outside the central business district and the planned residentialareas which were largely ignored by the colonial government (Mutisya and Yarime, 2011: 197). First development plans did not include earlysettlements, hence essential services to the settlements and road construction to link them to other areas of the cities were not provided by the local authorities (Mutisya and Yarime, 2011: 198).Kenya has since gone through three basic responses to informal settlements: eviction/demolition, relocation/sites and services and *in situ* upgrading (Bassett and Harvey, 1997: 216).

2.4.1 Eviction/Demolition Era

From 1895 to the 1970s, the approach to slums development consisted of demolition and eviction of slum residents. However, the more they were demolished, the more they increased in absence of alternative accommodation. Elements of this approach are still recognizable in many urban settlements of Kenya today (Syagga, 2011: 2).

2.4.2 Relocation/Sites and Services Era

The second phase marked the entry of international pressure and civil rights groups in the 1980s which made Kenya begin to slowly recognize the need to improve slums with funding mainly from multi-lateral agencies. This process was challenged, particularly during the international development phase in the 1990s, by structural adjustment programs (SAPs). These SAPs did not only remove subsidies, but they also required State governments to play facilitating roles rather than be involved in project implementation. When the second and third urban projects (Nairobi,

Mombasa, Kisumu, Thika, Eldoret, Nakuru and Nyeri) were completed in early 1990s, public housing development including squatter upgrading and site and service schemes stalled but slum development continued to an extent that more than 50% of the population of Nairobi, the capital city, now lives in slums(Syagga, 2011: 2).

2.4.3 In Situ Upgrading Era

Following the Habitat 11 Conference in 1996 at Istanbul, the international community re-evaluated the worsening housing situation and reiterated the need to accelerate the pace of facilitating adequate housing and security of tenure for all. This heralded the third phase marked by the shift to acceptance and integration of slums in development concerns from the 1990s. This was reinforced by the United Nations (UN) member states' adoption of the Millennium Development Goals (MDGs), in the year 2000, that address essential dimensions of poverty and their effects on people's lives. It was observed that an urgent need for coordinated policies and actions related to slum-upgrading, environmental management, infrastructure development, service delivery and poverty-reduction was needed at large. The MDGs articulate the commitment of member states to improve the lives of at least 100 million slum dwellers by the year 2020(Syagga, 2011: 3).

This era was marked by the coming of the Kenya Informal Settlement Upgrading Project (KISIP). The Kenya Informal Settlement Improvement Project (KISIP) is a new initiative started by the Government in collaboration with the World Bank, Swedish International Development Agency (SIDA) and French Agency for Development (AFD). KISIP focuses on improving living conditions in existing informal settlements by investing in infrastructure and strengthening tenure security. It will also support the Government of Kenya (government counterpart funding is 10%) in planning for future urban growth in a manner that prevents the emergence of new slums (Muraguri, 2008:3). The project comprises four components.

First is institutional strengthening and programme management which is done in the Ministry of Land Housing and Urban Development, Housing Department and the participating local Authorities (Muraguri, 2008:3).

Second is enhancing tenure security through planning, surveying and issuance of titles. Several activities that are undertaken under this component include preparation of guidelines for informal settlements, establishing databases on land tenure,

community organization and mobilization, preparation of development plans including determination of settlement boundaries, detailed mapping, identification and verification of beneficiaries based on agreed eligibility criteria, preparation of local physical development plans, issuance of letters of allotment to households/groups, surveying of individual plots and preparation of registry index maps, registration and issuance of titles to households or groups. The government prefers a model/guideline for informal settlements whereby the identification is mostly done by the community. Some require group titles while others need individual titles (Muraguri, 2008:3).

Third is investing in infrastructure and service delivery through investing in roads, bicycle paths, pedestrian walkways, street and security lights, waste management, water drainage, sanitation, green spaces, platforms etc. in the informal settlement spaces. KENSUP will work on the housing whereas KISIP will deal mainly with this infrastructure (Muraguri, 2008:3).

Fourth is Planning for urban growthwhere theGovernment provides technical assistance to the County Goverments. The goal of this initiative is to take measures that will reduce or prevent slums (Muraguri, 2008:3).

2.4.3.1 The Challenges of Upgrading Informal Settlements

The first challenge of upgrading informal settlements is the legal challenges. By their nature as described above, informal settlements are human habitats but withoutformal license, lease, and with the tenants paying rent to unofficial landlords, the upgrading project would not have any improvements to the lives of the occupiers of the informal settlements (Wafula, 2004:5).

Economic challenges are also experienced as people with very low incomes and no obvious economic power occupy the informalsettlements. They are not attractive to the regular investor who seeks a handsome return on investment (Wafula, 2004:5).

Socio cultural challenges are experienced when informal settlements create their own ways of life that are typical for that kind of community.There is harmony and comfort with these circumstances. Upgradingdisrupt a set pattern of life, since it calls for evacuation, displacement, relocation,and new neighborhoods(Wafula, 2004:5-6).

Finally, technical challenges occur when there is a great difficulty in implementing the physical planning standards in informal settlements. This is because there is simply no space available for achieving these standards which in most cases are the goals of the informal settlement upgrading projects (Wafula, 2004:6).

All three policy responses have had limited success. Razing slums did not eliminate the need for housing. Residents simply erected shelters elsewhere. Most site and service schemes intended for the poorer sectors of society have ended up gentrifying i.e. purchased by the middle class and either developed for their own occupancy or for the rental market. The Dandora Sites and Services scheme in Nairobi funded by the World Bank provides the best example of this phenomenon. Of the original beneficiaries, only 25% still reside within the settlement as owner-occupiers, the rest of the parcels have changed hands. Finally, in *in situ* upgrading projects, the objective of providing security of tenure to the poor through titling has not been achieved due to similar illegal and informal transfers of property and gentrification of projects.

Having looked at these efforts, let's now look at the current situation of insecurity of land tenure in Kenya.

2.4.4 Current Insecurity of Land Tenure Situation

Currently security of land tenure in Kenya depends on whether the occupants of the land have **formal** or **informal** land rights. As Mohamed agues, formal land rights such as registered freehold, leases, group tenure and adverse possession have more security of land tenure while the informal land rights such as perceived tenure and occupancy have little Insecurity of land tenure (Mohamed, 2010: 4).

There is no clear distinction between formal and informal land ownership (land tenure systems) in most urban areas in developing nations rather land ownership varies depending on level of security from formal to informal forming a range or continuum of land tenure categories. The emergence tenure sub systems are due to the failure of conventional land tenure systems to meet land needs of urban populations within the low income bracket creating room for agents who come up with informal mechanisms of accessing and developing land toileted to the needs and income levels of the urban poor. Each continuum provides different sets of rights, responsibility, degrees of security and enforcement (UN-Habitat, 2008:8). Consequently, urban developments in developing countriesexhibitvarying level of legality ranging from squatting; un-authorized subdivision on legallyowned land, illegal construction to varying forms of rental arrangements consistent with the nature subsystems existing within an area(Payne, 2001:417).

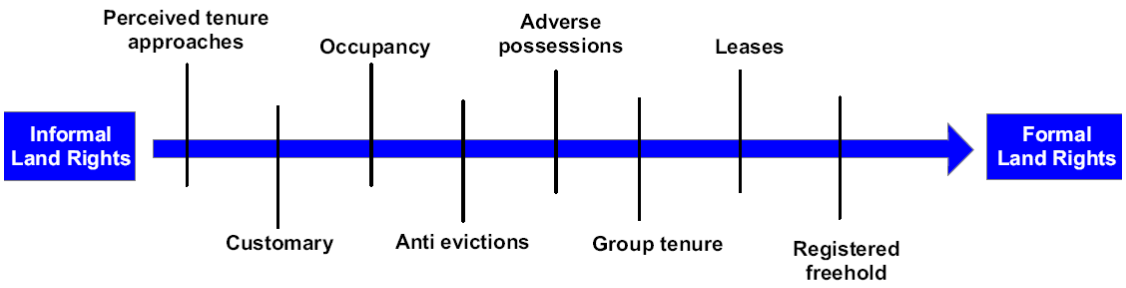


Figure 5: An illustration of the continuum of rights concept (Source, UN-Habitat, 2008)

2.4.4.1 Formal Land rights/tenure systems in Kenya

Formal interests in land broadly fall into three groups; Public land which includes all Government land, community land or trust land and private land (Republic of Kenya, 2009:13; Republic of Kenya, 2010: 60).

Public Landcomprises all land that is not private or community land and any other land declared to be public land by an act of parliament.Community Landrefers to land lawfully held, managed and used by a given community as shall be defined in the "Land Act".Private landrefers to land lawfully held, managed and use by an individual or other entity under statutory tenure. Private land is derived from the Government Lands Act (Cap280), Registration of Titles Act (RTA) (Cap 281), Registered Land Act (RLA) (Cap 300), Trust Land Act (Cap 288), The Indian Transfer of Property Act (ITPA) and the Sectional Properties Act (Act No.21 of 1987) (NLP 16). Private land is further divided into Freehold tenure and leasehold tenure(Republic of Kenya, 2009:14-16).

Freehold Tenureconnotes the largest quantity of land rights which the state can grant to an individual. While it confers unlimited rights of use, abuse and disposition, it is subject to the regulatory powers of the state. Leasehold tenureis the right to use land for a defined period of time in exchange for the performance of certain obligations such as the payment of rent(Republic of Kenya, 2009:18).

It is the formal land rights that form the basis for formal land supply. Formal land delivery channels include government land allocation and formal purchase of land which are lengthy and biased. This in turn eliminates most of the urban poor from accessing urban land (Musyoka, 2004:18).

2.4.4.2 Informal Land Rights/Tenure Systems in Kenya

One of the main contributors to the upcoming of informal settlements is the informal access to land by the urban poor. This has mainly been contributed to by the bureaucratic, tedious and expensive means of legally acquiring land in most

developing countries including Kenya. This is what has led to the preference of the informal means of acquiring to the formal legal means by the urban poor. For the urban poor the land is in most cases acquired to meet the basic need of shelter or residential needs.

Urban land is currently undergoing a process of commercialization which also increasingly excludes the poor and more recently significant elements of the lower-middle class, from access to residential land. As land markets expand to cover entire metropolitan regions, their ability to exclude the poor becomes more comprehensive and complete. The analysis also describes a number of informal mechanisms for land delivery to the urban poor as alternatives to the bureaucratic, tedious and expensive formal access to land (Angel et al, 1983:17).

Musyoka (2004)analyses in detail the origin and evolution of informal settlements form land which was initially legally acquired as witnessed in Eldoret, Kenya. She points out that this situation has two main characteristics. She argues that for the informal settlements of Eldoret, the land in question is titled but subsequent subdivisions are not (See Figure 6). Then the transactions on land may initially be informal only to be turned to be formal at a later stage. This is done following the need for or demand by the buyers of these land parcels to obtain legal documents of ownership (Musyoka, 2004:20).

She points out that the informal land delivery in Eldoret is driven by land buying companies which comprise groups that purchase land parcels from the government with the intentions of subdividing to sell or to settle on or both. The companies have legal titles for the initial large plots at the beginning. However after subdividing informally, the subsequent owners are not issued with title deeds at least at the beginning. This then creates some form of land tenure insecurity. The reason for not following the formal subdivision and development approval process is as discussed earlier a result of its lengthy, tedious and expensive nature (See Figure 7).

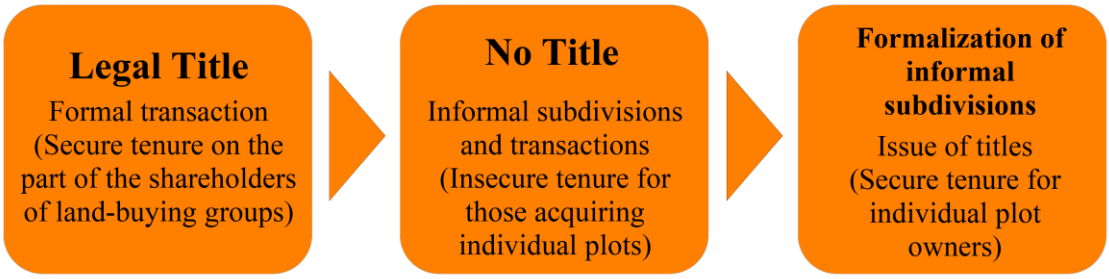


Figure 6: Sequence of land acquisition and subdivision by most of the land-buying companies in Eldoret (Source: Musyoka, 2006).

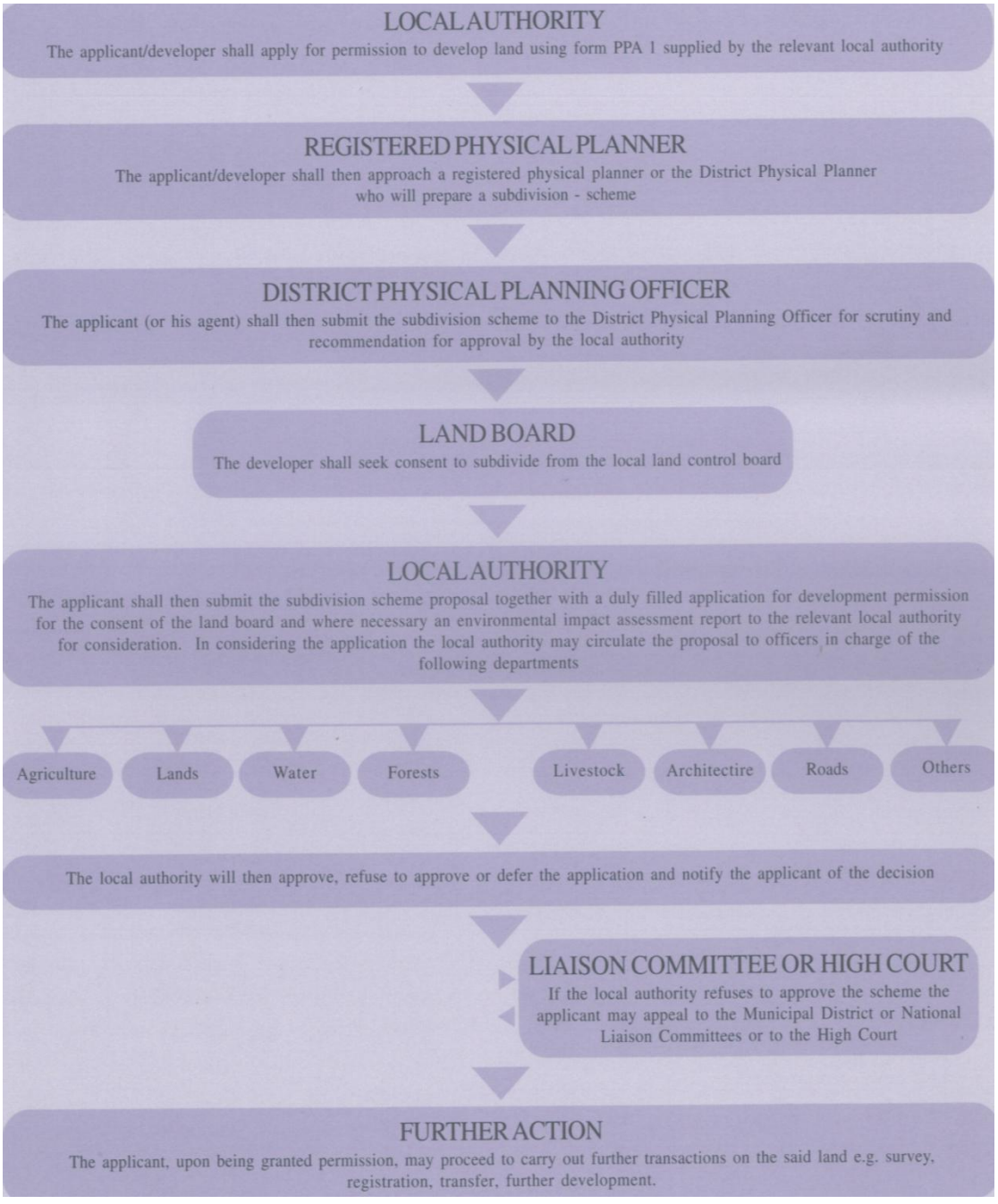


Figure 7: Formal process of obtaining permission for subdivision of freehold land within a municipality (Source: Physical planning act, 1996).

The informal subdivisions do not meet the planning standards and are also sold. Later when there is need to secure the tenure for the owners, the informal subdivisions are formalized and land title deeds are issued to the owners. This may however never take place (Musyoka, 2006: 229-233).

2.4.4.3 Strength and Weaknesses of Informal Land DeliveryProcesses

The advantages of informal land delivery includes meeting demand,tenure security,revenue generation, infrastructure and service provision, access to land for housing the poor and access to land by women.

The first advantage is that the alternative land delivery system is better able to meet demand and deliver land in large quantities than the formal system. This is because of the unlimited land sizes which allows for further subdivision. Again the terms of sale for plots in most informal settlements allow for flexibility, especially in the mode of payment. Thus even if prices are high by local standards, a buyer may not feel the effect because of the acceptability of paying in installments. Where there is a high level of trust, then the buyers may be allowed to build as they pay (Musyoka, 2004:30).

Secondly most plot owners feel ownership is synonymous with use rights. In KamkunjiEldoret, some plot owners had lived in their plots for many years (Some over 15 years) without titles. They have no fears because they have developed and no one disturbs them over ownership. To them secure tenure means having the freedom to build and live on their plots undisturbed and, as this is not violated, they feel that they have security of tenure. Some have faith in agreements drawn by lawyers, considering that such agreements are as good as formal certificates of ownership. However, others consider that lawyers contribute to insecurity of tenure, as some may unknowingly draw up an agreement to a plot that has already been sold to a different buyer. A written agreement signed in the presence of the *wazeewamitaa* (local elders) and/or witnesses provides enough security for many plot owners to feel that they own their property, as the use of witnesses and *wazeewamitaa* are perceived to guard against fraud/cheats (Musyoka, 2004:30-31).

Thirdly most of informally delivered land does not yield significant revenue to city authorities. This is because in most cases, plots in such areas are not registered and it is, therefore difficult for a municipal council to capture all the taxable properties.

Fourth in some cases, layout plans are commissioned by the land buying groups, although their need to the best possible use of land and make plots affordable to their shareholders and subsequent buyers may lead to the adoption of planning standards and plot sizes that are below the local authority requirement for the installation of infrastructure and service provision by the local authorities (Musyoka, 2004:33).

Fifth is that some plot owners would not be able to acquire a plot were it not for the flexibility that allows members to buy the size of plots they can afford pool resources or pay in installments. However, the poorest are unlikely to be able either to purchase a share in a land-buying company or a subdivided plot (Musyoka, 2004:33).

And finally ownership of land in Kenya is governed by both statutory and customary law. Most women have rights to rural land through men under customary law. Statutory law does not bar any Kenyan from owning land. It recognizes that women can own (buy/sell or charge) land. However, only a few women have the economic means to buy land. In the informal land delivery process women have been able to have access to land(Musyoka, 2004:34). This is the case despite the fact that Article 4 sub article 2 b of The Land Act, 2012 states that the elimination of gender discrimination in law, customs and practice related to land and property is guiding value and principle for the National Land Commission and any state officer or public officer in addressing land issues (Republic of Kenya, 2012:4).

2.4.4.4 Informal Institutions

The institutions in context to informal access to land are about the organizations and the rules that govern all land related activities within the informal settlements. These institutions evolve or rather are created as a result of the challenges that are experienced by the plot owners including land tenure insecurity (Mustapha et al, 1989:1333).

The institutions however have a number of weaknesses. First the land transactions in informal areas may be regulated by the use of informal rules, enforced by informal institutions. Sale agreements with local witnesses, including the elders, are recognized by the courts and are considered to be legally binding. Informal acquisition of land has risks, including uncertainty of ownership and the difficulty of obtaining title deeds. Some informal plot sales are characterized by disputes, ranging from those about boundaries to double to double/multiple sales. Some plot owners use different

lawyers or *wazeewamitaa* to conceal double sales of the same plots. The same applies to the use of village elders, as dishonest plot sellers approach different elders to seal transactions on the same plot. The rights holders suggest that, for this problem to be overcome, buyers should insist on witnesses who are their neighbors, in addition to an advocate and/or village elders (Musyoka, 2004:35).

Secondly informal institutions seem to work well in newly developing areas, as there are fewer residents and therefore owners know and trust one another. In particular, in Eldoret, the homogeneous ethnic composition of land-buying groups natured trust. There may however be a problem of enforcement if one of the parties acts contrary to the informal agreements. In addition there is some evidence that these institutions operate with great difficulty as areas become consolidated and more densely settled (Musyoka, 2004:35).

Thirdly formal rules seem to be more widely used in consolidated areas. They are preferred where trust has been eroded. The application of formal rules in a land transaction is expensive and the process takes a long time due to the bureaucratic requirements. But the level of security they offer is greater because they are formally recognized. It is sometimes suggested that as informal settlements become older, more consolidated and more densely settled, the number of disputes increases and informal institutions become less able to resolve them. Land disputes occur when there is a breach of the formal and/or informal agreements on which land transactions are based (Musyoka, 2004:35).

Fourth is that there are sources of land related disputes which include cases of a seller demanding more money for a piece of land than the amount agreed earlier. The original seller (Usually the head of the family) may die and his heirs, upon taking over the administration of the estate, refuse to recognize a transaction, sometimes unless additional money is paid. In other cases, a seller may sell the same piece of land to more than one buyer. Conflicts may also arise over boundaries, especially in safeguarding road reserves. Other cases include inheritance disputes, sale of fictitious/unavailable plots, spillage/drainage-directing waste and flood water to a neighbor's compound, illegal occupation of a plot, blockage of access streets/roads (Musyoka, 2004:36).

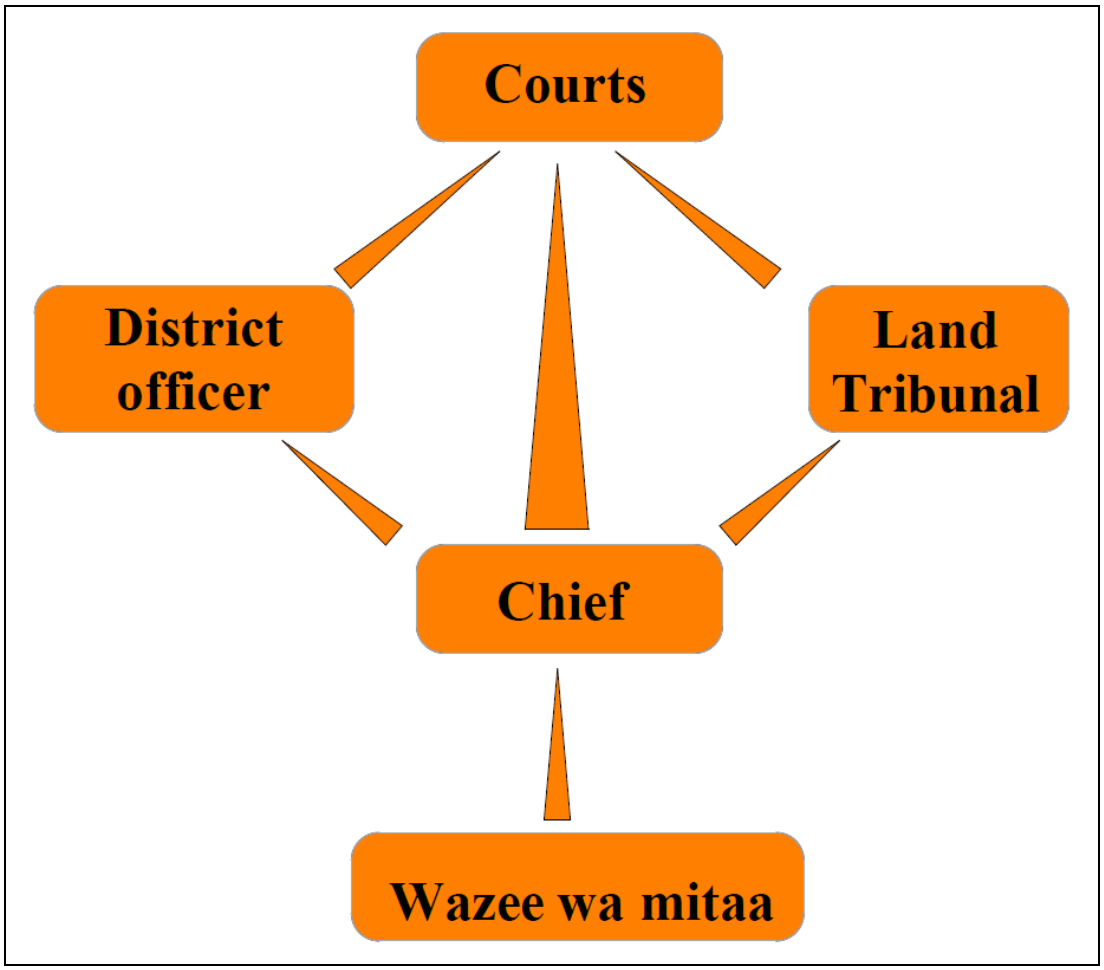


Figure 8: Channels of dispute resolution (Source: Musyoka, 2004).

The main weaknesses of informal institutions in handling land related disputes as includes cases where by some of the *wazeewamitaa* are partial in their determination of disputes through bribery. In other cases, especially where the services of a surveyor are required, there may be need for the costs to be covered by the complainant and the accused, if one of them is unwilling to cover these costs, there is no way of forcing them to do so. The *wazeewamitaa*are also occasionally hijacked by politicians who corrupt them and then make them loose the confidence of the residence. The state also sometimes compromises the *wazeewamitaa* to reach biased decisions. Figure 8 shows the structure of dispute resolution in for the urban poor land owners in Eldoret (Musyoka, 2004:37).

2.4.4.5 Threats to Informal Land Delivery

Angel studies land for housing the urban poor and argues that the increased involvement of governments in legitimizing informal housing arrangements will only be effective as long as the informal arrangements themselves continue to be effective.

In the same book, it's pointed out that it appears that many of the informal arrangements and processes described earlier are breaking down.

While informal arrangements have been responsible for making vast tracks of land available for low-income housing in the past decades of rapid urbanization, a number of changes are currently underway which may severely limit the ability to continue to supply land in adequate quantities to the poor in the future. As the commodity nature of land becomes more established, as developers and speculators assemble large quantities of fringe land, as land subdivides gain in sophistication, and as government controls become more effective and more ruthless, the era of anarchy and opportunity is slowly coming to an end (Angel et al, 1983:17).

Government agencies, armed with progressive legislation and charged with the responsibility for land development and distribution for the benefit of the public, are failing to assist the poor and are usually found to further extend the control of the rich over urban lands, including lands that were acquired by evicting squatters or through compulsory acquisition, for private commercial development, while large tracts of private land remain vacant and untouched (Angel et al, 1983:18).

The discussion on insecurity of land Kenya is then followed by insecurity of land tenure in the Kenyan Coast with an aim of moving as close as possible to the study area. It focuses on the history, evolution and current status of insecurity of land tenure of the Kenyan Coast.

2.5 Insecurity of Land Tenure in the Kenyan Coast

The ten mile coastal strip of Kenya and East Africa as a whole has had a different land ownership and tenure evolution as compared to the rest of the East African region. Majority has settled on either government land as squatters or on private land whose owners are absentee landlords. Most of the private land owners where there are squatters are people who acquired land which was formally public land through illegal means. The occupiers on the other hand have settled on the land because of the fact that they lay ancestral claims to the land.

2.5.1 History ofLand Ownershipand Tenure

Wanyumba, (2013) reviews the land tenure issues in Kenya and points out that Land Tenure issues in the 10-mile coastal strip of Kenya are intertwined with theearly

Swahili settlement in the region and the Indian Ocean trade. This area as he points out covers a strip of land of 1900 km stretching from Vanga in the south coast to the Lamu Archipelago in the North. The history and evolution of land issues here begins in the year**1660**A. D, when the Omani Arabs conquered the East Coast of Africa and declared their sovereignty over the entire coastal region from Mozambique to Somalia.Later, Sir William Mackinon of the Imperial British East African Company (IBEACO) signed an agreement with Sultan SayidBaghash of Zanzibar for leasehold on the 10-mile coastal strip in theyear**1885**.All land in the area was then ceded to the British Government by virtue of a concessionary agreement signed between the British and the Sultan of Zanzibar in the year **1888**. Under the agreement, all rights to land in this territory, except for the private property, were vested in the Crown. In the year **1902,** The Registration of Documents Act (RDA, Cap 285) was enacted to facilitate registration of documents relating to private land in the area. It then became necessary to adjudicate land in the 10-mile coastal strip in order to separate private property from Government land. The Land Titles Act, Cap 282 of **1908** was passed for this purpose in the year **1908**. Those individuals who successfully claimed their land rights were issued with freehold certificates of ownership or certificate of mortgage. Title deeds issued did not create new rights to land but only confirmed the existing and did not pertain to new grants.Property rights protection was deemed imperative for the conclusion of the independence talks held in Lancaster House from **1960** to **1962**. Having worked out an acceptable bargain, the new rulers set about consolidating their power in the new State. The issue of the landless natives proved a thorny one for the new Government, prompting it to institute measures to appease the vocal Africans still clamoring for the land taken from them. While these measures enabled the small holders to become the main driving force behind agricultural production, they were however, inadequate to resolve the issue of landlessness (Republic of Kenya, 2009:6). Most recently in the year **2013**, President Uhuru Kenyatta issued 60,000 land title deeds to squatters in Mombasa, Kilifi, Kwale and TaitaTaveta counties following their election pledges which were to issue one million title deeds for the whole country within their first term in office. However elected leaders from Tana River County claimed that the beneficiaries were mainly outsiders.Today, most of these titles have been converted to either the Registered Lands Act (Cap 300 of 1963) or into the Registration of Titles Act, Cap 281, of 1919(Wanyumba et al,2013:7).

2.5.2 Prevailing Tenure Situation

The situation of the 10-mile coastal strip is that land occupied by the Indigenous Kenyans are still held under communal customary tenure as most of the land has not been adjudicated to determine the individual land rights. Areas, which had been adjudicated under the Land Titles Act, have legal individual tenure except that most of the landowners are absentee landlords. Squatters who believe they have the right of ownership as they have lived in these localities for time immemorial occupy most of these parcels. Local communities feel they were cheated at the time of the Adjudication in 1908. As has been indicated elsewhere, the land occupied by the indigenous Kenyans were not adjudicated as private property, but were alienated as crown land (Wanyumbaet al, 2013:7-8).

Having discussed insecurity of land tenure within the Kenyan Coast, the discussion that follows brings us even closer to the study area by discussing insecurity of land tenure in Malindi town. The discussion focuses on the

2.6 Land Tenure Insecurity in Malindi town

The state of insecurity of land tenure inMalinditown just like in several Kenyan coastal towns has gone from bad to worse, and this is what has led to the upcoming of twenty informal settlements. These informal settlements have come up as a result of common factors which includelack oflegal proof of ownership documents among apparent plot owners, threat of eviction by the local authorities, absentee landlords and the possibility of rising sea levels due to global warming which threatens to displace some settlements (Wairitu and Simiyu 2011: 3).

Mohamed (2005) studies climate change and sustainable cities through which he focuses on the major challenges facing cities and urban settlements in the coming decades and points out that there have been recent warnings that the sea level is rising twice as fast as was forecasted, threatening hundreds of millions of people living in deltas, low-lying areas and small island states(Mohamed, 2010:5).

The discussion on insecurity of land tenure at various levels didn't fully bring out the impact of insecure land tenure on the physical environment. The discussion that follows is an attempt to bring out the effect of insecure land tenure on the physical environment.

2.7 Effects of Land Tenure Insecurity on the Physical Environment

The lack of land for housing the urban poor is argued to be the greatest contributor to degraded urban environments. The effect of insecurity of land tenureis therefore manifested in urban residential informal settlements. In Bangkok India, only slightly more than half of the families have improved their houses in the recent past, and most of the improvements were in the nature of necessary maintenance and repair rather than major investments in rebuilding and extension. Still, house improvements were found to be positively correlated with increased levels of tenure security and household incomes (Angel et al, 1983:13).

Having looked at the status of insecure land tenure in the whole world, in Africa, in Kenya, in the Kenyan Coast and finally in Malindi town and their effect on the physical environment, it is time to critically analyze the policy and legal systems that have been developed in Kenya with an aim of overcoming the challenge of insecurity of land tenure. The discussion focuses on the vision 2030, the constitution and the acts that support the efforts of providing security of land tenure and improving on the condition of the physical environments of informal settlements.

2.8 Policy and Regulatory Framework on Insecurity of Land Tenure

The issue of land tenure insecurity is widely related to informal settlements and slums, which are national problems. A number of policies have therefore been put in place to offer guidelines towards improving the situation.

2.8.1 Vision 2030

The Kenya Vision 2030 is the country's development blueprint covering the 2008 to 2030. The Vision 2030 aims at providing the country's population with adequate and decent housing in a sustainable environment. Informal Settlement Upgrading Programs initiated by the Government recognizes that overcrowding, lack of adequate sanitation and pollution in urban slums and informal settlements poses serious health risks to residents (Republic of Kenya, 2008:15-17).

2.8.2 The Constitution of Kenya

The Constitution vests development of a housing policy for the Country in the hands of the National Government while provision of housing is left to individual Counties. Article 43 Sub article 1(b) states that everyone has the right to accessible and adequate housing, and to reasonable standards of sanitation. Article 44 (4) of the Constitution of Kenya stipulates that Public land shall not be disposed of or otherwise used except in terms of an Act of Parliament specifying the nature and terms of that disposal or use. Article 40 Sub section 3 (b) states that the state shall not deprive aperson of property of any description, or of any interest in, or right over, property of any description, unless that deprivation is for public purpose or in the public interest and is carried out in accordance with this constitution and any act of parliament that requires prompt payment in full, or just compensation to the person. Article 42 states that everyone shall have the right to a clean and healthy environment (Republic of Kenya, 2010:42-45).

2.8.3 Physical Planning Act, Cap 286

Enacted in 1996, the Physical Planning Act provides for Planning of all land in Kenya. It gives power to local authorities to regulate development within their areas of Jurisdiction. Further, it empowers the Director of Physical Planning to prepare various types of Physical Development plans (Republic of Kenya, 2009:9-10).

The Physical Planning Act, CAP 286 has contributes to the development of informal settlements in a number of ways. First it has led to the Noncompliance to development laws. It mandates that for any development to take place in an urban environment, one must obtain an approval for development from the local authorities. The authorities insist that plot owner must have the legal ownership documents in order for the development approval to be processed. These documents include land title deeds which some people may not have. Others are building plans and the structural engineer's drawings which are costly in terms of money and time to produce. The council itself has high charges for approval for development which discourages most people from following the legal process for approval.

Secondly it has led to the lack of development Control. The local authorities are not able to carry out development control in these areas due to the absence of registered land titles. This has also been contributed by lack of innovation and creativity by the former local authorities in carrying out development control i.e. they could have

adopted the use of other ownership documents to process approval for building plans as a mechanism for development control. The former local authorities were also so understaffed to be able to execute development control. They were also seriously understaffed and compromised in their work.

Finally, it has led to Environmental Degradation. This occurs as a result of noncompliance of development laws, lack of development control, reluctance of the local authorities and private sector to invest in infrastructure which will enable provision of basic and essential services such as garbage collection, sewer network, water supply etc.

2.8.4 Building Code

The Building Code gives guidelines on Development of Buildings for various uses including Industrial, Commercial, and Residential. It controls the accesses, building height, the provision of open areas and other issues pertinent to development of sustainable living environments. The Building Code can only be implemented in controlled development areas. Informal settlements do not have title deeds and are therefore not subject to development control (Republic of Kenya, 2009).

2.8.5 The Physical Planning Handbook, 2005

The Physical Planning Handbook, 2005, gives general guidelines as to the standards to be followed when developing various Land uses. It is a tool used by the former Local Authorities in carrying out development control and in the preparation of Physical Development Plans. The handbook helps to ensure that standards are exercised so as to secure proper use of land and ensure that planning objectives are achieved. The challenge with the implementation of the physical planning handbook is the existence of very high planning standards that are not appropriate to the upgrading of informal settlements in Kenya (Republic of Kenya, 2005).

2.8.6 Environmental Management and Co-Ordination Act (EMCA), 1999

The Act opens the way for substantial public involvement in any major development decisions, which havens environmental bearing. Land use change, shall only be undertaken after Environmental Impact Assessment (EIA) by an independent body(Republic of Kenya, 1999: 34-35).

2.8.7 National Land Policy, 2009

The main component of upgrading of informal settlements in Malindi is provision of secure land tenure. This complies with one of the key guiding principles of the

National Land Policy formulated in the year 2009. This is equitable access to land for subsistence, commercial productivity, settlement, and the need to achieve a sustainable balance between these uses. The national land policy in particular addresses two main issues, the squatter problem and the coastal land problem. The coastal land problem is manifested through the twin problem of landlessness and absentee landlords (Republic of Kenya, 2009: 43).

2.8.8 National Land Commission Act, 2012

The Act states that the National Land commission has the function of initiating investigations, on its own initiative or on a complaint, into present or historical land injustices, and recommendsappropriate redress (Republic of Kenya, 2012:7). This is particularly crucial for Muyeye because its insecurity of land tenure situation is as a result of historical land injustices and the National Land Commission is in a good position to provide its occupiers with security of land tenure.

2.8.9 Urban Areas and Cities Act

One of the key thrusts of the Act is to promote participation by residents in the governance of urban areas and cities.

Even though there seems to be adequate legislative framework that aims solving the problem of land tenure insecurity, the government has not succeeded in reversing this situation. This is mainly because informal settlements upgrading projects are largely made on an ad hoc basis (HABITAT, 2003b:219-220).

There are a number of reasons for this. First is that these upgrading projects have been done with a top-down approach, without any discussion with the residents themselves Then the government still has a problem acknowledging the fact that some of the residents and their ancestors have settled in government land for even as long as 100 years, thus having at least some moral justifications for that land. Finally it seems that the policies that the government have been conducting to date are not transparent - government has merely demolished informal settlements without warning, constructing new middle- or high-class housing, with rents so high and infrastructure so over-designed that the original residents cannot afford them any more (Republic of Kenya and GTZ, 1996:1).

The policy, legal and institutional framework that has been discussed cannot work alone in achieving security of land tenure. They need to be accompanied by a number

of mechanisms, approaches and practices in order to work. The discussion that follows is on the means of achieving security of land tenure and their experiences. It also includes presentation of mechanisms of achieving security of land tenure that works in different parts of the world and their best practices.

2.9 Means of AchievingSecurity of Land Tenure

Insecure tenure in informal (often illegal) settlements makes it unattractive for poor households to invest in improving their temporary housing arrangements and adopt sustainable environmental practices. The discussion below illustrates the various approaches to increasing security of land tenure.

2.9.1 Land Titling

It involves delivery process of real rights to occupants of land or property: squatters on public or private land, occupants in informal commercial land development, personal rights holders (administrative, conditional and revocable permits to occupy), and customary rights holders (Durand and Pyne, 2006:1).

2.9.1.1 Impacts of Land Titling

The first impact is the increased access to credit because it contributes to secureandencourageprivate investments. Land titling has however not increased significantly access to mortgage credit for low-income households. This suggests that the poor are as reluctant to borrow from banks, as the banks are to lend to the poor. This is because of high cost of managing of small credit compared with returns, too low household incomes to finance institutions to be interested in lending, political risks, and low market prices of mortgaged land(Durand and Pyne, 2006:5).

The second impact is increased investment in property by increases housing renovation even though the bulk of housing renovation is financed without the use of credit. For investors, the benefits stem from a unified and better-functioning land market, improved access to land in regularized low-income settlements, especially in prime urban areas, and in better investment security(Durand and Pyne, 2006:6).

The third impact is improved access to infrastructure and services especially for citizens who can pay for services irrespective of tenure status(Durand and Pyne, 2006:6).

The fourth impact is improved labor mobility and employment throughincreased total household work hours and decreased probability of working inside the home and the probability of child labor. This is due to the reduced need to physically protect property, enabling households to work elsewhere and diversify their livelihoods. In other cases e.g. South Africa, titling has displaced households whose properties are now subject to planning requirements preventing commercial activities in areas zoned for residential use(Durand and Pyne, 2006:6-7).

The fifth impact is on increased household's incomes e.g. in Peru where households have been able to spend more time working away from their homes as they did not need to physically protect them(Durand and Pyne, 2006:7).

The sixth impact is on increased land values and land markets throughmaking land and house transactions possible and giving occupants legal protection. It encourages the buying and selling of housing and makes it possible for households to move to a dwelling that suits their needs and their budgets(Durand and Pyne, 2006:7).

The seventh impact is improved residential mobility, social status and spatial integrationdue to households being unable to reside in relocated and titled locations or realizing the increased land value(Durand and Pyne, 2006:8).

The eighth impact is improved health and education due tolower fertility levels and fewer extended family members. Children in titled parcels enjoy better anthropometric outcomes and that teenage girls have lower pregnancy rates(Durand and Pyne, 2006:9).

2.9.1.2 Challenges of land titling

Land titling has a number of challenges associated with it first is Land Speculation whereby the freehold titles/deeds make the land attractive to speculators who hold the land as an investment and a hedge against inflation (FIG/UNCHS, 1998:20; Azuela and Duhua,1998:163; Huchzermeyer,1999:20). Titled land is at a higher premium and this excludes low income bracket of the population. The holders of such land also engage in speculation and this may deny low income groups such land.

Secondly is downward Raiding whereby public money is misdirected when subsidies are used to enable low-income groups to obtain freehold title/deed, as there is widespread evidence of 'downward raiding' as occupants realize the true market value by selling to higher income groups (Payne, 1997:18).

The third challenge is the high cost of land which allows only a small proportion of households to afford even the subsidized cost of a site with a title deed (FIG/UNCHS, 1998:20).

Then there is the lack offinancial andhuman capacity which makes freehold very difficult (Durand, 1998:244). Finally there are usually inconsistencies with legal tenure whereby often the de facto land tenure in an informal settlement does not match the legal record (FIG/UNCHS, 1998:17). Freehold is therefore not the best option for low-income groups in most circumstances.

2.9.2 Legalization/Regularization

Legalization means the formal transmission of ownership to the settlers (Azuela and Duhua, 1998:160). These often takes place at the same time as services are supplied to the settlers, and sometimes services are supplied after such legalization. Sometimes legalized settlers never receive services (Azuela and Duhua, 1998:160). Sometimes informal settlements receive services without any legalization, and in this situation residents only have perceived or de facto tenure (Azuela and Duhua,1998:160-168). Below are the various types of Legalization of land tenure and their implementation experiences.

2.9.2.1 Formal Legalization

This involves full legalization of tenure in accordance with the existing land titling laws of the respective country.

Implementation Experience for Formal Legalization: Formal land titling exercises has become long-drawn out affairs that impeded project progress in other areas such as infrastructure development. Land legalization processes negatively affected virtually all of the World Bank's First Urban projects; it has been acknowledged as major source of delay in these projects. Formal land titling also resulted in politicization of some projects as insider elites jockeyed to obtain land in the target area. Lee-Smith and Memon (1988) points out that the worst example of this is probably Nairobi where political interference and misappropriation of plots in the Dandora project led to the dissolution of an elected council and its replacement by a commission of appointed leaders (Basset et all, 2002:9 -10).

2.9.2.2 Simplified/Progressive Processes for Legalization

They includesetting up project land committees at local and national levels, lowering standards for cadastral survey, or arranging for a staged process of legalization

whereby the entire site is recognized legally and followed by individualization and titling(Basset et all, 2002:10).

Implementation Experience for Simplified/Progressive Processes for Legalization: In light of these experiences, a number of projects have attempted to simplify processes for legalization. Several approaches have been tried such as setting up project land committees at local and national levels, lowering standards for cadastral survey, or arranging for a staged process of legalization whereby the entire site is recognized legally and followed by individualization and titling (Zetter, 1984; Rakodi, 1991).

These approaches have had **limited success**. Although many projects may want to simplify these procedures, responsibility for land management often lies outside of the writ of the ministry implementing the upgrading. There is little leverage for speeding up or influencing the process, unless one has a supportive and influential official in place. The upgrading projects of the GTZ STDP in Kenya made relatively quick strides in land legalization in the period of 1991 to 1994 but following the transfer of the then Deputy Commissioner of Lands, the processing of land-related paperwork slowed considerably. One settlement in this intervention provides a case in point: in Kilifi five years passed between the issuance of beacon certificates prepared by the Department of Survey and letters of allocation issued by the Department of Lands, both housed in Ministry of Lands and Settlement (Bassett, 2001: 356).

2.9.2.3 Providing De Facto or Perceived Security of Tenure

It involvesde-emphasize or completely exclude the official documentation of land rights. Perceived or de facto security of tenure can be based on a the illegal occupation of a dwelling, since a court order is required before inhabited buildings can be demolished and the backlog of such cases provide effective security of tenure (Payne, 1997:31). In other cases, the provision of basic services to the area by a local authority, such as access roads, water and electricity can be a source of perceived security of tenure(Payne, 1997:31). This is because of the fact that the occupiers of theland feel that they are occupying a land tenure secure area when established institutions invest in service provision. They know that these institutions cannot waste their investment on a piece of land whose ownership is disputed. The support from a local politician can also prevent the demolition of structures in a land tenure insecure area(Payne, 1997:31).Customary rituals have also caused superstitions which prevent

local authorities from evicting people and demolishing structures (Razzaz, 1998:73). Again when land is not required for any other purpose it is often perceived as secure. Civil rights activists such as NGOs and grass roots movements have confronted the government repeatedly thereby limiting evictions.When a religious structure is built in a prominent place in the hope that the authorities will be reluctant to demolish such a structure.Documents such as ration cards for the public distribution system, identity cards, and letters addressed to the family, tax receipts, electricity bills can be used by occupiers as proof of the legitimacy of their ownership of the land they occupy and finally the use and acceptance of alternative land documents by the community and urban authorities builds social legitimacy(Basset et all, 2002:10-12).

Implementation Experience for Providing De Facto or Perceived Security of Tenure: Projects eschew legalization because it is increasingly recognized that security of tenure will emerge from the project intervention itself. There is an important distinction between providing security of tenure and issuing land titles (Doebele, 1983:63-107; Payne, 2001:415-429). Security of tenure will spur investment and housing improvement; land titles may simply raise project costs and bring on unwanted secondary effects. Significantly, a number of cases have shown that the perception of tenure security by community members may be as important as actual formalization itself (Doebele, 1983: 63-107; Zetter, 1984: 221-231). Security of tenure seems to depend upon three factors: the perceived threat of eviction, the availability of services, and the passage of time. Public recognition of the settlement (often required by upgrading projects) coupled with the initiation of physical improvements to the settlement and the cessation of demolition has been shown to impart enough security of tenure for residents to begin to invest.

Perceived tenure however have limitations, people with perceived tenure have no individualized legal rights, although they might be protected under anti-eviction laws. Although they might be secure for decades this security is based on circumstances and not on individually secured rights and they are often subject to evictions. If they remain in possession long enough, they may acquire the land under adverse possession laws. But this can be a costly procedure (Basset et all, 2002:10).

2.9.2.4 Lessons Learned From Land Tenure Security and Legalization.

The first lesson is that legalization of tenure should be de-coupled from provision of infrastructure improvements.If legalization is considered a necessity in the project, the

process of identifying and vetting bone fide beneficiaries, preparing paperwork, effecting cadastral survey, arranging and tracking payment, and processing titles should not be a pre-requisite to other project action(Bassett, 2001: 356).

A second important lesson is that tenure security can be conferred without full legalization. What is needed is sufficient security of tenure for settlement improvement. Sufficient security of tenure can be conferred by simple governmental action: recognizing the settlement, stopping demolition, establishing a cooperative working relationship with local leaders, and investing in basic infrastructure and services(Bassett, 2001: 356).

The third lesson is that restrictions on resale do not work. One response to land sales in upgrading projects has been to place restrictions on resale, most commonly through restrictions on title or by a refusal of local government units to recognize and register land transfers. There is no indication that such restrictions are effective. Land sales continue on the informal market. Recipients of non-transferable government titles simply wait until the period restricting sale is over and then transfer the title. Some reportedly even continue to hold the land with the original recipient's name, as the costs of transfer and registration are onerous. The use of community pressure, which has worked well in ensuring loan repayment in micro-credit schemes, does not appear to be an effective mechanism for controlling land sales, but increasing community "awareness" regarding the trades-offs might help, as is illustrated in the Nylon settlement of Duola(Bassett, 2001: 356).

The fourth lesson is that land sales and turnover of beneficiaries are inevitable, even without full legalization. Baken and van der Linden (1993) Points out that informal settlements are characterized by active land markets; more secure, better serviced settlements will remain active land markets. To draw from the Kilifi upgrading project in Kenya, beacon certificates (indicating plot boundaries) were sold in the active informal land market that followed upgrading; would-be buyers and sellers did not wait for or need letters of allocation or title (Bassett, 2001: 356).

The final lesson is that in order to address the land sales/beneficiary turnover issue, scaled-up, programmatic approaches to upgrading are needed. The fundamental factor affecting upgrading is the general scarcity of titled, serviced urban land in the cities of the developing world. In the current situation where land supply is severely

constrained, any upgrading initiative that produces such land will prompt land sales and beneficiary loss. The only way to affect this situation is to increase the land supply at a sufficient level to satisfy pent up demand – including the pent up demand of the middle-class(Bassett, 2001: 356).

The mechanisms for providing security of land tenure mentioned above have quite a number of challenges and cannot be practical for every situation. The discussion that follows is on mechanisms that have been applied and worked elsewhere.

2.9.3 Other Mechanisms of Secure Tenure: What Works Where

The following cases represent successful examples of highly innovative approaches to tenure and property rights:

2.9.3.1 The Squatter Settlements

Musyoka(2006)analyses informal land delivery processes and access to land for the Poor in Eldoret, Kenya and points out two main categories of informal access to land. The first is one is the non-commercial articulation whereby the use of customary lands for migrant settlers, various forms of alienation of vacant government lands, the invasion of abandoned properties and squatting on marginal unusable land. The second one is the commercial articulation whereby the sale of mini plots in established popular settlements, land rental for temporary house construction and substandard land subdivision (Musyoka, 2006: 229-233).

Administrative articulation includes a variety of government sites-service projects, very few of which actually reach the poor.

2.9.3.2 Botswana: Certificates of Rights (CORs)

The Certificates of Rights tenure system was introduced in Botswana during the 1970s, targeted to the needs of the urban poor. It provides holders with the right to use and develop land, while retaining State ownership and it is estimated to have benefited well over 100,000 people. Certificates can be upgraded to Fixed Period State Grants on payment of survey and registration fees (Durand, 2006:3).

A limitation of the system is that it has not been accepted by formal private sector financial institutions as acceptable collateral for loans, and the administrative work involved is about the same as for allocating full property titles, although computerization has significantly reduced this burden. The system also has to compete with customary land allocation procedures that are already well known and

active in peri-urban areas. (This interface between communal or traditional patterns of land-holding and the expanding urban periphery is of enormous policy significance, often highly problematic in nature, and needs to be the subject of far more rigorous investigation.) Given the limited population growth of urban areas and these alternative options, CORs have been discontinued though may come into their own again if demand increases (Durand, 2006: 3).

2.9.3.3 Kenya: Temporary Occupation Licenses

Temporary Occupation Licenses were recently introduced in Nairobi, Kenya, to promote investment in small businesses and the efficient use of idle public land in strategic locations. Licenses are allocated annually on a renewable basis for a land rent, and entitle licensees to construct semi-permanent structures. Typical uses include pavement restaurants and kiosks, though some people also live on their sites. Among the advantages of the system is the simplicity of the administrative procedures (no surveys are involved), payment is spread over the year, building standards are flexible, and the public authorities retain control of the land. This system has considerable potential for application in other cities where pockets of un- or under-used land exist in central areas (Durand, 2006: 3-4).

Weaknessesand Limitations of the Temporary Occupation Licenses

Temporary occupation licenses have a number of weaknesses as experienced in ChangazaLudsaka Zambia. First, thee plots are not demarcated,and thenthe license does not indicate the dimensions of the plot.There is also prohibition to occupy land within the area without a license, prohibition to be issued more than one occupancy license to any person, prohibition of dealing with land without the local authority's consent. Mutibini (2002) links limited legal tenure security towards occupancy license. Main reasons are the possibility of the local authority to revoke any license within three months' notice when the plot holder fails to comply with any of the conditions and the right of the local authority to enter the land and install or erect any works thereon under the condition that it serves the general interest (Asperenet all,2012:13).

2.9.3.4 Kenya: Community Land Trusts

Community Land Trusts have been used in secondary towns in Kenya since the mid-1990s as a means of providing affordable access to land for housing and related activities. The aim is to combine the advantages of communal tenure with market-

oriented individual ownership. By retaining ownership in the hands of a group and allowing members to hold long-term leases, it is possible to control property transfers and discourage land speculation. The basic principles of trusts are to make the best use of the collective strengths of local communities in obtaining permits and infrastructure, to keep all land under one simple title, and to encourage members to invest in their homes and in environmental improvements. These land trusts also enable communities to remain in areas that may otherwise be too expensive if conventional individual titles were provided. The major limitations of the system are that it is not well understood yet by administrators, and it requires lengthy documentation. Communal land ownership may also be a disincentive to invest, especially when people are not free to sell directly to outside buyers (Durand, 2006: 4).

2.9.3.5 Bolivia: the 'Anticretico' ('against a credit') tenure system

An unusual tenure arrangement in Bolivia has evolved in response to sustained high rates of domestic inflation and weak formal private sector financial institutions. It involves the owner of a house receiving money in advance, in return for allowing a low-income household to occupy the property for an agreed period, normally for two years. What makes the 'anticretico' system different from conventional rental agreements is that at the end of the contract period, (or any agreed extension), the occupants return the property to its owner and the owner refunds the full amount received initially from the occupants. For the owner, this is an effective way of raising capital without incurring high interest rates, while for the occupants it represents an effective way of living at low cost for those able to raise the deposit. The occupant is required to return the property in the same condition as it was received and may even be able to purchase the property at the end of the contract period if the owner agrees (Durand, 2006: 4).

The Anticretico system is widely used in Bolivia, but depends for its success on a degree of trust between the parties. The government has formalized this system in order to increase tenure security for both land owners and occupants, but also has increased taxes on such agreements, which discourages their widespread utilization (Durand, 2006: 4).

2.9.3.6 Tenure through Acquired Documentation (Egypt, India, and Colombia)

In many countries, such as Egypt, India, and Colombia, tenure security is achieved over time through the accretion of various documents relating to property taxes, utility charges, voter registration forms, ration cards, and other formal documents. This form of de facto property tenure is possibly the most common of all urban land tenure systems and, by the sheer weight of numbers, can significantly increase perceived levels of security and stimulate substantial levels of investment in home improvements, local businesses, and infrastructure. By ensuring that property held under such tenure systems cannot command the full price which formal tenure would entail, low-income households are able to live in areas that would otherwise be beyond their reach. The main limitation of the system is that it is vulnerable to changes in government policy, and programs of forced eviction or relocation can seriously erode their advantages (Durand, 2006: 4).

2.9.3.7 Thailand: Temporary Land Rental

Landowners and low-income groups in Bangkok, Thailand, have evolved a mutually beneficial system of land tenure that enables the poor to live for a short to medium period in inner city areas that would normally be far too expensive for them. This not only enables the poor to obtain easy access to employment centers, but also provides landowners with an income until they decide to develop their site for its maximum commercial potential. Although many arrangements are informal, the system is increasingly recognized and some agreements are legal contracts. Local authorities are willing to provide services according to the rental period and when this finally expires, the communities are given enough notice to negotiate a similar arrangement with another landowner. In this way, the urban poor are able to move ahead of the tide of urban expansion without in any way detracting from the efficiency of the formal land market (Durand, 2006: 4).

Other than looking into what works where, it is also important to look into the best practices for providing security of land tenure. The discussion that follows is on best practice mechanisms.

2.9.4 Other Mechanisms of Secure Tenure: Best Practices

The following cases represent best practices of approaches to providing tenure security.

2.9.4.1 Anti-eviction laws

Anti-eviction laws have been very successful in giving millions of people tenure security in general.However, if the land is required, anti-eviction laws are often ignored by land-owners, local authoritiesand others. NGOs play a critical role in explaining to people their rights when they are being evicted,mobilizing support, including international and political support, and assisting those who have beenevicted to prove their occupation rights. The lack of records about occupation hampers those who havebeen evicted from proving their rights. The lack of knowledge of occupants about their rights, the lack ofcommunity-based para-legals to assist people as well as problematic justice systems, make occupantsvulnerable to eviction and exploitation. *Anti-eviction laws should be passed by all countries to protectlow-income groups*, who should also be given training in their rights (city, housing, land, non-eviction).Capacity should be built in NGOs to supply technical assistance to people who have been evicted and totrain communities about their rights. Simple record keeping of those in occupation should be undertakenat community and/or local authority level, and training done in this area. It is within the interests of thelocal authority to maintain such records both in terms of urban planning, as well as to protect itself fromprofessional squatters, and a partnership between the community and local authority should be the wayforward (UN-Habitat, 2003b: 11).

2.9.4.2 Adverse possession

Adverse possession does not deliver in time or to scale for the poor when only individual applicationsare made. That is, having a prescriptive right does not easily become a secure property right. Applicantsalso need legal aid assistance to obtain a secure property right, but even when this is available it does notdeliver in time or to scale. *Adverse possession rights, if the community knows they have them, are avaluable perceived secure tenure*. However, it is critical that residents can prove their occupation in thearea for the correct length of time. Again, the role of NGOs in educating people about their rights andsimple record keeping, describing those in occupation, undertaken by the community in partnershipwith the local authority, is critical. Also class actions linked to adverse possession claims mightwell be a way forward which should supply secure tenure more effectively, especially when usedwith other legal instruments such as special interest zones and land readjustment(UN-Habitat, 2003b: 13).

2.9.4.3 Nationalization

Nationalization of land and the public ownership of all land does not give tenure security to low-incomegroups as, if no records are kept, it is not clear who has rights. Centralized land record systems, such asthose in countries where land was previously nationalized, cause tenure insecurity for customaryand other occupants. Their land is often planned and allocated by the centralized system withoutchecking to see if anyone is in occupation, and they have little protection from the encroachmentof neighbors. Records of occupation rights to give tenure security are critical for any kind ofpolitico-economic system. However, to date land record systems have been based on the privatization of rights. A way forward is to create records and land information for a range ofpurposes such as negotiation, disputed occupation, temporary occupation, for regularization, andshort and long term rights recordal, where different partners have different responsibilities for thecreation and maintenance of the information (UN-Habitat, 2003: 14).

2.9.4.4 Customary law

Customary areas adjacent to urban areas often supply tenure security to low-income groups and facilitatethe extension of the urban area, albeit informally. Partnerships between local authorities and traditionalleaders, instead of competition, facilitates the regularization of these customary areas and theirincorporation into the urban area. Such partnerships help to strengthen weak administrative systems. Todo this, national regulatory frameworks have to be adjusted to merge customary and statutory law, andtraditional forms of land administration have to be allowed. Customary areas do not respond well tofreehold and/or individualized titles/deeds, because of group-based relationships and the lack of financialcapacity. Locally administered group-based leases are a much more useful tool, linked to innovativeland readjustment mechanisms (UN-Habitat, 2003b: 14).

2.9.4.5 Qualified titles/deeds

Qualified titles/deeds are often considered as a way forward to deliver titles/deeds quickly and they havebeen used at certain times in a country's history very effectively. However, if a country has a weak administrative system, qualified titles/deeds, which have to be upgraded administratively at some futurepoint, will not solve the problems of large-scale informal settlement(UN-Habitat, 2003b: 11).

2.9.4.6 Leases are the best solution

It is not possible for the majority of the population, and especially low-income groups, to have tenuresecurity by using centrally registered rights such as freehold. Instead alternative approaches need to beconsidered. Given the bundle of rights associated with land and the different types of leases andrights available in different countries, a number of suggestions have been made.

First is that leases become the *instrument of choice* for publicly-owned land and especially local authority land, rather than freehold. That is, in urban and peri-urban areas the state should preferably nottransfer the land in freehold to occupants.

Leases with *various conditions of title* should be utilized depending on the human and financialcapital of the country, the urban area and the residents. The lease should be as simple to administeras possible, while giving the maximum tenure security required for the purpose intended. Allleases should not automatically be designed for the purpose of mortgages, as this tends to increasethe costs of land delivery and the time taken to deliver. Second is that basic leases should be used along with *group tenure arrangements*, whereby the block is registered infreehold, or under a strong lease agreement to the group or a local authority. The tenure security of theoccupants is a result of the group right and their own internal land administration agreements. Thisapproach probably still needs some technical development in relation to low-income groups, especiallyas most countries' legislation is not set up to accommodate this approach in an affordable manner. Third is that wherever possible, lease contracts between a local authority and occupiers should be *linked to landrecords* kept by the local authority and/or community. The record keeping should be a partnershipbetween the local authority together with the community to ensure currency of the records as well asaccessibility and transparency to the community. Fourth is that Private land-owners should be encouraged to set up *lease contracts with occupiers* which protect allparties, and *dispute mechanisms* should be developed which can be afforded by low-income groups. And finally*Capacity is built in NGOs* to assist people in assessing and negotiating their lease conditions, settingup cooperatives associated with group tenure, assisting people in creating land administration rules fortheir group tenure and in sorting out their group tenure land disputes, and building social cohesion (UN-Habitat, 2003b: 19).

Having looked at the mechanisms of secure tenure, what works where and the best practices, what follows is a detailed discussion of one of the mechanisms of secure

land tenure mentioned above which is on the community land trust in Tanzania Bondeni.

2.10 Case Study: The STDP and Community Land Trust

The Tanzania-Bondeni Settlement is located in the southern part of Voi. Tanzania-Bondeni was a typical informal settlement, with the familiar features: more than 50 per cent of the 5,000 or so residents earned less than KShs.2, 000 (approximately US$50) per month; almost 30 per cent were jobless. Most people lived in temporary (sometimes dilapidating) or at best semi-permanent structures, with no proper access roads, bad sanitation and overcrowded small rooms. Health conditions were bad, with a high incidence of malaria, tuberculosis and diarrhea. No infrastructure was provided by the local authority, and the environmental problems caused by open drains for greywater were compounded by polluted water discharged by the adjacent sisal factory through the settlement into the nearby river from which residents fetched water for domestic use(Kenya and GTZ,1996:1).

None of the residents had any legal right to the land, which belonged to the Government. Among the 530 households, 60.5 per cent owned their structure, 30 per cent were tenants with absentee landlords, and some shared the houses with the landlords. More than 40 per cent of owner and 20 per cent of tenant households were headed by women. Even though a majority of residents had lived in the area for many years, there was a latent fear of eviction. Finally, there was no coherent community organization in the settlement (Kenya and GTZ, 1996:1).

2.10.1 Origins of the Community Land Trust Initiative

Midheme (2010) points out that CLT was implemented between 1991 and 2004 as a component of the Tanzania-Bondeni settlement upgrading project. He also adds that the project started early 1991when residents of Tanzania-Bondeni petitioned the then Voi municipal council to have their settlement formalized. Bassett (2005) also analyses the same project and points out that after preliminary negotiations between resident representatives and municipal officials, the local authority entered into a tripartite agreement with the then Kenyan Ministry of Local Government (MoLG) and the German development agency, GTZ to implement the Tanzania-Bondeni upgrade The initiative had four main objectives: First tolegalize the informal settlement by providing tenure security, secondly to enhance the delivery of municipal services to

the settlement, thirdly to improve local environmental quality, and finally to boost municipal revenues through improved collection of land rates . To facilitate the realization of these objectives, a number of guiding principles were agreed upon among the key stakeholders – the donor (GTZ), the then MoLG, the then Voi municipal council and the local community.*Yahya* (2002) points out that first, the project team sought a gradual, step-by-step process that would ensure residents' full participation, learning, long-term ownership and community sustainability. Secondly, it was agreed that the planning process would be dialogic, with full involvement of the community. Third, all external interventions would be in support of, and supplementary to local efforts, rather than in replacement of it. Fourth, a consultative mechanism would be established to ensure structured communication between the community and the other project partners. Finally, community members would be accorded the opportunity to decide for themselves, a preferred form of land ownership and subsequent management.

The case study analyses the Community Land Trust (CLT) project as observed by *Basset* and *Harvey* in their study of the community-based tenure reform in urban Africa, focusing on the community land trust experiment in Voi, Kenya and *Pellikka's* study of the informal settlements of Voi. An analysis of the report prepared by the Kenya and GTZ of the project has also been done.

2.10.2 Principles Applied In Tanzania BondeniCLT Model.

A report prepared by the Kenyan Government and the German Technical Agency for technical Cooperation (GTZ) which was the donor agency describes a number of principles that were adopted in the project. The report points out that prior to implementation, the planners working with the Small Towns Development Project

(STDP)[1] reviewed the lessons learned in other upgrading projects in Kenya and elsewhere and formulated an approach that would avoid repeating past mistakes. The upgrading approach was organized around certain key principles and guidelines that reflected these lessons learned.

[1]The Small Towns Development Project (STP) isa project of the German government'stechnical assistance agency, the DeutscheGeseilschaft for Technische Zusammenarbeit(GTZ).

2.10.2.1 To Recognize And Accept The Situation Created By Squatters.

From these experiences, the STDP created a Minimum Intervention Approach (MINA) to upgrading of informal settlements(Kenyaand GTZ, 1996:1).

2.10.2.2 A Physical Development Plan (PDP) Was Made

This plan was prepared in collaboration with the community. The PDP in essence was a new plan, whereby residential, business, educational and public plots were issued. About 300 structure owners had to be resettled according to the PDP, because they resided on the road reserve, on public purpose plots, on plot boundaries, or were living in over-crowded areas (Kenyaand GTZ, 1996:1).

2.10.2.3 The Community to Finance Their Developments

It was agreed that in order to make the project sustainable and replicable, the beneficiaries would have to pay for physical improvements and for their security of tenure.

2.10.2.4 Multi Choice Approach

It was agreed that land tenure options should be explored which would assist in creating sustainable security of tenure for the community.

2.10.3 The Community Land Trust Consequence

Two legal bodies were constituted as the Tanzania-Bondeni Community Land Trust. The first one was a society which was registered under the Societies Act. The second body, the trust, which was registered under the Trustees (Perpetual Succession) Act.The trust is solely concerned with administration of land matters.

A physical plan for the community was developed based on extensive input from the community. In accordance with the plan, houses were demolished and relocated, roads were built and infrastructure installed.

Residents of the settlements had begun to build houses using permanent building materials, plots had been fenced off and long-term crops such as fruit trees had been planted.

2.10.4 Reasons for Success of the Community land Trust.

According to the analysis of community-based tenure reform in urban Africa: the community land trust experiment in Voi, Kenya, by *Basset* and *Harvey*, the following are the factors that led to the success of the community land trust model.

2.10.4.1 The Existence of a Heterogeneous Population

It is the fact that there are a variety of ethnic/tribal groups in the settlement, none of which was clearly the dominant group that created an atmosphere conducive to choosing community-based tenure (Bassett and Harvey, 1997:224).

2.10.4.2 The Lack of Traditional Claims uponLand

This meant that the land is, in a very real way, 'public' land that is, land owned by everyone, and by no one. This makes the proposal for a CLT a relatively easy proposition in contrast to a situation where there may be traditional claims upon land (Bassett and Harvey, 1997:224).

2.10.4.3 The Existence of De Facto Community Land Tenure Institutions

There were de facto rules governing land tenure in the settlement in the years prior to the upgrading project. These de facto land tenure institutions operated in a manner similar to the CLT model (Basset and Harvey, 1997:224).

2.10.4.4 Age ofCommunity CommunityCoherence

Over a quarter of the settlements population has resided in the settlement for over six years, and many residents have lived their whole lives in the settlement. This is therefore a community of people who have concern for each other and with a history of community self-help (Bassett and Harvey, 1997:225).

2.10.4.5 Community Characteristics In Terms Of Gender and Age

Over 40 percent of the settlement was comprised of female-headed households. Women were attracted to the idea of community control because it was seen as protecting them from pressures within the family to sell the land. The access to capital through the formation of the trust (and housing cooperatives) was a very attractive feature of the model for the elderly than if they had individual title deeds (Bassett and Harvey, 1997:225).

2.10.4.6 Size of Town

The CLT experiment was taking place in a small town. Many persons felt the project would only work in a small town where people know each other better and had the opportunity to build community ties such as those found in Tanzania-Bondeni (Bassett and Harvey, 1997:225).

2.10.4.7 Value ofLand

Tanzania-Bondeni settlement land had little market value for alternative uses either by being in demand by higher income families for housing, or for conversion to commercial use (Bassett and Harvey, 1997:225).

2.10.4.8 Role of Local Authority

Therepresentatives of the local authority were supportive of the idea and took no actions to interfere with or disrupt the project's evolution (Bassett and Harvey, 1997:226).

2.10.4.9 Role of Donor

The support from key individuals and ministries within the Government of Kenya was very strong (Basset and Harvey, 1997:226).

2.10.4.10 Institutionalization of Technical Assistance

A tremendous amount of technical assistance was provided to Voi town and the residents of Tanzania-Bondeni for the project. The team included planners and social workers from the local authority (Bassett and Harvey, 1997:226).

2.10.5 Assessment of the CLT Model

Basset and Harvey(1997) points out that the achievements of the CLT model were viewed differently by differentpeople and institutions. To the Government of Kenya and Donor Agency, GTZ, The CLT model was seen as having a number of achievements to the Government. These are highly related to the goals and targets of the exercise which in their opinion were achieved. Theachievements of implementing the Community Land Trust model as observed by the Government of Kenya and donor agency, GTZ includes the elimination of the 'windfall' or gentrification aspect which is created by the upgrading project, provisions for community control of land, creation of a coherent community-based organization for longer-term and increased access to finance from the National Association of Cooperative Housing Unions (NACHU) (Basset and Harvey, 1997:219).

To the community the CLT model was seen as having achieved social security and community self-help, having maintained important ownership rights, having increased access to capital as a collective and having strengthened the ability to control the land(Basset and Harvey, 1997:220-221).

To the former Voimunicipal council, the municipalities' perspective on the CLT versus leasehold tenure was more mixed. Since the local authorities were primarily

interested in regularizing development for the purposes of revenue generation and service delivery, either system of land tenure was acceptable. Upgrading it was the most highly desired goal. Two slight advantages were seen for the municipality with the CLT. The main achievements were expansion of property tax base and prevention of further squatting (Basset and Harvey, 1997:221-222).

2.10.6 Challenges of the CLT Model

Basset and Harvey (1997) further points out a number of challenges that were experienced in the Community land trust projects and the lessons learned from the efforts that were made to overcome these challenges.The challenges experienced includes uneven actor participation, insufficient women's participation, communication barriers with between the community and the planners, high costs of building and the difficulty in obtaining local authority andnationalGovernment support.

2.11 Conceptual Framework

In an urban environment, tenure insecurity is caused by circumstances which are as a result of land injustices, the rigid nature of development laws, poverty, absentee landlords, unsustainable urban land markets, increasing urban population, and lack of information on land.

These may in one way originating from the fault of the Central Government, County Government and in another way connected to the condition of the tenants, the community, land owners and structure owners. These in turn have the following negative effects on urban environments: Haphazard development, lack of access to properties, lack of investment to properties, lack of provision of essential services by the concerned local authorities, lack of development control, land related conflict, degrading physical environment, insecurity and urban poverty. The victims of this condition are mainly the indigenous community. The County Governments also loose on revenue due to the informality of the settlements. As a result of this the Government of Kenya in collaboration with the County Government, the World Bank and the UN Habitat, have made efforts to reverse this situation in order to achieve tenure security. These interventions are based on the following legislative framework.

I. Kenya vision 2030.

II. Kenya constitution: Physical planning Act cap 286, Housing act, Land registration act, Urban areas and cities Act 2011, County Government Act 2012, Public finance management act, National Land policy, The National Land Commission act 2012, Building code, Physical planning handbook 2005, Environmental Management and Co-Ordination Act (EMCA), 1999.

III. Millennium development goals.

Target 11" of Millennium Goal 7 which concerns the broad topic of environmental sustainability, and reads: "To have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers." (MDG indicator database 2006).

In order to achieve this, various tools have been used to in Kenya and worldwide to improve the tenure security of informal settlements. Some of these tools have been successful in some areas while others have not. The following are some of the widely used tools used to increase tenure security.

I. Land titling.
II. Regularization and physical planning.
III. Provision of community land trust.
IV. Provision of certificates of rights.
V. Provision of temporary occupation licenses.
VI. Tenure through acquired documentation.
VII. Temporary land rental.
VIII. Anti-eviction laws.
IX. Innovative land management techniques.
X. Building land information systems.

However these tools have been applied in other places worldwide and have not been widely used in Kenya. The purpose of the research is therefore to establish the best tools to be used in the study area to increase security of land tenure. Tenure security on the other hand usually has a number of positive impacts on the environment and on the socio economic aspects of settlements. They include: Controlled development, increased investments, increased revenue collection, increased land values, provision of services by the local authorities, generally improved environmental condition. Other effects include social inclusion, possibilities of loan facilities and increased revenue collection.

These effects will be felt by the community who will in general live in a more environmentally friendly condition, benefit from increased land values, and provision of services. They will also be able to increase the investments within their properties.

The Government bodies such as the central government, the county Government, and the Local authorities will also be able to control development, provide for services, collect more revenue from the legally owned land parcels etc.Figure 9 summarizes the theoretical framework developed from the literature review of this research.

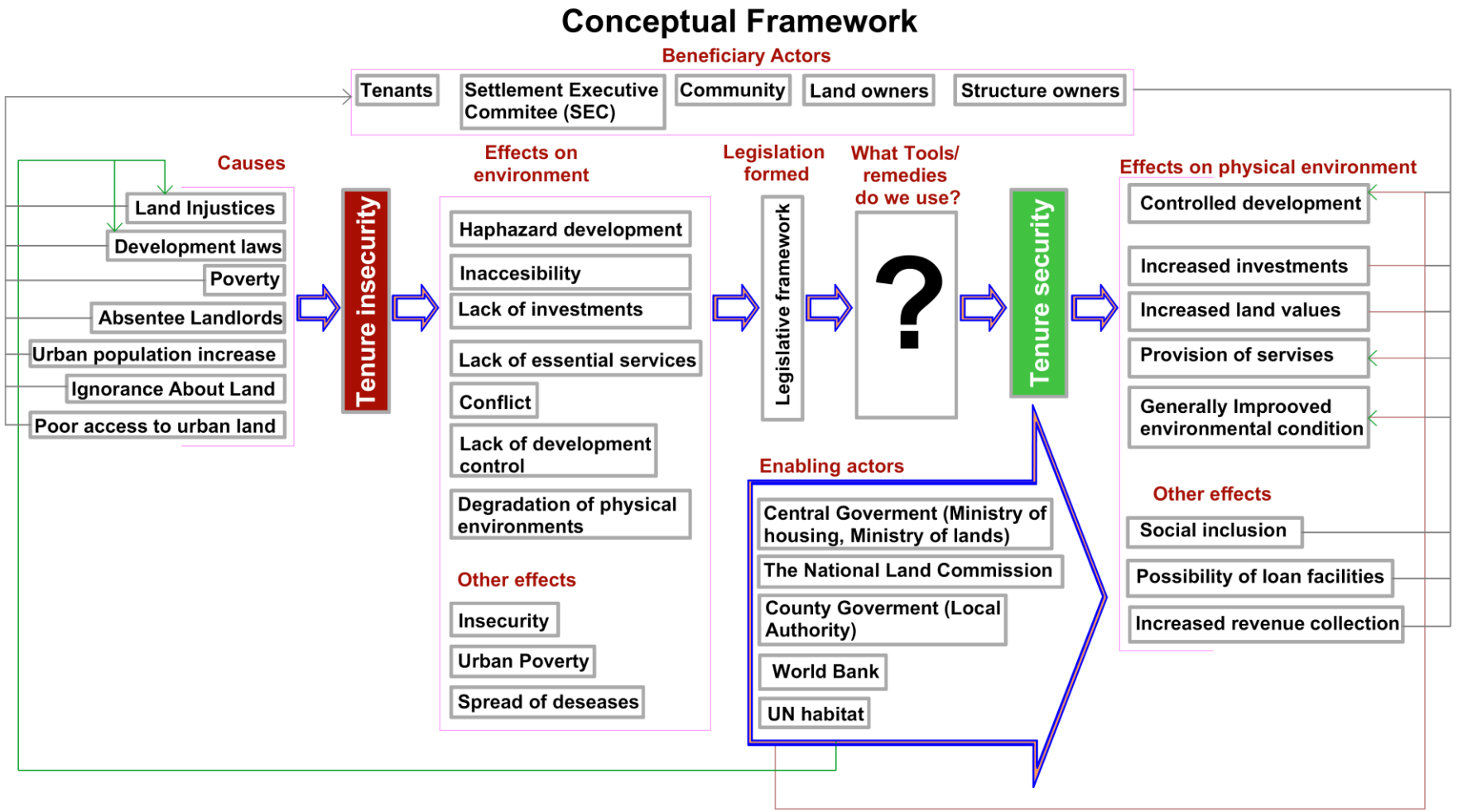


Figure 9: The conceptual framework (Source: Author, 2013).

2.12 Conclusion

In conclusion, the literature review confirms the existence of the challenge of insecurity of land tenure as experienced from different parts of the world especially the third world countries which has then led to the upcoming of informal settlements. It also looks at the attempts to overcome this challenge and their experiences. It does this by pointing out the mechanisms of secure tenure, what woks where and the best practices. One of the mechanismsi.e. the community land trust is further discussed in detail as a case study. The review also points out the continuous increase in the number and sizes of informal settlements which is an indicator that National governments are continuously losing the battle of eradicating informal settlements. It is clear that the challenges experienced in providing security of land tenure ion upgrading of informal settlements is as a result of three main reasons. The first one being the actors involved in the providing security of land tenure. The second reason has to do with the intended beneficiaries of the projects involving providing security of land tenure. The third and final one has something to do with the mechanisms used in the provision of security of land tenure. However, the literature does not explicitly explain the origin and situation of insecure land tenure of the study area. It does not justify the study area as a suitable case for this research. This calls for an in depth study of the area of interest, the subject of the next chapter.

3 CHAPTER THREE: THE STUDY AREA

This chapter describes in summary, the location of the study area and a brief history of its land tenure with an attempt to explain the origin of its current situation. The study area of this research is Muyeye settlement or Muyeye village which is located within Malindi town and has been experiencing challenges of insecurity of land tenure.

3.1 Location and Context

The location and context of the study area begins with locating Malindi town within Kilifi County then the location ofMuyeye settlement within Malindi town. It also mentions the location of Muyeye town in relation to important landmarks such as the Vasco Da Gamma and the Malindi Airport.

3.1.1 Location of Malindi

Malindi town is located about 120 kilometers northeast of Mombasa town south west of the mouth of Galana River. Administratively, it's located within Malindi Division, Malindi District and Coast province.

3.1.2 Location of Muyeye

Muyeye village is located in Kilifi County, Malindi Division, and MuyeyeLocation (See Figure 10). It is approximately 1.6 kilometers west of Malindi airstrip, 1.2 Kilometers south of Malindi town and approximately 1.4 kilometers west of the shores of Indian Ocean. It starts from Sabasaba to Mayungu Road and Takaye to Kijiwetanga. Locally, the study area is to the west of Muyeye secondary school, east of Malindi high school and south of Maweni settlements. It is also 700m from Malindi Round about and approximately 500 meters from Vasco Da Gama Pillar(Wairutu and Simiyu, 2011:26).

According to the Ministry of Land Housing and Urban Development, Muyeye village boarders L.R. No. 546 but not very easy to distinguish the boundaries between the two parcels of land on the ground due to informal development on site. According to the Development Plan of Malindi Municipality, the village falls within L.R No. M 3 A and L.R. No M 4/1.

Having located the study area, let's look at its history and evolution.

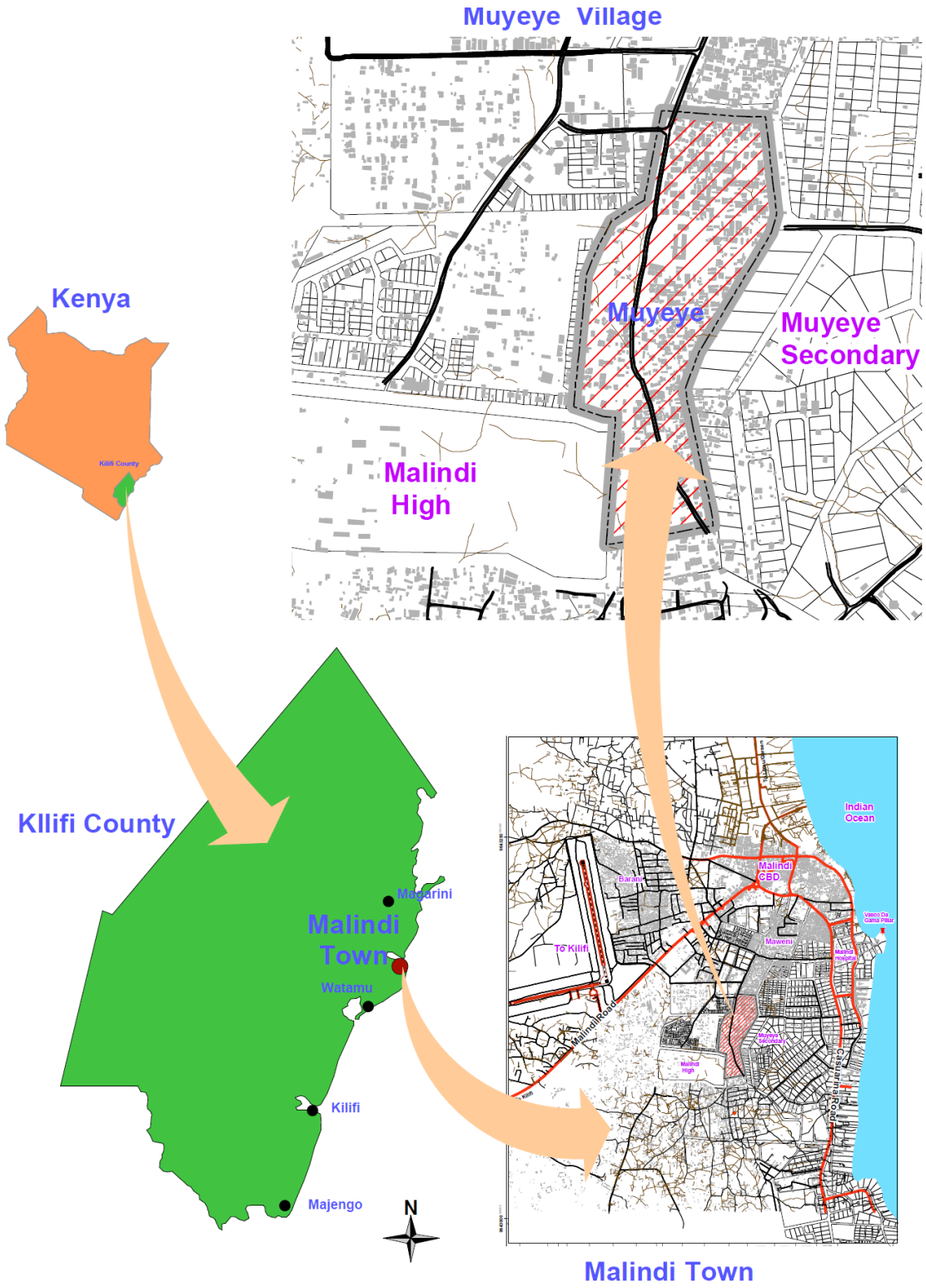


Figure 10: National, Regional and Local context of Muyeye village(Source: Author, adopted from KISIP, 2013).

3.2 History of the Study Area

An interview with Mr. Chai[2] who was the Chairman of the settlement executive committee (SEC) for Muyeye settlement provides a rich and dramatic historyof Muyeye settlement.The discussion that follows describes the evolutionof land ownership of the study area and its contribution to the insecurity of land tenure.

3.2.1 Ancestral Land

Mr. Chai begins by pointing out that for those who had settled on the land, the initial inhabitants had ancestral claims to the land while others hadbought the land from them. The initial inhabitant's just used to clear the land and settle. These people did not have any form of ownership documents and did not bother to obtain any.

3.2.2 Conversion to Government Land

Since the occupiers of the land did not lay any claim the land, the land automatically became Government land. This was as a result of the passing of the Land Titles Act, Cap 282 of **1908**which declared all land for which no interest was registered within 6 months crown land thus extinguishing the ancestral rights to the land.These people however continued to occupy the land without knowing that the land that they had occupied was registered as Government land.

3.2.3 Allocation to a Colonial Army General

Mr. Chai then recalls as he also heard, the events that followed the Second World War, whereby a colonial army General nicknamed "*Bwana Kipigo*[3]" who was allocated the land by the colonial Government. This was a present to him after his many years of loyal and determined service. The allocation was done without considering the then occupiers.

3.2.4 Surrender of the Land Back To the Government throughtheMMC

The Army General at his old age having realized that the land he had been allocated had already been occupied, decided to surrender it to the then Malindi Municipal Council (MMC). His decision was based on the assumption that the Malindi

[2] Mr. Chai is the chairman of the Settlement Executive Committee (SEC) members. He is also the former Vice Chairman of the organization and one of the founders of the organization named Kilio Cha Umoja, Wanashungi Self-help group which was founded to fight for the rights of the plot owners.

[3] The name "Bwana Kipigo" came as a result of his lethal moves during the Second World War. Kipigo is a name borrowed from the Kiswahili dictionary with the meaning of beating. Bwana Kipigo apparently managed to beat all his opponents at war.

Municipal Council would never harm the occupiers of the land. Mr. Chai adds that he was very wrong.

3.2.5 Allocation of the Land to Prominent Individuals

The Malindi Municipal Council then went ahead and subdivided the land without considering the occupiers or the situation on ground. The land parcels were then allocated to prominent individuals including former Provincial Commissioners and radio personality Mr. Leonard Mambo Mbotela[4] upon payments of premiums. Those who were allocated the land by the MMC went on ground to settle on their plots only to find that they were already occupied. They then moved to complain to the MMC. The MMC in response issued eviction notice to the occupiers of Muyeye. This was followed by frequent demolition of structures within the settlements. The occupiers in response to this carried our frequent riots and demonstrations in which the house belonging to the MMC civil engineerwas burnt down. One of the occupiers was also shot dead by the anti-riot police.

3.2.6 The coming of Kilio Cha Umoja, Wanashungi Self Help Group

In the year **1995**, the MMC made attempts to evict the people of Muyeye from their plots following claims that the then occupiers did not own the land. This was followed by constant demolition of structures in Muyeye.

Later in the same year, the matter was taken to the then Provincial commisioner for Coast Province who assured the people that they shall never be be evicted from their plots.

In **1996,** riots broke out following attempts by the MMC to evict all the ocupiers of Muyeye from their plots again. During the riots one demondstrator form Muyeye was shot dead by the anti riot police. From here the Coast province PC interveened following a directive by the then president Daniel Moi to solve the matter once and for all. The PC initiated dialogues with all the stakeholders. The conclusion of the meeting was that these people shall never be evicted from their plots. He then went ahead and declared that the occupiers shall be allocated these plots. The Government did not want to deal with individual plot owners and so agreed to surrender the land to the occupiers of Muyeye under two conditions. The first condition was that the

[4] Mr. Leonard Mambo Mbotela is a popular legendary broadcaster who worked for the Voice of Kenya (VOK) from 1964 now known as Kenya Broadcasting Corporation (KBC). Currently he is known for the television show named “jee huu ni ungwana”

occupiers were to form an organization in which all plot members were to automatically become members. The organization would then help the MMC in identifying legitimate owners of the plots. In response to this the M3M3A which is also known as *Kilio Cha Umoja, Wanashungi self-help group* was formed and all plot owners automatically became members. The group then elected representatives from each section of Muyeye. The representatives then elected their chairman, secretary and treasurer. The second condition was that the organization leadership was to have an office from which they were to hold their meetings and perform their duties. In response to this the M3M3A office was rented.

In **1998,** a community based organization called M3M3A[5] (From LR NO M3 and M3A) also called **KIlio cha umoja, Wanashungi self help group** was formed.

The Malindi Municipal council then assisted the people of Muyeye in preparation of a Physical Development plan. They also provided a surveyor to put beacons on the individual plots and process land title deeds. This however did not go as planned and the settlement occupiers continued to feel insecure of land tenure.

3.2.7 Allocation of The Land To The Occupiers Of Muyeye

In the year **2007**, the then Malindi Municipal Council town clerk received a directive from the Central Government. The directive was that he should settle the occupiers of Muyeye once and for all. He then took the records of the land for Muyeye. The land percel was registered as LR NO. M3 and M3A. He then took a number of steps to help solve the problem. First he formed a committee from the Malindi Municipal Council to help in the management of the land issue in Muyeye this was followed by a census conducte by the then Malindi Municipal Councilto help identify all ocupiers of Muyeye.

The process however came to a premature end when the survey work was going on. This was because of claims by the then Settlement Executive Comitee Members that the Malindi Municipal Council surveyors, did the work in Muyeye with the intention of grabbing portions of land belonging to the occupiers and portions of undeveloped land to the Malindi Municipal Council officials.

[5] M3M3A is a name used by the current settlement executive committee members for Muyeye that is borrowed from the land registration numbers M3 and M3A which are the two land parcels which covers most of the settlement of Muyeye.

After this unfortunate occurance, the Malindi Municipal Council sugested to the Settlement Executive Comitee members that they hire a private surveyor at their own cost to survey the individual plots in Muyee according to the Physical Development plan.Inorder to raise the funds for paying this private surveyor, the Settlement Executive Comitee Members were allowed by the plot owners to collect contributions of 16,000 Kshs from each member. The payment of this amount was not done uniformly since some members didn't have the the entire amont or part of it while others didn't want to pay at all. The delayed payments hindered the survey process and the land tenure insecurity situation worsened.

At this stage, the central Government in collaboration with the world bank intervened to upgrade the settlements. This proposal was however rejected because of the conditions which were set by the Government. The government insisted that for this process to take place, the minimum plot sizes would have to be 50 X 100 feet. This was rejected because majority of the plots did not meet this requirement.

The members were later agred to coorperate in this process following an agreement with the concerned agencies that the development standard of minimum plot sizes would not apply to this settlement. This then led to a lengthy informal settlement upgrading process which gave the occupiers of the informal settlement hopes of obtaining security of land tenure after all. Below is a detailed description of the inforlmal settlement upgrading project conducted by the Kenya Informal settlement Upgrading Program (KISIP).

3.2.8 Informal Settlement Upgrading of Muyeye.

The procces began late**2012** following the identification by the then Ministry of Housing of a number of informal settlements within the then municipalities of Embu, Nyeri, Eldoret and Malindi for upgrading and went up to late **2014**. Within Malindi town, the informal settlements selected were Muyeye and Kwandomo. As mentioned earlier, the process had already failed in Muyeye and this time physical planning and surveying consultans had been procured to map the boundaries and prepare physical development plans for Muyeye informal settlement. The consultants had specific tasks within their terms of references. The tasks included the identification and demarcation of the boundaries, enumeration of ocupiers (plot owners and tenants), preparation of a land information system, preparation and processing of aprooval of a physical development plan, preparation and verification of a list of beneficiaries and

preparation of a relocation action plan.The discussion that follows is on the activitiescarried out in the process and the challenges associated with them.

3.2.8.1 Identification and marking of the boundaries

This activity began in the month of **October 2012**. The process involved the identification of the exact boundaries of the Muyeye informal settlement. This had to be done because the boundaries were not definate by the time the contract for the consultancy was awarded. The marking of the boundaries was done in collaboration with the local community leaders. The end product of this process was the preparation of a map of the entire informal settlement.

Associated challenge:This activity proved to be challenging to the consultants because the local community members had the intention of extending the boundary of the settlement to the neighboring settlements so that they also become beneficiaries of the project. They also wanted to do this because some of the members of the community leaders came from the neighboring settlement and did not want their settlements to be left out. The excercice was however done succesfully and it enabled the physical planner to incorporate all members of the settlement into the project.

3.2.8.2 Sensitization and Enumeration of all occupiers of the settlement

This activity took place from **April 2014 to May 2014**. The activity involved sensitization of the people of Muyeye on the need for them tocoorporation to ensure the success of the project. The activity involved taking of socio economic, personal (Including photographs), plot and structure details of all households and plot owners/landlords of Muyeye. Those enumerated were issued with proof of enumeration documents.

Associated challenge: This activity had a number of challenges. First is that some members of the community were not ready to allow the consultant team to take their photographs because of the fear of being branded criminals of terrorism and the general mistrust of projects from the Government due to past experiences. Some were not willing to issue their personal details while the rest did not have the details of the plot owners and had to take some time looking for these details which wasted a lot of valuable time for the consultants. Another challenge came at the stage of data entry into the land information system. The system was designed to accept only one plot owner per plot, while there were several people claining ownership of the same plot

who were not co owners and who were not identified at the data collection stage due to frequent subdivision and resale of the plots by the owners.

3.2.8.3 Preparation of a physical development plan for Muyeye settlement

This was a step by step process which involved an analysis of the socio economic survey data, analysis of the existing physical charactaristics of the settlement and community participation in plan preparation and validation and finally plan aprooval by the Kilifi county assembly. The plan was also reccomendation for approoval by the then Director of Physical Planning. The process began in the month of **June 2013** up to the month of **November 2013.**

Associated challenges:The activity proved to be quite challenging because of the development requirements and planning standards. The observation of planning standards as per the Physical Planning act and the Physical Planning Handbook necesitated the demolition of several structures. This led to a tussle between the consultants, the community, the client and the aprooving body. At the end of the day, a plan was prepared as per the demands of the client and the aprooving body without the aprooval of the community of Muyeye. The consultant was then made unable to display the aprooved plan to the community but instead displayed to them another version which adopted the minimum intervention aproach. The community approoved this plan without knowing that the actual plan was totally different from the one displayed. The aim of the consultant was simply obtain spprooval of the plan inorder to be paid for the work done. The implementability of the aprooved plan was to be headache for another day.

3.2.8.4 Verification of list of beneficiaries

This activity was carried out in the month of **July 2014**. It was aimed at enabling the plot owners confirm and verify their details and details of their plots as they had been entered in the land information system database. The process was done in collaboration with the client, the County Gonertment of Kilifi officials, the SEC members and the community. All corrections were made and gaps filled in the list of beneficciaries and the final list shared with the community.

Associated challenge: Just like the others, this was a very challanging activity because of a number of reasons. First is that the SEC members had a number of members of the community that they wanted to be eincluded into the list of

beneficiaries even though they had not ben captured in the initial enumeration excrcise. Second is that there were a number of unrecorded land transactions which had already taken place within the settlement since the enumeration exercise even though plot owners were instructed to stop all land transactions untill the exercise was over. This brought great confussion in the verification excersice.

3.2.8.5 Preparation of the Relocation Action Plan (RAP)

The preparation of the RAP was carried out in the month of **September 2013**. It was also done in collaboration with the client, the County Government of Kilifi officials and the community. The process aimed at identifying the plot owners who were affcted by the project and the estimated value of property that they were to loose when the project if fully implemented. The process also aimed at identifying alternative land within the settlement for relocating those who were totaly affected by the project.

Asssociated challenges: The Relocation Action Plan (RAP) was limited to the plots which were affected by the projectand left out plots which fell within the formely created major roads which went through the settlement.Figure 11shows the location of plots within the project affected areas and those outside the project affected area. The other plots were not within the project affected areas and their owners were not to be compensated by this project. They were to wait until the project that was to involve the expansion of these roadsin order to be compensated. This was quite a big challenge because these roads went through the project area and were going to affect the implementation process of this project. The second challenge was on the acquisition of alternative land within the settlement to relocate those displaced from their plots by the project itself. This was because the owners of the vacant land within the settlement wanted huge monetary compensation for their plots.The third challenge was the value of the lossesby the plot owners following the implementation of the project. The plot owners estimated the value of their losses at levels higher than normal hoping that they shall be compensated the same amount. The fourtha and final challenge was the identification of alternative land for the relocation of the affected plot owners. The alternative land was simply not available.

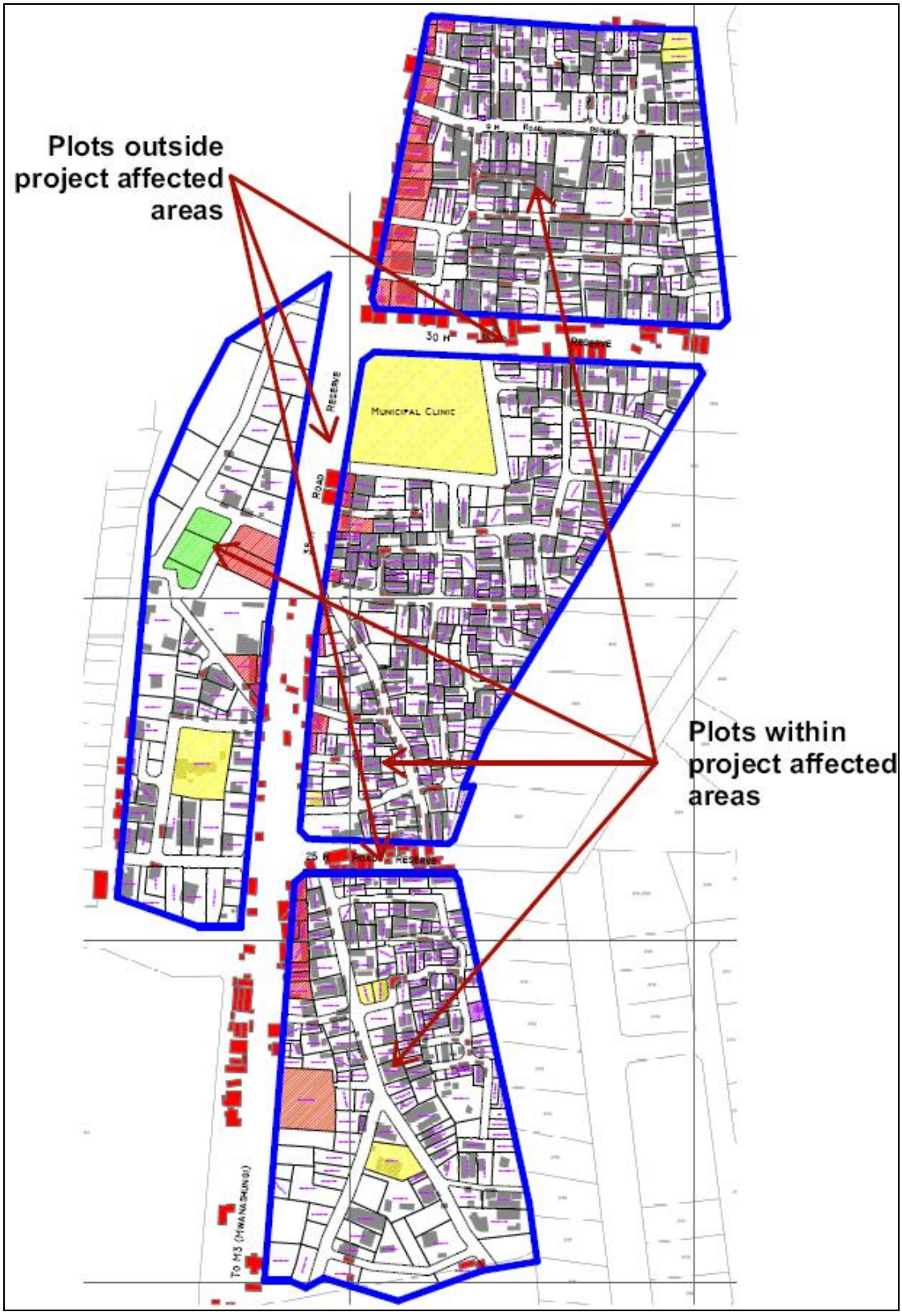


Figure 11: Illustration of project affected plots (Source: Author, Adopted from KISIP, 2013).

3.2.8.6 Surveying of the plots

This activity was carried out from **October 2014 to November 2014**. Just like the relocation action plan, the surveying was only done for the plots which were affected by the project . The process involved putting of becons on the individual plots.

Asociated challenge: The process was challanging at some point because the positions of most of the beacons were within buildings. The beacons could therefore not be placed at the moment. The building owners were however informed of the location of these beacons within their and were advised to prepare for the neccesary adjustments. At some point there was an error in determining the exact location of some of the becons. This led to an error ahich was later spread to other plots. This led to repeting the exercise on a big section of the settlement. The plot owners were also reluctant to co-orporate in the surveying process because they wanted to be compensated before surrendering portions of their plots and demilishing portions of their structures affected by the project.

3.2.8.7 Status of The Study Area

By the time the primary data collection for this rsearch research was being conducted, all the plot owners of Muyeye had been enumerated and verified, a physical development plan has been prepared and approved, some plots had been surveyed and a survey plan prepared. A majority of the plot owners were optimistic of obtaining title deeds for the plots that they occupied. Their faith of obtaining the land title deeds was however diminishing becausethe titling process had taken too long. This was even made worse because of the fact that some of the plots were not surveyed because of the fact that they were located within the road reserves of a major roads going through the settlement (See Figure 11). This was the case despite the fact that they had been told thet they would be considered in another project that woud involve the relocation of those affected by the formerly laid out major road reserves. The community also claimed that the agencies involved in this processdid not conduct their activities in a transperentmanner. The land still remained Government land until the day that the title deeds shall be issued to the occupiers as promised.

The study area is evidently a victim of insecurity of land tenure and degraded physical environments. The literature review and a detailed description of the study

areaadequately informed the basis for which a methodology for doing the research was developed as as discussed in the next chapter.

4 CHAPTER FOUR: RESEARCH METHODOLOGY

This chapter covers the research methodology that were used in achieving the goals of the study objectives which are mainly to derive the relationship between various land tenure insecurity levels and the related condition of the physical environment. And by deriving this relationship, it is hoped that practical security of land tenure options would be provided for the study area.

4.1 Research Design

The study used survey or non-experimental design. This means that an experimental variable was introduced but measures were taken. Control was given on what is to be observed, and when the observation is to take place. The main purpose was to assess the relationship between or among variables. In this case, the condition of the physical environment was the dependent variable whereas land tenure insecurity was the independent variable.

4.1.1 Dependent Variable

The condition of the physical environment was determined through data collection and analysis of various factors of the condition of each plot. They include.

4.1.1.1 The Building Materials Used

Data on the materials used on walls, roofs and floor for the sampled plots were collected and analyzed. They include stone, mud, timber, iron sheet, polythene and carton paper.

4.1.1.2 The Quality ofthe Open Spaces

The quality of open spaces was examined based on the percentage of the total area of open space of a plot which had been landscaped, whether hard or soft. These components were scaled and ranked as follows. 6 for 81% -100%, 5 for 61% - 80%, 4 for 41% - 60%, 3 for 21% - 40%, 2 for 1% to 20% and 1 for 0%.

4.1.1.3 The Plot Coverage (Building Footprint/Plot Area)

The plot coverage was also examined to establish the size of the built area in relation to the size of the entire plot. This was measured by dividing the ground built area by the total area of the plot and then multiplied by 100. This calculation was meant to

determine how much open space was left for the purpose of outdoor activities such as recreation and other uses. The scale of measurement was therefore to be ranked as follows. For plot ratio of 50% and below the score was be 6, 51% – 6%, had a score of 5, 61% to 70% will have a score of 4, 71% – 8% had a score of 3, 81% – 9%, had a score of 2, 91% – 100% had a score of 1.

4.1.1.4 Availability of Essential Services

This was based on the analysis of the availability of services within the plots. Vehicular access, pedestrian access, water, electricity, solid waste management and finally sewerage services. For each of the plots sampled the number of services available determined the score. If all the six services are available, then the plots had a score of six, if only five of the services were available, then the plots had a score of five, and so on. The plot with none of the services had a score of zero.

4.1.1.5 The Level of Investments Within The Land Parcels

This was to be analyzed based on the type of investments within each plot. They include permanent buildings, semi-permanent buildings, agriculture, cattle keeping, open land finally garbage collection site.

4.1.1.6 The Length of Stay of Tenants

The tenants who stay longest were assumed to be living within the best environments. For plots whose tenants stay for more than 10 years their score was 6, for 8 to 10 years, the score was 5, for 6 to 8 years, the score was 4, for 4 to 6 years, the score was 3, for 2 to 4 years, the score was 2 and below 2 years, the score was 1 (See Table 3).

The scaling of building materials and level of investments take place during the focused group discussion with the SEC members. All these were adjusted based on the fieldwork findings.

Table 3:Summary of dependent variables and scores for possible outcomes(Source: Author, 2013).

Dependent variables	Score 1	Score 2	Score 3	Score 4	Score 5	Score 6
Building materials	Carton paper.	Polythene	Iron sheet	Timber	Mud	Stone
Quality of open space	0% landscaped	1% to 20% Landscaped	21% - 40% Landscaped	41% - 60% Landscaped	61% - 80% Landscaped	81% -100% Landscaped
The plot coverage	91% – 100%	81% – 90%	71% – 80%	61% - 70%	51% – 60%	50% and below
Services available	1 of the services	2 of the services	3 of the services	4 of the services	5 of the services	6 of the services
Level of investment	Land used as damp site	Open land	Cattle keeping	Agriculture	Semi-permanent	Permanent building

					building	
Length of stay of tenants.	below 2 years	2 to 4 years	4 to 6 years	6 to 8 years	8 to 10 years	More than 10 years

4.1.2 Independent Variable

The independent variable is the level of land tenure insecurity which was measured through data collection and analysis of the following factors:Proof of land ownership documents, continuum of land rights, method of land acquisition and the duration of land ownership. The scaling of these factors of land tenure insecurity were based on literature review and field work experience.

4.1.2.1 Proof of Land Ownership Documents

These includetitle deeds, certificates of lease, allotment letters, sale agreements draw by the area elders (SEC), share documents, and in some cases there are no documents at all.

4.1.2.2 Continuum ofLand Rights

They include analysis of what makes the land owners feel security of tenure. They included registered freehold, leases, group tenure, adverse possession, anti-evictions, occupancy, customary tenure and the community recognition of land transactions.

4.1.2.3 Method ofLand Acquisition

They included inheritance, squatting, unauthorized acquisition (Grabbing), resettlement, purchase, ancestral land etc.

4.1.2.4 Duration of Land Ownership

This was based on the assumption that the more one has owned land the more he or she fells land tenure secure. For plots which had been owned for more than 10 years their score was be 6, for 8 to 10 years, the score was 5, for 6 to 8 years, the score 4, for 4 to 6 years, the score was 3, for 2 to 4 years, the score was 2 and below 2 years, the score was 1.

Both qualitative and quantitative techniques were used. Qualitative data was collected through interview schedules, taking notes during administration of questionnaires, recording conversations and observation. Quantitative data was collected through administration of questionnaires and mapping of features and areas of specific interest which can then be counted later using manual methods and GIS software. Interview schedules with key stakeholders and data collected from the respondents also provided crucial quantitative data.

4.2 Research Target Population

The target population comprised of all land parcel owners of the land inMuyeye settlement in Malindi. The total number of plot owners as per 2013 survey done by KISIP was 699. The population also comprises of key informants from various bodies which includes key institutional representatives of the ministry of Land Housing and Urban Development e.g. KISIP and KENSUP, Non-Governmental Organizations working in Muyeye, Malindi, Community Based Organizations, Youth Groups and Women Groups of Muyeye Informal Settlements.

4.3 Sampling Plan

The main aim of the sampling plan in this case was to obtain as much information related to land tenure insecurity and its effect on the physical environment. This kind of information was mostly provided by the land parcel owners. Since Land parcel owners can at times be difficult to locate especially if most of the structures within the settlement are for rental. The following steps were taken to ensure that the required sample size is achieved.

Step 1: Use of convenient sampling method whereby only land parcels whose owners are available within the strata that the sample is being drawn from were sampled.
Step 2: Snow balling to enable the first plot owner lead to the next plot owner.
Step 3: Invitation of the plot owners to their properties for interview.
Step 4: Interviewing the plot owners through mobile phone or email.

4.3.1 Type of Sampling

Initially, purposive sampling had been used to select Muyeye in Malindi town as a case study. The total number of parcels or plots inMuyeye settlement according to the survey done by the Ministry of housing 2013 is 699. However the exact current number of land parcels within the settlements is unknown because of frequent land subdivision. However this information was used to determine the sample size for the research. A study of aerial images of the study area indicates that the area has a very heterogeneous characteristic of settlement pattern. **Cluster** sampling method was therefore the most appropriate sampling method for this research. The area was divided into four main zones or clusters Zone 1, Zone 2, Zone 3 and Zone 4. (See Figure 12) These zones had varying difference in characteristics depending on their distance from Malindi central business district, nearness to the ocean, density of

settlements, levels of disregard to development laws and lack of basic facilities and essential services. The final parcel owner subjects were therefore sampled be selected **randomly** and **proportionally** from the different strata. **Convenient** random sampling method was used to achieve the sample size within each cluster. Snow balling was used to enable me reach the next plot owner.

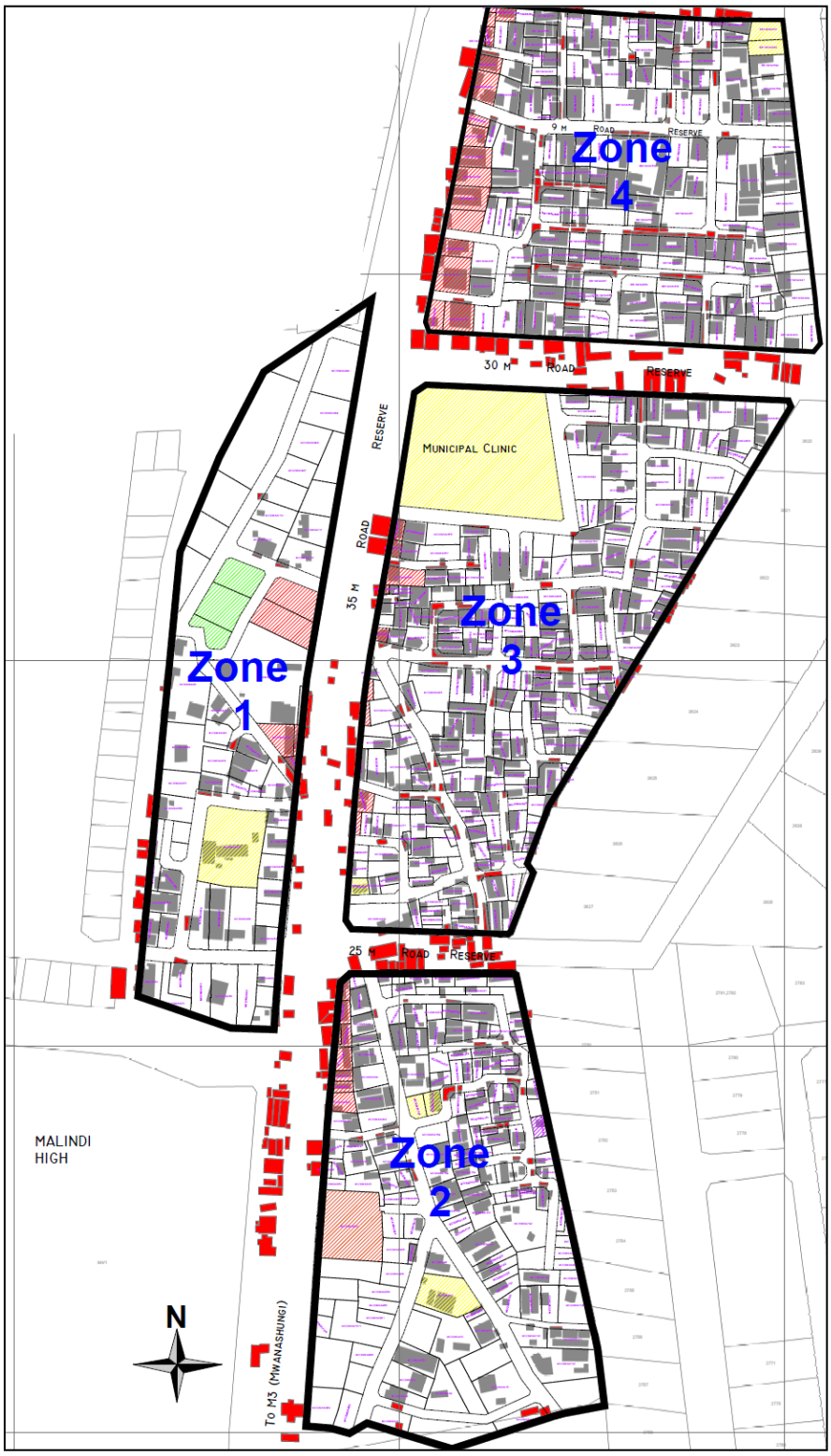


Figure 12: The four zones/clusters of Muyeye (Source: Author, Adopted from KISIP, 2013).

4.3.2 Sample Size

The sample for this study was developed based on a methodology for calculating sample sizes as adopted from the Creative Research Systems[6]. From the Creative research systems, the sample size required is determined by the formula below.

$$n = \frac{t^2 \times p\,(1-p)}{m^2}$$

Where n = required sample size, t = confidence level at 95% (standard value of 1.96), p = Standard deviation of 0.5 and m = margin of error at 7% (standard value of 0.07). Below are the calculations for the sample size n.

$$n = \frac{1.96^2 \times 0.5\,(1-0.5)}{0.07^2} \qquad n = 196$$

However since the size of target population of the area is known i.e. 699 parcels, corrections are made in order to determine the exact sample size. The formula below does the correction.

$$nn = \frac{n}{1+[(n-1)/N]}$$

Where nn = the new sample size and N = the target population. Below are the calculations of the corrected sample size nn.

$$nn = \frac{196}{1+[(196-1)/699]}$$

$$nn = 153$$

The sample size for this research is therefore 153. Since it was established earlier that the settlements have heterogeneous characteristics, and were therefore divided into four main zones or strata, the determined sample size is to be proportionately distributed among the four strata. The number of parcels for each zone are: Zone 1: 66 parcels, Zone 2: 176 parcels, Zone 3: 257 parcels, Zone 4: 200 parcels. Then the sample sizes for each cluster are determined by the formula below.

$$S = \frac{nn \times a}{A}$$

Where S = sample size within the strata, nn = the new sample size, a = the number of land parcels in the cluster at interest and A = the total number of land parcels within the entire settlements. The calculation below indicates how the sample sizes for zone 1 were determined.

$$\text{Zone 1: } S = \frac{nn \times a_1}{} = \frac{153 \times 66}{} = 14$$

[6] The creative research system is a software company based in USA for market researchers, political pollsters, human resource professionals, social scientists, and other researchers who use questionnaires.

A 699

The sample sizes for each stratum was therefore 14 for Zone 1, 39 for zone 2, 56 for zone 3, and 44 for zone 4. Purposive sampling method was also used for Malindi Municipality officials, Ministry of Lands Housing and Urban Development, Ministry of Environment, Water and Natural Resource, NGOs and CBOs, Youth and Women Groups because they also have information on the issues related to land tenure insecurity of the study area. The use of purposive sampling was also used to reach relevant departments within the government ministries through key informants. One sample for each of the ministries, NGOs, CBOs, youth and women groups was interviewed because they had the same source of information. Table 4 provides a summary of the type of sampling methods and different sample sizes that were used for various categories.

Table 4: Summary of sampling methods and sizes of different categories (Source: Author, 2013).

	Category		Type of sampling	Sample size
1	Study area		Purposive Sampling	1
2	Plot owners	Zone 1	Cluster sampling	14
		Zone 2	Cluster sampling	39
		Zone 3	Cluster sampling	56
		Zone 4	Cluster sampling	44
3	Plot owners		Random, proportionate and convenient also snows balling to enable the first plot owner reach the next plot owner.	153
4	Key Ministries, NGOs, CBOs, youth and women groups		Purposive sampling	1 for each

4.4 Data Collection Methods and Instruments

Before the data collection, I sought for the introduction letter from the University which will I used to get the permit from Kilifi County Government. I then reported to the existing local authority in Malindi town for permission to carry out the research. At this stage I also established that there was an existing Settlement Executive Committee (SEC) in Muyeye. I therefore arranged to meet them to inform them of the research and organized for focused group discussions.

The respondents SEC members also had to be educated on the meaning of land tenure insecurity in order for them to be able to rate the various components of the factors that cause different levels of land tenure insecurity. Arrangements were later made so that questionnaires are filled and collected immediately from the research assistants to

reduce mishandling or misplacement. Collected and returned questionnaires were then examined for completeness, consistency and reliability. Secondary and primary data collection methods were used in this study.

4.4.1 Secondary Data Collection

This involved library and desktop studies on the knowledge on theory and variables used in measuring land tenure insecurity and its effects on urban environments. Literature review narrowed down to the Kenyan Coast. This information was found from the website, published books, government documents and journals, acts of parliament, policy and strategy papers whose topics were of relevance to this research.

4.4.2 Primary Data Collection

This involved data collection through interview of the plot owner based questionnaires, round table discussions sessions with SEC members and interview schedules with Key informants and actors such as KISIP and KENSUP. Other techniques included use of a GPS, observations and taking of photographs.

The procedure for primary data collection involving the interview of plot owners took the following steps.

4.4.2.1 Formulation of a Draft Questionnaire

The questionnaires were first formulated with an aim of meeting the objectives of the study.

4.4.2.2 Data Coding

At this stage all the possible outcomes of the questions were produced and coded. Coding will however took place in three main stages.

a) Draft data coding was done on the possible outcomes of the draft questionnaire.

b) Revision of the data codes after the pilot test had done and the questionnaire has been adjusted to address the weaknesses identified in the pilot test.

c) Final coding which will was done once the data collection has taken place and all possible outcomes of the questions had been established.

4.4.2.3 Hiring and Training of Research Assistants

Seven research assistants were hired from the local community. Three of them were females and four of them were males. Their qualifications were a minimum of form four certificates. Preference was given to those who could speak and listen to the local Giriama language. They were then trained on the procedures for questionnaire

administration. This will was done a few days before the actual data collection to enable them familiarize with the questionnaires.

4.4.2.4 Pilot Test

Once the research assistants had been trained on administration of the questionnaires, they tested about three questionnaires each. This enabled the evaluation of the feasibility, time, and cost of carrying out the data collection. The test was also able to identify weaknesses of the questionnaires through identifying ambiguous questions, vague questions, repetitive questions, unnecessary questions, extremely long questions etc. The pilot test also demonstrated that the research assistants understood the process of data collection.

4.4.2.5 Finalization of the Questionnaires

Once the weaknesses of the draft questionnaires had been identified, adjustments and correction were made accordingly to produce the final questionnaires.

4.4.2.6 Administration of the Questionnaires

The plot based questionnaires were then administered for approximately one week after necessary adjustments had been made on them and the data collection budget has been prepared. The administration of plot owner questionnaires took seven days, the first day was for training of the research assistants and pilot test. Then for the next five days the questionnaires were administered. The final day was for winding up the exercise.

4.4.2.7 Data Cleaning

Data cleaning was done to help fill in the gaps that were left by the research assistants during the data collection when the respondents were unwilling to provide certain information. Efforts were however made to minimize the occurrence of these gaps. The main method used in this was the Plugs in techniquewhere theresearch assistants inserted answers to questions that were not answered in the definite questionnaires. The Plugs In was predetermined earlier based on the predicted response and experience after data collection.Table 5summarizes the goals of the research, the type of dada needed, possible results, sources and actors, data collection methods and the tools used to collect them. .

Table 5.Data needs matrix(Source: Author, 2013).

Objectives/Goals	Type of data needed	Possible results	Sources/Actors	Data collection methods	Tools
1. To determine the tenure status of the study area?	Proof of land ownership documents.	• Title deeds. • Certificates of lease. • Allotment letters. • Sale agreements. • Share documents and • No documents.	• Ministry of lands, housing and urban development officials. • Malindi County Physical planning department. • Plot owners	• Literature review. • Administration of questionnaires. • Interview schedules.	• Questionnaires. • Review of documents.
2. To map the status of the physical environment of the study area.	The building materials used	• Stone. • Mud. • Timber. • Iron sheet. • Polythene. • Carton paper etc.	• Plot owners	• Observation. • Taking of photographs.	• Questionnaires. • Cameras. • GPS
	The quality of the open spaces	• Landscaped. • Building ratio. • Good, bad or medium air quality. • High, medium and low pollution levels.	• Plot owners.	• Observation. • Taking of photographs. • Taking of coordinates.	• Questionnaires. • Cameras. • GPS
	Available essential facilities and services	• Roads. • Water. • Electricity. • Garbage collection point.	• Plot owners.	• Observation. • Taking of photographs. • Taking of coordinates.	• Cameras. • GPS • Questioners.

		• Health facilities. • Schools. • Social halls. • Recreational facilities.		• Administration of questionnaires.	
	The level of investments within the land parcels	• Building. • Open land. • Farming land etc.	• Plot owners.	• Observation. • Taking of photographs. • Taking of coordinates. • Administration of questionnaires.	• Questionnaires. • Cameras. • GPS
3. To derive the relationship between various land tenure insecurity levels and the condition of the physical environment of the study area?	Continuum of land rights	• Registered freehold. • Leases. • Group tenure. • Adverse possession. • Anti-evictions. • Occupancy. • Customary. • Perceived tenure approaches.	• Ministry of lands officials. • Malindi County Physical planning department. • Community members. • Plot owners	• Literature review. • Interviews. • Administration of questioners.	• Interview schedules. • Questionnaires. • Review of documents.
	The method through which the land was acquired:	• Inheritance. • Squatting. • Unauthorized acquisition (Grabbing). • Resettlement. • Purchase. • Ancestral land.	• Ministry of lands officials. • Settlements Executive Committee SEC members. • Plot owners	• Literature review. • Administration of questionnaires. • Interviews.	• Interview schedules. • Questionnaires. • Review of documents.

	Duration of ownership.	• Below 2 years • 2-4 years • 4-6 years • 6-8 years • 8-10 years • Above 10 years	• Ministry of lands officials. • Community members • Plot owners	• Literature review. • Administration of questionnaires.	• Interview schedules. • Questionnaires. • Review of documents.
	The length of stay of tenants i.e. how long they stay before moving.	• 1-5 years • 5-10 years • 10-15 years	• Plot owners.	• Administration of questionnaires.	• Questionnaires
4. To come up with land tenure options that can be used to increase security of land tenure for urban informal settlement of the Kenyan Coast.	• Suggestions on policy recommendations. • Views of the local community on the preferred land tenure arrangements	• Issuance of title deeds. • Issuance of identification cards. • Provision of infrastructure. • Flexible development laws.	• Ministry of lands officials. • Community members. • Plot owners	• Literature review. • Administration of questionnaires. • Interviews.	• Questionnaires. • Interview schedules.

4.5 Data Cleaning and Editing Procedures

Data cleaning and editing were particularly crucial in ensuring that information collected are organized for the purpose of data entry. The following are the data cleaning and editing procedures that were carried out.

4.5.1 Data Editing

This was done mainly to make corrections on the errors made during the filling of the questionnaires.

4.5.1.1 Field Editing

This was undertaken by the research assistants the same day that the questionnaires are administered. This enabled checking of technical mishaps through clarification of the responses that are not logical.

4.5.1.2 In-House Editing

This was done at the desk level by the research assistant after the entire data collection and during data entry.

4.6 Data Analysis and Synthesis

The data collected from the field surveys was cleaned, sieved, entered, analyzed and synthesized for meaningful interpretation of research findings. This research involved both quantitative and qualitative methods of data analysis. Qualitative data was analyzed by use of logical or matrix analysis. Quantitative data was analyzed through the use of the SPSS and EXCEL programs which enabled the production of analytical diagrams such as pie charts, bar graphs, histograms etc. for interpretation.

4.6.1 Data Imputing Programs

The imputing techniques that were used involved the use of the SPSS and EXCEL programs. Spatial data collected by the use of the GPS was translated into maps using the Geographic Information System (GIS) software. This was applied mainly in mapping of areas with massive or complete disregard to development laws. The GIS software was also applied in mapping of areas which pose great threat to the environment such as improper garbage damping areas, flood prone areas, waste water blockage points etc.

4.6.2 Data Presentation

The analyzed data was presented in form of a compiled research study report. The report have graphs, flow charts, diagrams and written statements as generated from data analysis representing information gathered from the field survey and analyzed. Of importance are maps indicating the research project site and the distribution of various environmental aspects that the research intended to investigate.

4.7 Ethical Considerations

The research was done with high levels of integrity and professionalism. This was achieved by observing honesty, objectivity/non biasness, integrity, carefulness, openness, respect for intellectual property, confidentiality, responsible publication, social responsibility, non-discrimination, competence, legality and human subjects protection.

The methodology that was used to carry out this research gave rise to a lot of data. The data collected was on the socio-economic attributes, the land tenure status, the status of the physical environment, the relationship between security of land tenure and the status of the physical environment and the role of actors in providing security of land tenure. The data was also accompanied by a number of emerging issues. The next chapter is therefore a discussion on the analysis of the data and the research findings from the analysis.

5 CHAPTER FIVE: DATA ANALYSIS AND RESEARCH FINDINGS

This chapter meets the first three objectives of the rsearch which were to determine the land tenure status, to map the status of the physical environment and to derivethe relationship between the various land tenure insecurity levels and the condition of the physical environment ofMuyeye settlement. The findings are based on the field work data. The discussion starts with giving the general socio – economic charactaristics of the respondents sampled from the target population which consist of occupation, monthly income, level of education, sex composition, place of work, county of birth and residence. This is then followed by the analysis and findings on insecurity of land tenure level and then the level of quality of the environment. This is then followed by an analysis of the relationship beween insecurity of land tenureand the level of quality of the physical environment. From here, the study focuses on the emerging issues on how to increase security of land tenure, how to improve on the condition of the physical environment, roles of various agencies in providing security of land tenure and improoving on the condition of the nenvironment and finaly coping mechanisms to land tenure insecurity and the generally degraded condition of the physical environment.

5.1 Socio – Economic Attributes of the Respondents.

Socio economic attributes of the respondents that have been presented includes their gender composition, their age, their places of birth, their employment status, their places of residence, their nationalities, their occupation and income levels.

5.1.1 Gender Composition

The respondents have a fairly balanced sex ratio which is composed of 56% females and 44% males (See Figure 13). Theslightly higher female propotion of plot owners is due to the fact that female members of the population have made attempts to have more economic empowerment by owning plots than the males who generaly feel economicaly empowered.Figure 13 shows the sex ratio of plot owners in Muyeye. This argument is also supported by the fact that the female plot owners have been able to improove in the

quality of the physical environment of their plots which is an indication of how much they feel the need to upgrade their plots than the male population See Table 28.

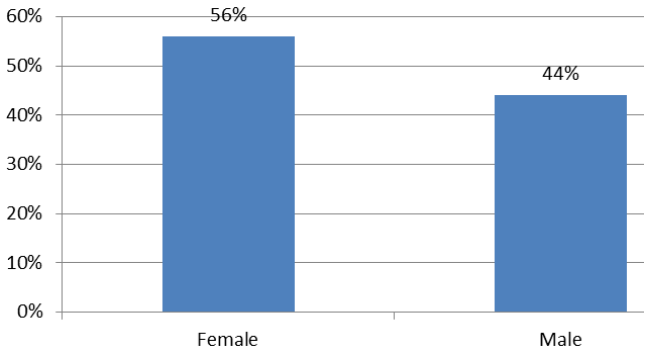


Figure 13: Respondents Gender (Source: Fieldwork, 2014).

5.1.2 Place of Birth

The places of birth of the respondents are fairly distributed within the Kenyan Coastal region with majority coming from Kilifi County. A few others come from Central kenya, Rift valley, Nairobi and Western regions. As revealed from the fieldwork findings, 71% of respondents come from Kilifi county, 7% form Lamu county, 7% Taita Taveta county and 4% fronm Mombasa county. In total 89% of the plot owners come from within the coastal region(SeeFigure 14).There are a number of reasons for this. Firs is that some of the plot owners inherited theland they occupy from their relatives who they claim to be the original inhabitats of the land, for instance ancestoral land. Th second reason is that the allocation of the land by the village elders in Muyeye gives first priorities to the local people in the allocation of land. The third reason is that the people from the coast region can handle the conflicts that are associated withinsecurity of land tenure here than poeople fron outside the coastal region which then makes them psychologicaly prepared to handle the challenges associated with insecurity of land tenure in Muyeye. They are therefore able to survive within the settlement for long.Figure 14shows the propotion of places of birth of the respondents.

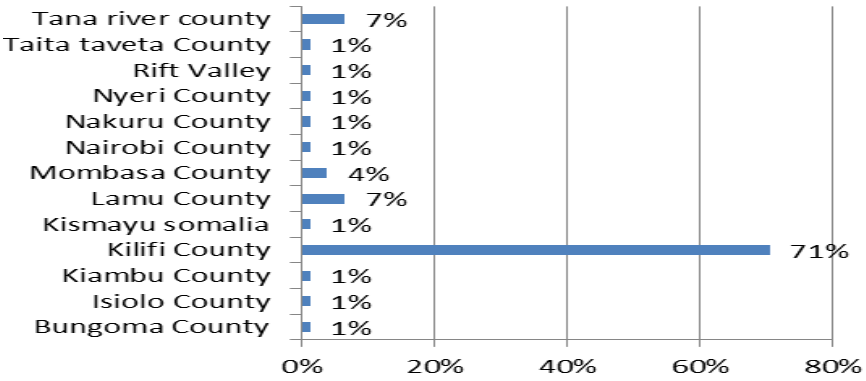


Figure 14: Place of Birth of respondents (Source: Fieldwork, 2014).

5.1.3 Nationality

The fieldwork reveals that 99% of the respondents are Kenyans while only 1% are citizens of Somalia who have now acquired Kenyan citizenship (See Figure 15). The reason for this is that land tenure insecurity issues are usually too complicated and and risky for foreighners to endure for a long time. The figure below shows the propotionof nationalities of the respondents.

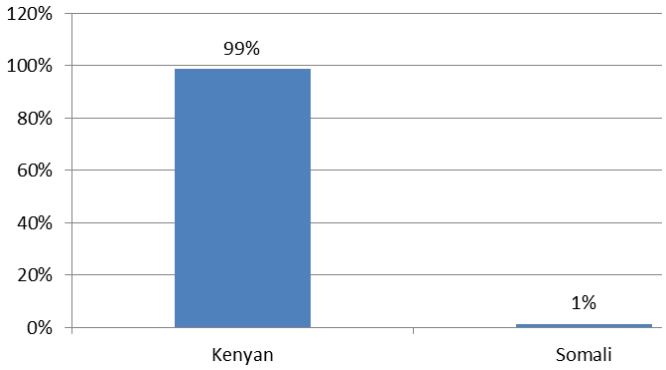


Figure 15: Nationality of respondents(Source: Fieldwork, 2014).

5.1.4 Respondents Level of Education

Generally, the level of education of the plot owners is very low. From fieldwork observation, 7% have no formal education, 9% reached Lower Primary education level, 46% have attained Upper primary education, 26% reached ordinary secondary education and 13% have accesed higher learning institutions(See Figure 16). This is attributed to the fact that the aconomic ability of the respondents is low which then mean that the plot owners can not afford higher level education. The number of higher learning institutions particularly in Muyeye and in Malindi in General are very limited. Thre is also a high propotion of plot owners who are females who are usually disadvantages as compared to

males in obtaining quality education due to the traditional cultural beliefs and practices of the african societies such as early marriage that prevents the female mmbers of the population from attaining higher levels of education.

Despite the fact that ignorance about land cuts across all classes of Kenyan, whether they are educated or not, there is some amount of positive impact on land if the plot owners have some higher leve of education (See Table 31). The plot owners of Muyeye generally lack the knowledge and experience of handling issues of insecurity of land tenure. They know very little of their rights and the procedures they should follow to achieve security of land tenure. This also mean that the rate at which the plot owners comprehend any community sensitization messages on how to achievesecurity of land tenure and improove on the condition of the physical environment will be generaly low. Finally this mean that personal initiative to improove on the quality of the environment may never take place due to lack of knowledge on the importance and how to improove and conserve the physical environment.Figure 16 shows the various levels of education of the respondents.

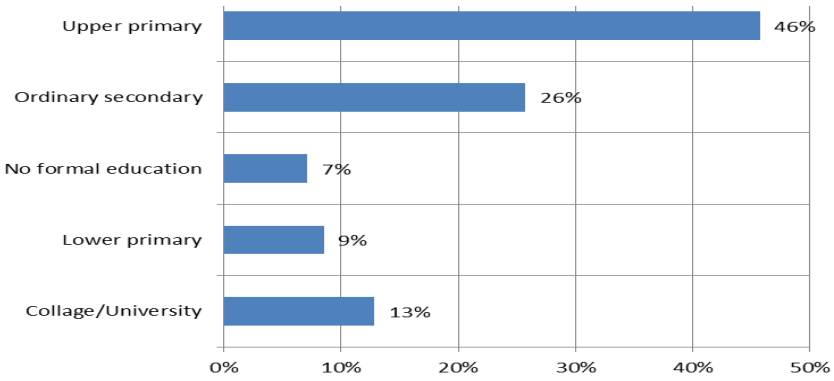


Figure 16: Level of education of respondents(Source: Fieldwork, 2014).

5.1.5 Age Composition

The age composition of the plot owners is well distributed among the plot owners. Field work findings reveal that 1% of the plot owners fall between ages 81 – 90 years, 1% between 71 – 80 years, 3% between 61 – 70 years, 14% beyween 51 – 60 years, 33% between 41 – 50 years, 33% between 31 – 40 years and 15% between 21 – 30 years (See Figure 17). This is an indication that the plot owners are mainly of the middle and the lower ages. There are a number of reasons for this. The first reason is that the aged plot

owners prefer to transfer their their plots to their descendants as iheritance early enough because they had the young energy to enable them deal with the land tenure insecurity challenges. The elderly population have a higher risk of loosing their plots than the young population of the plot owners. This is also because it's the middle aged population who have the economic ability to purchase land and have the courage to take the risk of purchasing plots which do not have security of land tenure.

The implication of this is rather positive since majority of the plot owners have the energy to fight for their rights as plot owners. This means that even those who can not be able to fight for their rights can take cover within the high energy group. The figure below shows the age composition of the plot owners in Muyeye.

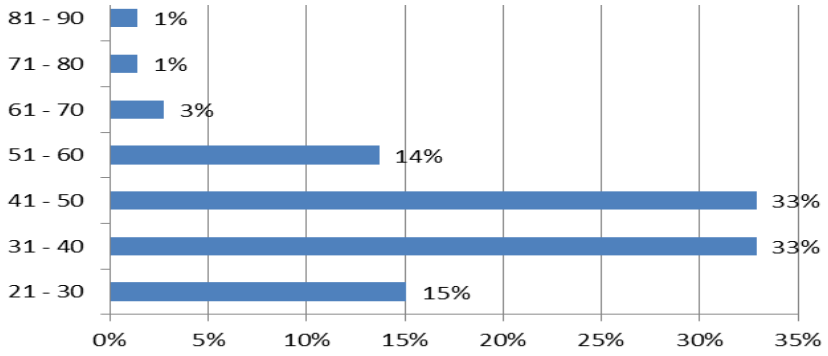


Figure 17: Age composition of Muyeye(Source: Fieldwork, 2014).

5.1.6 Occupation

The occupation of the plot owners as revealed by the fieldwork findings indicates that 73 % of the plot owners are self employed,12% are employed in the private sector and 9% of the plot owners are employed in the public sector. Another 4% are unemployed while 1% are students who are at collage or university levels of education (See Figure 18). The employment rate of the plot owners is therefore consider to be high, this is attributed to the fact that most of the plot owners have sources of income which is a result of owning the plots. Since it was established the plot owners mainly live and work within the settlements, their main sources of income is as a result of owning small scale busunesses within the settlements or renting portions of their plots to other tenants. Figure 13 shows the inccome sources of the respondents.

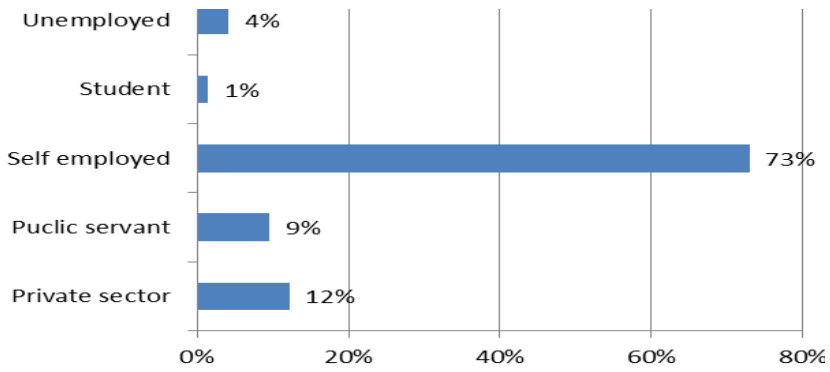


Figure 18: Income sources of Muyeye(Source: Fieldwork, 2014).

5.1.7 Income

Despite the high levels of employment among the plot owners, it has been established that their income levels are rather low . It was established that 65 % of the plot owners earn monthly incomes of less than 10,000 Kshs, this is followed by 23 % who earn monthly income of between 10,000 – 20,000 Kshs,3% who earn between 20,001 – 30,000, 3% who earn between 30,001 – 40,000 and 6% who earn monthly incomes of between 40,001 – 50,000 Kshsper month(See Figure 19). Since Majority of the plot owners earn less than 10,000 a month, with an avarage of five peole per household, this translates to approximately one dollar per person per day – the U.N. standard of poverty. This is an indication that the income levels here are still low. The main reason for this is the fact thet the plot owners do not feel secure enough to go seek for greener pastures outside the settlements. They simply do not want to loose their properties, businesses and residences while away for work.

This mean that the plot owners can not grow economically to their fullest potential, the capacity of the plot owners to cope up with land tenure insecurity is reduced, the plot owners can not afford proper housing, neither can they afford the legal procedurtes of building planned housing. They therefore have no choice but to live in the informal settlements and finally the plot owners do not have the economic ability to improove on their environments. Figure 19 shows the income levels of the plot ownwrs of Muyeye.

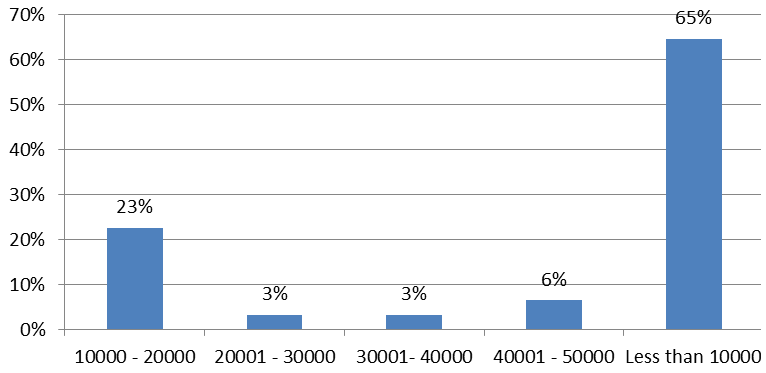


Figure 19: Income levels (Source: Field work, 2014)

5.1.8 Place of Work

Out of the plot owners who are employed, 93% work withinMuyeye settlement while only 7% work outside the settlement (See Figure 20). This is because of the fact that there is the need to be close to your property at most times whether working or whether just staying at home so as to be able to protect your property. The implication of this is that the economic growth of the plot owners is limited to what is available withinMuyeye settlement. The plot owners can not therefore grow economicaly. The figure below showsthe propotion of plot owners places of work.

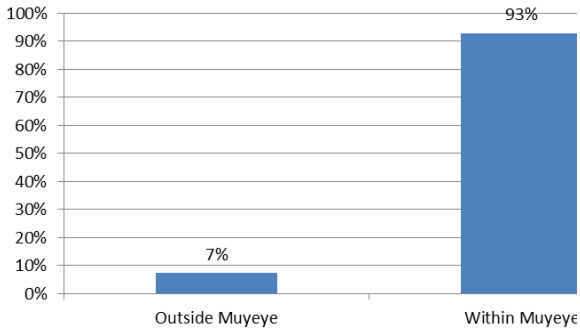


Figure 20: Places of work (Source: Fieldwork, 2014).

5.1.9 Place of Residence

Just like the places of work of the respondents, the places of resodence of te respondents have been deliberately chosen to enable them protect their properties. Fieldwork findinga revealed that 97 % of the respondents recide within Muyeye while only 3% recide outside Muyeye (See Figure 21).The figure below shows the places the propotion of the plot owners who recide within and outside Muyeye.

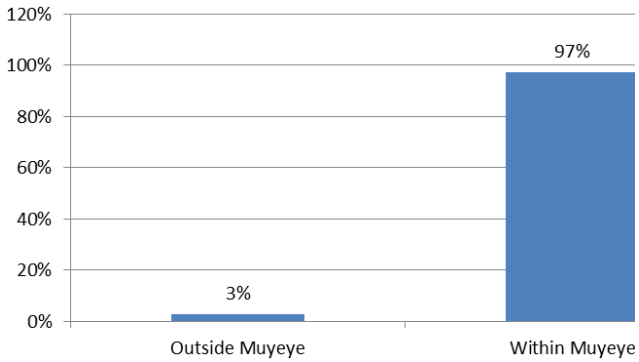


Figure 21: Places of residence (Source: Fieldwork, 2014).

5.2 Land Tenure Status of Muyeye.

This section meets the first objective of the research which is to determine the land tenure status ofMuyeye settlement(See page 3).The land tenure status as described by the physical planning officers in the Ministry of Lands Housing and Urban Development, and from SEC members of Muyeye has changed over time from ancestral status, to crown land, private land and finally to Government land. This has greatly contributed to the current problems facing the occupiers of Muyeye.

5.2.1 History of Land Tenure Status of Muyeye

The first status of the land was ancestral Land due to the fact that the initial occupiers laid ancestral claims to the land. This was followed by a status of Crown Land following thepassing of The Land Titles Act, Cap 282 of 1908. The third status was privateLand after the colonial government allocated the land to a white settler without considering the then occupiers.The fourth status was Government land which occurs when the white settler at his old age surrendered the land to MMC. Currently the land is being converted to private land following the upgrading process whereby the occupiers are to be provided with land title deeds for the plots that they occupy (See page 61). Figure 22summarizes the evolution of the land tenure status of Muyeye.

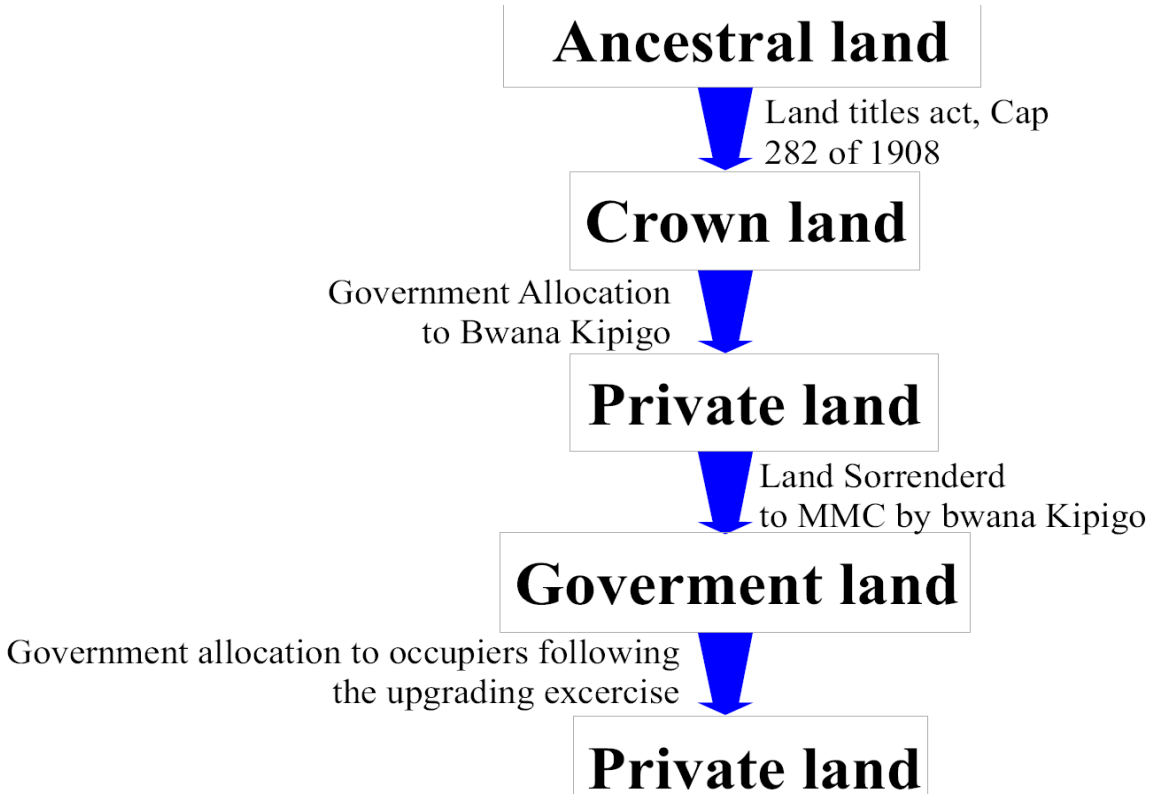


Figure 22: Evolution of land status in Muyeye(Source: Author, 2014).

Having looked at the land tenure status of, let's look at the status of the physical environment of the study area.

5.3 The Status of Physical Environment of Muyeye

This section meets the second objective of the research which is to map the status of the physical environment ofMuyeye settlement(See page 3). Fieldwork survey reveals thatMuyeyesettlement isdegraded. This can be ttributed to poor planning of the neighborhood, poor infrastructure, low level of investments, lack of vehicular and pedestrian access to properties and to houses, haphasard development etc.

The effect of insecure land tenure on the environment isfelt within Muyeye. However, some sections have been affected more than others. They includethe alcohol "*changaa*" dens, cemetry area, clinic area, kwa vumbi, lea Mwana area, metro shopping area, near sabasaba road and near the M3M3A office. The effect on the environment is manifested through poor garbage disposal, flooding and poor storm water drainage, haphasard development and congestion (See Figure 23). The situation has been worsened by the fact that the MMC and other bodies are unable to effectively provide servises such as water,

electricity, solid waste management, security and development controll. This has also resulted in some of the undeveloped plots within Muyeye being used as damp sites.

Another challenge being faced in this area is the lack of access whose main cause is the encroachment into road reserves. Zone 3 is the most environmentally degraded, followed by zone 4, then zone 2 and finaly Zone 1. Zone 3 is most degraded because of its lowland location which makes it most valnurable to flood (SeeFigure 24). The structures in this zone are also too congested to allow for proper management of the environment.

Inadequate access

Unsafe water supply

Poor building standards

Poor garbage disposal

Poor housing

Poor garbage disposal

Figure 23: Characteristics of the environments of Muyeye (Source: Fieldwork, 2014).

The table below shows the various environmental characteristics of various parts of Muyeye and the number of observations of the same. From Table 6it is observable that zone 3 have the highest cases of environmental degradation with poor garbage disposal and poor storm water drainage being the most common threat to the environment in this zone. However poor storm water drainage is the most common threat to the entire Muyeye followed by poor garbage disposal.

Table 6: Magnitude of environmental degradation in various parts of Muyeye (Source: Field work, 2014).

Environmental degradation observed cases in various parts of Muyeye.						
Zone	Congestion	Haphazard development	lack of development control	Poor garbage disposal	Poor storm water drainage	**Total**
1			1	1	1	3
2		1			1	2
3	2			9	6	16
4	2			2	5	9
Total	**4**	**1**	**1**	**12**	**13**	

Having discussed insecurity of land tenure and the status of the physical environment independently, the discussion that follows focuses on comparing the two main variables with an aim of determining the relationship between these two main variables.

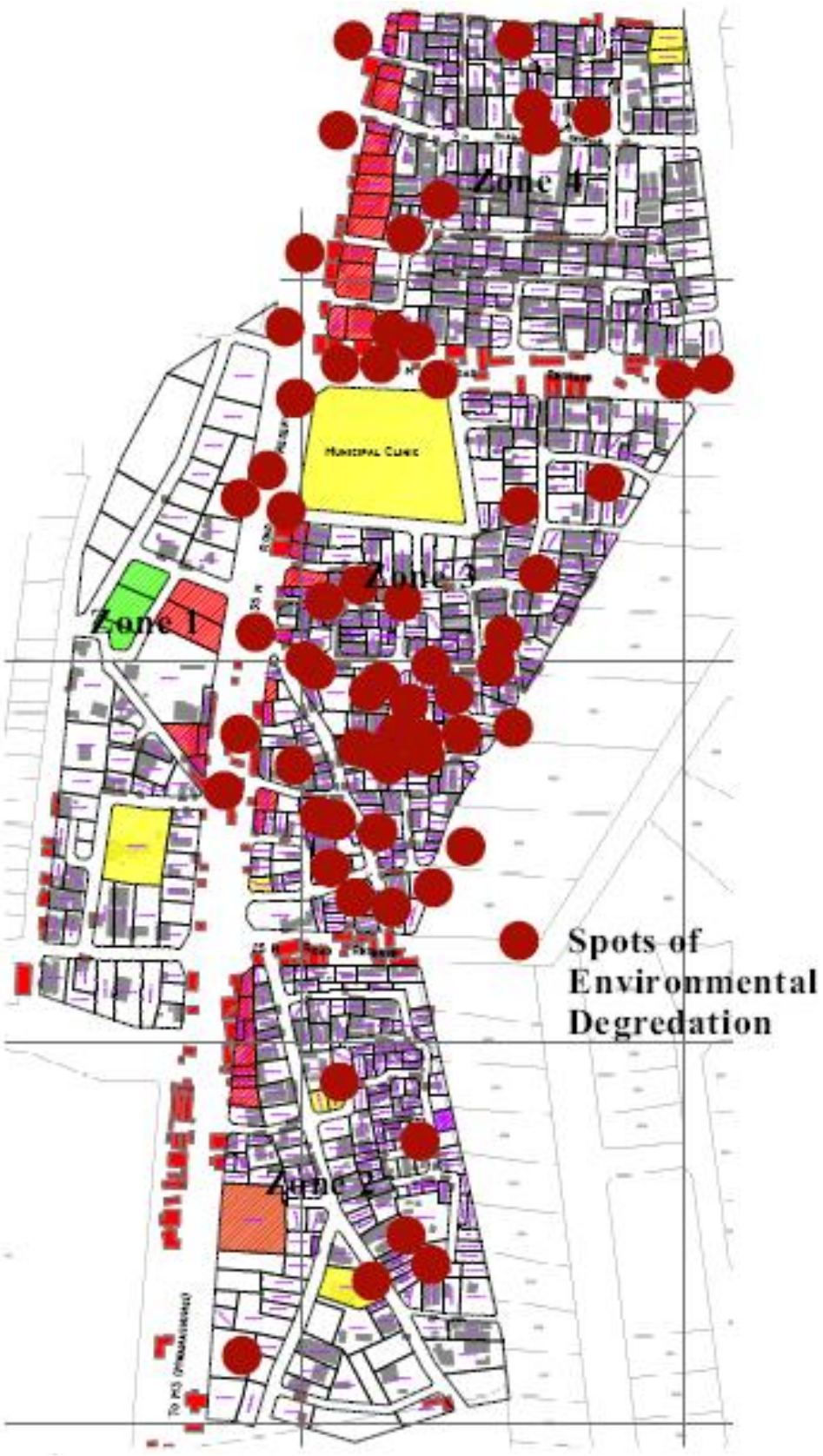


Figure 24: The most environmentally degraded parts of Muyeye(Source: Fieldwork, 2014).

5.4 Insecurity of Land Tenure Verses the Physical Environment

This section meets the third objective of the research which is to derive relationship between the various insecurity of land tenurelevels and the condition of the physical environment ofMuyeye settlement (See page 3). This is discussed within three main stages.First insecurity of land tenurewill be discussed, then the condition of thephysical environment and finally the relationship between insecure land tenureand the condition of the physical environment.

5.4.1 Land Tenure Insecurity In Muyeye

A number factors will be looked at in determining the land tenure insecurity in Muyeye. They include the rights of the people of Muyeye as plot owners, land tenure insecurity at village and plot level before going to the data used to comparatively measure security or insecurity of land tenure such as the method of plot acquisition, ownership proof documents, tenure status/continum of lands rights, length of ownership, number of plot owners, number of other plots owned and the plot sizes.

5.4.1.1 Rights of Plot Owners

A measure of the rights that the plot owners have reveals that building rights are greatest within the settlements, followed by selling rights, transfering rights, collateral rights and finaly subdivision rights. These rights are however at different and lower level. This is attributed to a number of reasons.

First, there is an ongoing informal settlement upgrading process financed by the World Bank and superviced by the Central Government which has apparently made it neccesary for any developments on the plotsand such activities to be suspended untill the upgrading process is complete. The delayed Government titling which is then followed by the lack of title deeds has limited the use of the plots as collateral for obtaining loans. Some people are also unwilling to buy land in places where there are no title deeds.

The inflwence of the M3M3A has also reduced the rights of the plot owners due to the considerable amount of controll that they undertake in Muyeye. They inform decisions on who builds, subdivides, sells and buys a plot within Muyeye. Their decisions have to be rational and agreed apon by the members who are the plot owners. Because of this the rights have social legitimacy.Table 7indicates the rights available to the plot owners of

Muyeye and their propotions of availability and non availability.Lack of education among the plot owners which then mean that they do not have the knowledge to be able to fight for their rights as plot owners or to deal with issues of land tenure insecurity has also led to reduced land related rights in Muyeye.

Another reason for reduced rights is the fact that some structures are still on the road reserves which then mean that they might be demolished any time by the Kenya Urban Roads Authority (KURA).

Lack of servise provision within the settlements has also reduced the legitimacy of the ownership of the plots thus reducing the level of rights within Muyeye. The former Malindi Municipal council was simply unwilling to supply servises toMuyeye settlement because the land ownership was according to them not legitimate and they do not want to invest in service provision here because there is a possibility of loosing their investments in the future. Again managing this investment may be very digfficult.

Frequent sale and resale of the plots by the plot owners is another contributor to the reduced level of rights since some of the plot owners due to unfaithfullness sell their plots more than once thus causing conflict.

Financial inability among the plot owners also reduces the ability of the plot owners to effectively finance the titling process.

Table 7: Levels of different types of rights within Muyeye (Source: Fieldwork, 2014).

Rights of plot owners in Muyeye	**Those who feel they have rights**	**Those who feel they do not have rights**
Building rights	92%	8%
Selling rights	49%	51%
Transfer rights	43%	57%
Collateral rights	11%	89%
Subdivision rights	7%	93%

There is a slight varioation of these rights at the plot and community level. These rights are higher at the community level due to security in numbers. This is because land tenure insecurity issues can be better handled as a community than as an individual. Table 8 shows the comparison of the level of rights at the plot and at the community level.

Table 8: Comparison of level of rights between the plot level and the community level (Source: Fieldwork, 2014).

	Very high	High	Avarage	Low	Very Low
Rights at Plot level	2%	5%	16%	52%	25%
Rights at Community level	2%	5%	20%	49%	24%

The field survey also confirms certain charactaristic of Muyeye village that are critical to this study. It confirms that there are varying circumstances under which the plots exist which thenmeanthat they have varying levels of insecurity of land tenure thus varying effect on the environment. Below are the analysis of various categories of measuring land tenure insecurity.

5.4.1.2 Method of Plot Acuquisition

From the field data, 91% of the plot owners purchased their plotswhile 3% self allocation their plots, 5% Inherited their plots while only 1% were allocated their plots. The main method of acquisitision which is purchase provides adequate security of land tenure because the plot owners have the sale aggrement documents which are provided by the M3M3A comitee members. The comitee members also act as witnesses in any land transactions that take plece within the settlement (See Table 9).

Table 9: Methods of plot acquisition (Source: Fieldwork, 2014).

Method of plot acquisition			
Self acquired	Inherited	Allocation	Purchase
3%	5%	1%	91%

5.4.1.3 Ownership Proof Documents

Only 11% of the sampled plot owners have no documents of ownership (See Table 10). The lack of title deeds in this settlements also indicates that the plot owners are not recognised by law. The proof of enumeration documents are the only legal documents they have even though they do not seem to rely on it as a source of security of land tenure. This is because the proof of enumeration documents lack government seals and were written and signed at the respondents residents as opposed to land title deeds which are obtained from the national Lands office. The plot owners however enjoy sufficient and varying levels of rights which is as a result of the circumstances that they exist.

Table 10: Ownership proof documents (Source: Fieldwork, 2014).

Ownership proof documents			
No document	Temporary Occupation Licence	Sale agreements	Proof of enumeration
11%	3%	83%	4%

5.4.1.4 Tenure Status/Continum Of Lands Rights

95 % of the plot owners rely on anti-eviction laws for souruce of security of land tenure, 4% rely on adverse possesion while only 1% which constitute the existing public purpose plots such as the Malindi Municipal Clinic rely on the Registered freehold for security of land tenure (See Table 11). The anty – eviction laws have however not been able to provide adequate security of land tenure because despite the fact that they were declared publicly, they did not prevent the former Malindi Municipal Council officials from trying to evict the residences of Muyeye from their plots and demolishing a number of structures. However, the evictions couldn't sicceed due to the riots by the community members of Muyeye which gave birth to the surrender of the land to the occupiers and the informal setttlement ograding of the area.

Table 11: Tenure status/ Continuum of land rights (Source: Fieldwork, 2014).

Tenure status/continum of lands rights		
Anty evictions	Adverse Possesion	Registered freehold
95%	4%	1%

5.4.1.5 Length Of Plot Ownership

80 % of the plot owners have owned their plots for more than 8 years, 16% have owned their plots for 2 – 4 years, 3% for 6 – 8 years and 1% of the plot owners have owned their plots for 5 – 6 years (See Table 12). The plot owners have therefore owned the plots long enough to enable them feel that they are not loosing the plots any time soon. This offers some amount of security of tenure for the plot owners who have owned their plots for longer periods. The owning of plots for feewer years by some plot owners is due to the frequent informal sale and transfer of land from one person to another.

Table 12: Length of plot ownership (Source: Fieldwork, 2014).

Length of ownership			
4 yrs & below	5 – 6yrs	7 – 8 yrs	9 yrs & above
16%	1%	3%	80%

5.4.1.6 Number of Plot Owners

The plot owners of muyeye prefer to own the plots as individuals (See Table 13). This therefore means that they do not have co-owners to help them deal with the challenges of land tenure insecurity. Even for married plot owners, the ownership is not extended to the spouces. This could however be due to the fact that there are more female plot owners than the males (See Figure 13) who own the plots as individuals since rhey are aither widoed, divorced or simply unwilling to own the plots in conjunction with their spouces which might expose them to manupulation by the male co-owners.The co-owners could also be relatives and friends who can assist in times of crisis to overcome the challenge of insecurity of land tenure. Their ability to fight for their rights as plot owner is therefore limited.

Table 13: Number of plot owners per plot (Source: Fieldwork, 2014).

No. of plot owners		
1 Owner	2 Owners	3 Owners
93%	5%	1%

5.4.1.7 Number of Other Plots Owned

71% of the plot owners do not own any other plot (See Table 14). They therefore do not have knowledge and experience gained from having owned other plots to help them deal with the insecurity of land tenuresituation in Muyeye. The other plots may be owned under different circumstatnces such as titled frehold which then provides the plot owners with adequate knowledge and experience on the land registration procedures which they can start in Muyeye with a high chance of success.

Table 14: Number of other plots owned (Source: Fieldwork, 2014).

No. of other plots owned					
0 Plots	1 Plot	2 Plots	3 Plots	4 Plots	5 Plots
71%	20%	4%	4%	0%	1%

5.4.1.8 Plot Sizes

20% of plot owners have plot sizes of less than 2,00 square meters, 57% have plot sizes of 201 – 400 square meters, 14% of plot owners have plot sizes of 401 – 600 square meters, 1% of plot owners have plot sizes of 801 – 1000 square meters and 3% of plot owners have plot sizews of 1001 – 1200 square meters. The avarage plot size is between

201- 400 square meters (See Table 15). However, according to the physical Planning handcook 2005, the minimum size for a plot owner to obtain title deed in a high density residential area under freehold in Kenya is approximately 506 square meters which is equivalent to an eighth of an acre (Republic of Kenya, 2005: 58). More than half of the plot owners do not have plots that meet this requirement. The sizes of plots therefore contribute to the insecurity of land tenure since the plot owners who are not able to meet this requirement fear that they might be left out when when the World Bank funded project proceeds to provide title deeds to the individual plots owners. They also know that they will be left with no choice but to seek joint title deeds with their immediate neighbors, an idea which is not supported by many of the plot oeners.

Table 15: Plot sizes in Muyeye(Source: Fieldwork,2014).

Plot sizes in square meters	<200	**201 – 400**	**401 – 600**	**601 – 800**	**801 – 1000**	**1001 -1200**
	20%	57%	14%	4%	1%	3%

5.4.2 Quality of the Physical EnvironmentofMuyeye.

In measuring the quality of the environments of Muyeye, the research first looks at the desired and non desired environmental charactaristics of Muyeye, the quality of the environment at the plot and at the settlement level, the level of service provision and the tolerance of the tenants to the condition of the environment. The components of quality of the environment that are to be used to comparatively measure the levels of quality of the physical environment such as year of construction of building, type of building, building wall materials, building roof materials, building floor materials, plot coverage and finally the percentage of open space landscaped within the plots.

5.4.2.1 Desired and Non-Desired Environmental Characteristics ofMuyeye.

In order to properly understand the condition of the environment, the research first looked at the condition of the environment in general. The findings reveal that there are varying conditions of the environment with the non-desired environmental characteristics being more than the desired characteristics. Only air quality has more desired responses than non-desired responses, the rest i.e. Compounds cleanliness, landscaping of open spaces, solid waste disposal, and storm water drainage had more non desired qualities than the desired qualities (See Table 16).

Table 16: Fieldwork responses on the desired and non-desires environmental characteristics of Muyeye(Source: Fieldwork, 2014).

Desired characteristics of Muyeye	% of Responses		Non desired characteristics of Muyeye
Beautiful scenes	11%	89%	Ugly scenes
Proper storm water drainage	25%	75%	Flooding and soil erosion
Proper solid waste disposal	19%	81%	Poor waste disposal
Landscaped spaces	38%	62%	Lack of vegetation
Clean compounds and streets	40%	60%	Dirty compounds
Fresh and smoke free air	86%	14%	Bad smell and smoke infested air

5.4.2.2 Comparison of Plot and Village Environmental Qualities.

The finding also reveals that there is a variation between the quality of environment at the plot level and at the settlement level. Within the plots, the environment quality is slightly higher than at the settlement level (See Table 17). This is because the plot owners have more control on what happens in their immediate surrounding than at the village level and are therefore able to improve on the quality of the environments of their compounds.

Table 17: Comparison of the quality of the environment at the plot and at the village level(Source: Fieldwork, 2014).

Quality of Environment	Muyeye as a whole	Plot level
	Percentage	**Percentage**
Very high	0%	0%
High	7%	11%
Average	20%	31%
Low	33%	29%
Very low	40%	29%

5.4.2.3 Tolerance of the Tenants to the Environmental Condition

Data collected from the plot owners who used their plots for rental purposes reveal that there was a generally low level of tolerance to the condition of the physical environment by the tenants. It is evident that 44 % of the tenants do not stay for more than 20 months in their house units, 31% stay for between 21 – 40 months, 13% between 101 – 120 months, 6% between 61 – 80 months and 6% between 41 – 60 months. Only 13 % of the tenants are tolerant to the environment (See Figure 25). This is as a result of the dynamic economic situations that the tenants find themselves which force them to migrate

frequently to where their sources of income are available. The quality of the environments is also too low for the tenants to tolerate for long.

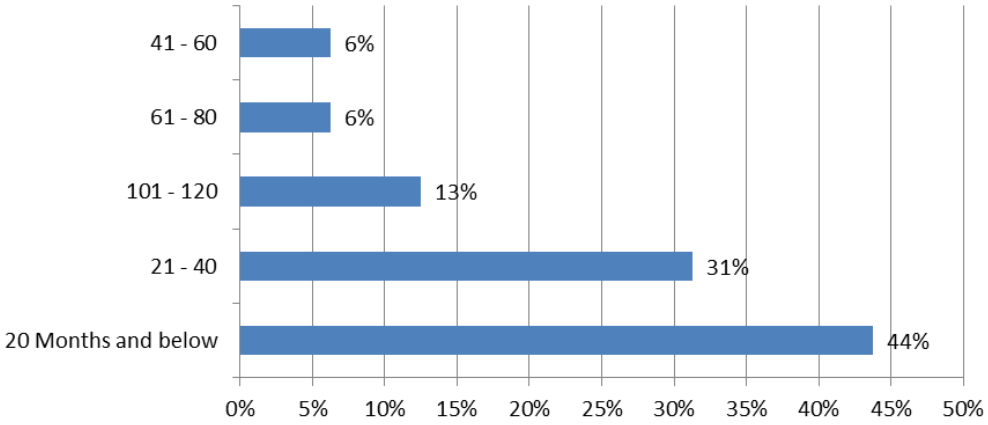


Figure 25: Average length of stay of tenants on the rental plots (Source: Fieldwork, 2014).

5.4.2.4 Level ofService Provision

As already described in the literature review, the level of service provision in informal settlements is usually very low. Muyeye in this case is no exception. 89 % of the plots had adequate pedestrian access, 39 % had piped water, 30 % had vehicular access, 29 % had electricity, 4 % had storm water drainage channels, 3 % had solid waste management services and only 1 % had sewerage services. On average 28 % of the plotshave these services while 72 %do not have these services (See Table 18). This is an indication of low level of service provision in Muyeye.

Table 18: Proportion of plot owners who have access to various services (Source: Fieldwork 2014).

	Available	Not available
Sewer	1 %	99 %
Solid waste management	4 %	96 %
Storm water drainage channels	4 %	96 %
Electricity	29 %	71 %
Vehicular access	30 %	70 %
Water supply	39 %	61 %
Pedestrian access	89 %	11 %
Average	**28 %**	**72 %**

Again findings confirms certain charactaristic of Muyeye village that are critical to this study. It confirms that there are varying levels of the quality of environment (See Figure 26).

5.4.2.5 Year ofConstruction ofBuilding

The buildings of Muyeye are generally new since most of them i.e. 78% were built between 1990 and 2009 (See Table 19). This has a positive contribution to the quality of the physical environment. The buildings were built not earlier than 1990 which then mean that they are still in good condition. The frequent demolition and attempts to evict people from their plots that occurred during the year 1995 united the occupiers of the settlement towards fighting for their rights as plot owners. This unity gave the occupiers some form of secure land tenure which led to the upcoming of many permanent buildings during this stage. The settlement then gained social legitimacy which was followed by the upcoming of numerous structures.

Table 19: Building construction year (Source: Fieldwork, 2014)

Building construction year.				
Observations	1950 - 1969	1970 -1989	1990 – 2009	2010 - 2019
Percentage of respondents	3%	11%	78%	8%

5.4.2.6 Type of Building

36% of the buildings in Muyeye are permanent, 39 % are semi-permanent while 25% are temporary (See Table 20). This means that the houses are generally of good quality. The growth of security of land tenure over time in Muyeye has led to increased use of more permanent building materials. The use of these materials is also due to the availability of the building materials.

Table 20: Type of building (Source: Fieldwork, 2014)

Type of building			
Observations	Temporary	Semi-permanent	Permanent
Percentage of respondents	25%	39%	36%

5.4.2.7 Building Wall Material

75% of the plot owners build the building walls using stone, 24 % use earth while 1 % use Iron sheet (See Table 21). The use of stone provides improves on the quality of environment as compared to earth and iron sheet. As mentioned earlier, the increase in

security of land tenure over time is what has led to the use of stone for building permanent buildings.

Table 21: Wall material(Source: Fieldwork, 2014)

Wall material			
Observations	Iron sheet	Earth	Stone
Percentage of respondents	1%	24%	75%

5.4.2.8 Building Roof Materials

The use of iron sheet is dominant in Muyeye at 88 % followed by grass at 9 % and finally tiles at 3 % (SeeTable 22*).* This is the case despite the fact that iron sheet is easily corroded by the salty humid coastal air. The use of the iron sheet is however preferred because it is more durable that grass and it is cheaper than tiles. However the quality of the environment is reduced as a result of the iron sheet because of the rusting.

Table 22: Roof material(Source: Fieldwork, 2014)

Roof material			
Observations	Grass	Iron sheet	Tiles
Percentage of respondents	9%	88%	3%

5.4.2.9 Building Floor Materials

The main floor material used in Muyeye is the cement at 73 % then earth at 27 % (See Table 23).This improves on the quality of the environment. It is also because all the permanent, semi-permanent and some temporary buildings have cemented their floors while others have raised the floor levels of their buildings in order to overcome the challenge of flooding.

Table 23: Floor material(Source: Fieldwork, 2014)

Floor material		
Observations	Earth	Cement
Percentage of respondents	27%	73%

5.4.2.10 Plot Coverage

The dominant plot coverage in Muyeye is between 91 % and 100 % (See Table 24).This tremendously reduces on the quality of the environments of Muyeye because majority have not left any space for outdoor landscaping, installation of amenities such as water

piping, sewerage etc. This characteristic is also dominant because the plot owners of Muyeye do not observe any building regulations which are a characteristic of informal settlements as stated in the literature review.

Table 24: Plot coverage(Source: Fieldwork, 2014)

Plot coverage						
Observations	91 - 100	81 - 90	71 – 80	61 – 70	51 – 60	50 & below
Percentage of respondents	44%	8%	9%	0 %	19%	20%

5.4.2.11 Percentage of Open Space Landscaped

The plot coverage in Muyeyeis rather high and does not let much of the open spaces to be landscaped. This is the reason why 77 % of the plot owners have not landscaped their plots (See Table 25).The low level of landscaping has also been contributed by harsh climatic conditions, inadequate water supply, unwillingness of some plot owners who have the spaces to invest in landscaping due to low economic abilities and finally insecurity of tenure.

Table 25: Percentage of Open space landscaped(Source: Fieldwork, 2014)

Percentage of Open space landscaped					
Observations	0% Landscaped	1%-20% Landscaped	21%-40% Landscaped	41%-60% Landscaped	61%-80%
Percentage of respondents	77%	16%	5%	0%	1%

Minimal outdoor landscaping

Iron sheet and grass thatched roofs

Permanent stone houses

Semi-permanent structures

Mud houses

Descent houses

Figure 26: Description of various environmental characteristics of Muyeye(Source: Fieldwork, 2014)

5.4.3 Insecurity of Land Tenure Versus Quality of Physical Environmant

As mentioned earlier the research also aimed at establishing the existance and nature of relationship between insecure land tenureand the condition of the physical environment at plot level. So far, the research has focused on insecure land tenureand the physical environment independently. At this stage the research analysis looks at insecure land tenurein relation to the physical environment at the plot level. Appendix 6 shows security of land tenure and quality of environment scores of different plots based on field research findings while Appendix 7 and 8 show the key to awarding scores the components used in comparative measurement of insecure land tenure and the quality of the physical environment. These scores are based on fieldwork experience and literature review.

Some of the questionaires which in this case represent the plot numbers have deliberately not been ranked in the table because of lack of full information on all the components that were used in the ranking. And so the information obtained from them may not rank them in their correct place.

Summury

The results table reveals that that there is a variation in security of land tenure level and quality of the evironment. The security of land tenure levels varries from a minimum of 11 to a maximum of 21. The level of quality of the physical environment also varries from a minimum of 14 to a maximum of 27.

When the quality of physical environment of plots with similar security of land tenure level scores are avaraged and and the avarage assumed to be the score on quality of physical environment for that particular level of security of land tenure then the results of the same plotted on a graph, the trend reveals a weak but direct relationship between security of land tenure and the quality of the physical environment (See Table 26) i.e. the more secure land tenurea plot is, the better the quality of the physical environment.

Table 26: Measure of security of land tenure and the corresponding average level of quality of the environment (Source: Field work, 2014).

Security of land tenure level	Avarage level of quality of the environment
21	**23**
20	**22**
19	**17.7**
18	**18.1**
17	**15.9**
16	**17.1**
15	**16**
14	**15.3**
13	**17**
12	**16.3**
11	**14**

The figure below represcent the above results when plotted on a graph.

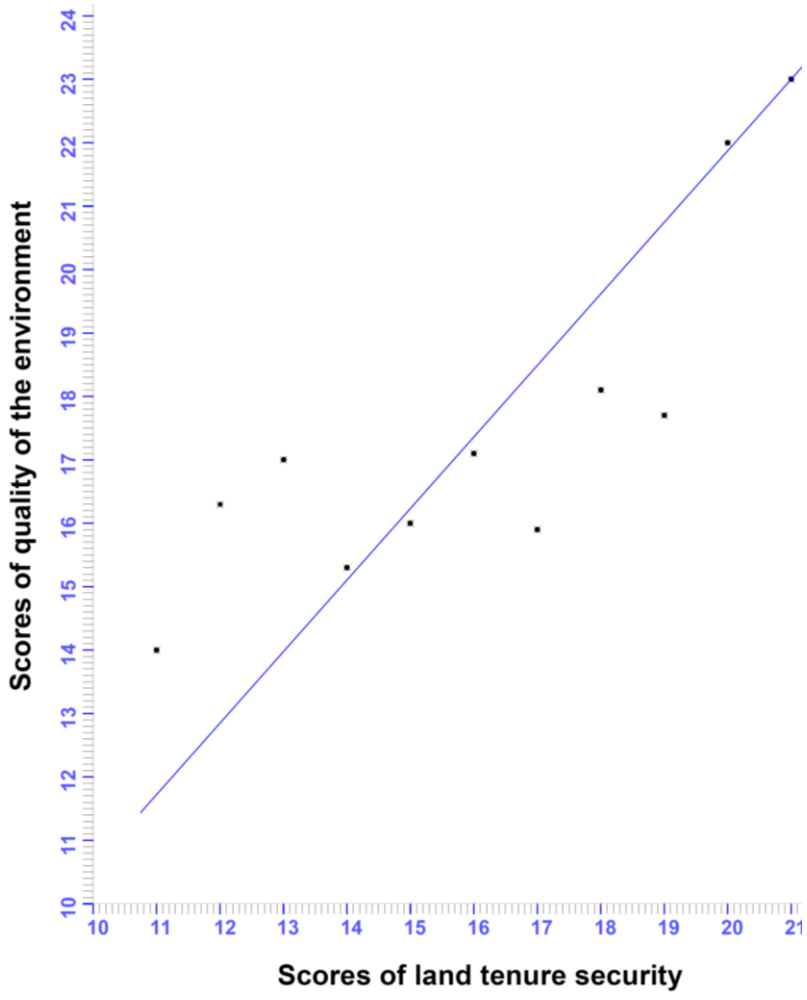


Figure 27: Graphical representation of security of land tenure level verses quality of the environment. (Source: Field work, 2014)

The pattern is even more definate when the measure of land tenure insecurity is generalised into categories of twos and their level of quality of the environment avaraged (See Table 27) .

Table 27: Measure of security of land tenure grouped into twos and the corresponding average level of quality of the environment (Source: Field work, 2014).

Security of land tenure level	Avarage scores
21 - 22	**23**
19 - 20	**19.8**
17 - 18	**17.0**
15 - 16	**16.6**
13 - 14	**16.1**
11 - 12	**15.2**

The figure below shows the above results when plotted.

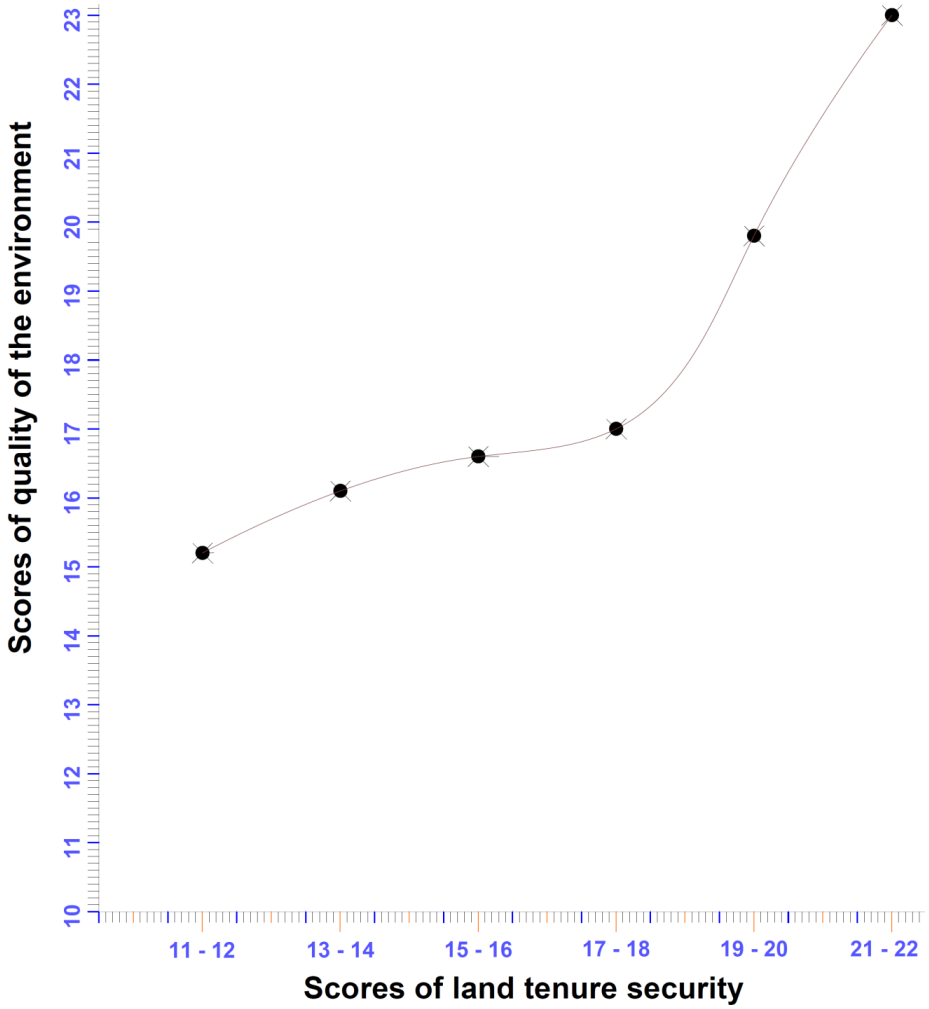


Figure 28: Graphical representation of security of land tenure grouped into twos verses quality of the environment(Source: Field work, 2014).

The level of quality of the physical environbment gradualy increases from security of land tenure scores of from 11 -12 to 3 – 14 to 15 – 16 and to 17 – 18. From here, the level of quality of the environment sharply increases to the highest posible level of 23 which is observable at security of land tenure level of 21 – 22 (See Figure 27).

These findings again confirm information that was obtained from the literature review which indicates that the higher the security of land, the better quality of the physical environment (See Page 32). From this observation, theresearch rejects the null hypotheses which states that insecurity of land tenure is not the main cause of degradation of the physical environments of urban areas of the Kenyan coast.

5.4.4 Quality of Environment Verses Other Variables.

The third objective of this research is to come up with security of land tenure options that will lead to the best condition of the environment. This can however not be achieved without relating the scores on quality of the environment with the various circumstances that these scores were achievable.

Preliminary finding of the research reveal that the more land tenure secures a plot is, the better the quality of the environment. There are several variables that determine security of land tenuredirectly as discussed earlier. However, there are other minor variables that are determinants of security of land tenureto some extent and thus influence the environment. They include the gender of the plot owners, their places of birth, their ages, their education level, occupation, places of work, places of residence, income per month etc. The discussion below compares the average scores on quality of physical environment for various determinants of the same.

5.4.4.1 Gender

The female plot owners have better quality of environments than the male plot owners (SeeTable 28). For the female owned, whethe they are for rental purposes or for personal homes there are attempts to improove on the quality of the physical environment of the plots so as to improve on the value of these plots so that. The improoved value will then enable the female plot owners to earn more from these plots unlike the male plot owners who are always favoured by the labor market and seem to have numerous sources of income.

Table 28: Average score on quality of physical environment for different gender categories of plot owners (Source: Fieldwork, 2014).

Gender	Average score on quality of physical environment
Females	17.9
Males	16.05

5.4.4.2 Places of Birth

The plot owners from outside the Kenyan coast region have better qualities of physical environments than the plot owners from the Kenyan coast (See Table 29). The nature of land transactions within Muyeye can not allow people from outside the Kenyan Coast to acquire land through any other means other than to purchase. Even when they purchase, they do so at considerably higher prices than if the same land is sold to a person from the Kenyan Coast. The land sold to these people therefore attracts persons with high income levels which provides them with the financial ability to improve on the quality of physical environment of their plots.

Table 29: Average score on quality of physical environment for different places of birth of plot owners. (Source: Field work, 2014)

Place of birth	Average score on quality of physical environment
From Outside Kenyan Coast	17.67
From the Kenyan Coast	16.8

5.4.4.3 Age

The older the plot owner, the better the quality of the physical environment apart from the age group 31 – 40 which has the best quality of physical environment (See Table 30). The older plot owners seem to have gained the methods and knowledge on how to improve on the quality of the physical environments of their plots while the age group of 31 – 40 constitutes the employed and most economically stable group to be able to invest in the improvement of the quality of the physical environment.

Table 30: Average score on quality of physical environment for different ages of plot owners(Source: Fieldwork, 2014).

Age	81 - 90	71 - 80	61 - 70	51 - 60	41 - 50	31 - 40	21 - 30
Physical environment	18	17	17	16.5	16.23	18.11	16.1

5.4.4.4 Education Level

In contrary to what is expected, the quality fo the physical environment worsens as the level of education rises apart from at the collage /university level of education of plot

owners who have the best quality of physical environment(See Table 31). The collage/university level of education seems to have been sensitized enough on the importance of improoving on the quality of environment and have the financial ability to do the same.

Table 31: Average score on quality of physical environment for different level of education of plot owners (Source: Fieldwork, 2014).

Level of education	Collage/University	Ordinary secondary	Upper primary	Lower primary	No formal education
Physical environment	19.6	2.4	9.8	14.8	15.6

5.4.4.5 Occupation

The plot ownersin the public sector have the bestconditions of the environments while the self employed plot owners have the least quality of physical environment (See Table 32). This scensrio occursbecause of the fact that the self employed groups have unstable income unlike the employees of the public and private sector which reduces their ability to invest in the improovement of the quality of the physical environment. The unempleoyed group also has a higher level of quality of physical environment due to the fact that they are not always occupied at work and therefore have the time to improove on the quality of environments of their plots. The students who own the plots are at the collage/university level of education which means that they have been adequately sensitized on the need and ways of improoving on the quality of physical environments of their plots.

Table 32: Average score on quality of physical environment for different occupation of plot owners (Source: Fieldwork, 2014).

Occupation	Public servant	Student	Unemployed	Private sector	Self employed
Physical environment	19.43	18	18	17.29	16.44

5.4.4.6 Work Place

The plot owners who work from outsideMuyeye settlement have better environments than those working withinMuyeye settlement (See Table 33). The better environments is due to the fact that they operate from outside the settlement and are therefore exposed on better quality of physical environment which they then apply to improove on their plots within the settlement.

Table 33: Average score on quality of physical environment for different work places of plot owners (Source: Fieldwork, 2014).

Work place	Outside Muyeye	Within Muyeye
Physical environment	19.6	16.55

5.4.4.7 Residence

Jus like the plot owners who work from outside Muyeye ettlement, the plot owners who live outside Muyeye have plots with better quaity of environment than those living within the settlement due to their exposure (See Table 34). They are therefore able to see what happens outside and usethe same to improove on the quality of physical environments of their plots.

Table 34: Average score on quality of physical environment for difference residences of plot owners(Source: Fieldwork, 2014).

Residence	**Average score on quality of physical environment**
Outside Muyeye	19
Within Muyeye	16.72

5.4.4.8 Income Levels

The higher the income levels of plot owners, the better the quality of the physical environment (See Table 35). The plot owners with higher income are able to invest in their plots to improve on their quality of physical environment.

Table 35: Average score on quality of physical environment for different income levels of plot owners (Source: Fieldwork, 2014).

Income level	30,001-40,000	40,001 – 50,000	20,001 – 30,000	10,000 – 20,000	Less than 10,000
Physical environment	20.5	19	17	16.69	16.57

5.4.4.9 Methods of Plot Acquisition

Those who were allocatd their plots have been able to improove on the quality of their environments much more than those who acquired through othher means (See Table 36). This occurs due to the fact that the allocation of land provides more security of land tenure than the other means of plot acquisition. Its based on the fact that the allocating body caan not come to evict people from the plots that it had allocated before. The improoved security of land tenure then allows for the improvement of the quality of the physical environment.

Table 36: Average score on quality of physical environment for different methods of plot acquisition of plots(Source: Fieldwork, 2014).

Plot acquisition method	Allocation	Self-allocation	Inherited	Purchased
Physical environment	23	17.5	17	16.75

5.4.4.10 Proof of Plot Ownership Documents

The plot owners with the temporary occupation licences (TOLs) issued by the MMC during their first attempt to upgrade the settlement have the best quality of physical environment while those with no documents have the least quality of the physical envirinment (See Table 37). This scenario is due to the fact that the TOLs was issued by th MMC so they cannot come again to evict the same people that they issue with the TOLs. Security of land tneure is increased with the existance of proof of ownership document and so the plots owners with no proof of ownership document heve the most insecurity of land tenure thus degraded condition of physicale environment of their plots.

Table 37: Average score on quality of physical environment for different proof of ownership documents of plots(Source: Fieldwork, 2014).

Proof of ownership document	Temporary Occupancy License	Sale agreements	Proof of enumeration	No document
Physical environment	23	16.91	16.67	15

5.4.4.11 Length of Plot Ownership

The longer the time one owns the plots, the better the quality of the physical environment up to 10 years where the quality of the physical environment starts degrading (See Table 38). This is due to the fact that those who own the plots for longer feel land tenure secure more than those who have owned the plots for a much less period. They have stayed with the plots for long to feel that they are going to loose it any time soon. They are therefore able to invest in the improovement of the quality of the physical environments of their plots. Another reason for this is that they have had enough time to be able to gradualy improve in the quality of physical environments of these plots.

Table 38: Average score on quality of physical environment for different length of ownership periods (Source: Fieldwork, 2014).

Length of plot ownership	6-8 years	2-4 years	Over 10 years
Physical environment	18.5	17.82	16.63

5.4.4.12 Number of Plot Owners

The more the plot owners, the better the condition of the environments (SeeTable 39). This is becaiuse of the fact that the more the number of plot owners, the mere secure the plot is and thus the better the quality og the physical environment.

Table 39: Average score on quality of physical environment for different number of plot owners(Source: Fieldwork, 2014).

Number of plot owners	2 Plots	1 Plot
Physical environment	20.75	16.63

5.4.4.13 Number of Other Plots Owned

The plot owners with at least two other plots have better conditions of the environment than the plot owners with only one other plot (See Table 40). This is due to the fact that there is increass security of land tenure among the plot owners with other plots thus a corresponding higher quality of the physical environment than the plot owners with only one plot or leser number of plots.

Table 40: Average score on quality of physical environment for different number of other plots owned by plot owners (Source: Fieldwork, 2014).

Number of other plots owned	Multiple other Plots	1 Other Plot
Physical environment	18.36	17.36

5.4.4.14 Plot Use

The combination of commercial and residential plot uses produces better quality of environment than other plot uses. The combination of industrial and residential uses has the least quality of physical environment du to the incompatibility of land uses (See Table 41).

Table 41: Average score on quality of physical environment for different plot uses(Source: Fieldwork, 2014).

Use	Residential & Commercial	Industrial	Residential	Commercial	Industrial & Residential
Physical environment	18	17	16.95	15	9

5.4.4.15 Plot Sizes

The larger the plots, the better the quality of the physical environment(SeeTable 42).Fieldwork findings also reveal that most plot onwners fear loosing their plots because they are too small to be issued with title deeds. This is the case despite the informal settlement upgrading process which is being undertake for the settlment.

Table 42: Average score on quality of physical environment for different plot sizes.(Source: Fieldwork, 2014).

Plot size	10,001 – 12,000	6,001 – 8,000	4,001 – 6,000	8,001 – 10,000	2,001 – 4,000	Less than 2,000
Physical environment	22	19.67	18.1	17	16.95	14.5

Having proved that security of land tenure is directly related to the quality of the physical environment, we now look at the negative and positive roles that actors play in providing security of land tenure.

5.5 Roles of Actors in Providing Security of Land Tenure

The challenges that are associated with land tenure insecurity have been a concern of many organizations including Govermental and Non govermantal organizations. The following bodies have come up to try and assist the people of Muyeye in obtaining security of land tenure and consecuently improove on the environment.

5.5.1 CBOs.Kilio cha Umoja, Wanashungi Self Help Group.

The only community based organization that have come up to help the people of muyeye obtain security of land tenure is the **M3M3A** also known ans **Kilio cha Umoja, Wanashungi Self Help Group**.

5.5.1.1 Composition And Structure

All the plot owners in Muyeye automaticaly become members. The members then elect representatives from different parts of Muyeye who them form the M3M3A comitee. The comitee then elects their chairman, secretary and treasurer.

5.5.1.2 Objectives

The main objective of the group is ti fight for the rights of the plot owners and protect them from loosing the land that they occupy. Currently their main function is to identify legitimate plot owners, fascilitate land sales, subdivision and transfers. The comitee members charge the members some fee to enable them carry out their daily to day activities.

The **vision** of the organization is to obtain title deeds for all the occupiers of Muyeye.

5.5.2 GOK In Collaboration With The World Bank

The central government has in the past obtained loans from the world to assist in the upgrading of informal settlements in selected Municipalities in Kenya. In Malindi

Municipality, the settlements that were to benefit from this program were Muyeye and Kwandomo. This project was initiated by the then Ministry oh Housing department of Kenya Informal settlement Improovement Project (KISIP). This project as mentioned by the plot owners has played the greatest role in providing security of land tenure to the residents of Muyeye.

The project involved a step by step activities whose final output as mentioned by the physical planning officers in the ministry of Lands, Housing and Urban Development was to provide the Plot ownerrs of Muyeye with adequate security of land tenure to enable them to incrementaly improove on the condition of the environments of Muyeye. And later be able to obtain title deeds for the same plots. Malindi Municipality/County Government.

The current Malindi Municipal council which is under the County Government of Kilifi and headed by Malindi town administrator have made considerable efforts in helping the people of Muyeye achieve security of land tenure and consequently improooove on the quality of their environments. Their efforts have however not yielded much outcomes some of their officials had personal interests and not the interest of the people of Muyeye at heart.

5.5.2.1 Achievements of These Actors

The collaboration of these three bodies in providing security of land tenure to the people of Muyeye have led to tremendus achievement as observed by the plot owners of Muyeye. The following are their main achievements.

5.5.2.1.1 Initiation Of The Titling Process.

The achievements of th actors in their attempt to obtain title deed is the greatest since the conflict of land ownrship in Muyeye began. Thir achevements sor far in this category includes enumeration of plot owners, preparation of a Physical development plan and aprooval of the same by the community and the Kilifi county assebbly. The plot owners are now more than confident that they are going to get title deeds for their plots as soon as posible.

5.5.2.1.2 Surrender ofLand on Road Reserves by Individual Plot Owners

Because of the initiated titling process, the plot owners have been educated on the needs of them to surrender land which are on the road reserves and are more than willing to surrender th so called land on road reserves as long as they are compensated. The Government has also promised to compensate all people who will be afected by road or by any proposed public utility plot.

5.5.2.2 Weakness And Failures of These Bodies.

Despite the tremendous achievements of these actors, the plot owners of Muyeye still feel that they are not doing good enough. A number of failures can be pointed out. They includes the following.

5.5.2.2.1 Slow Titling Process.

The titling process as initiated by the Ministry of Housing has not been as fast as the plot owners expected, or rather as they were promised. The process as they claim has been charactarised by duplication of activities. For instance the KISIP physical planning consultants have brought the same physical plan for aprooval more than twice to the community instead of moving to the next step in the titling process. The consultants also take too long in completing one particular activity.

5.5.2.2.2 Compromised M3M3A Comitee Members

The M3M3A comitee as mentioned by the plot owners have not been faithful in reporting the events of the titling process. Sometimes they do not invite all the plot owners to the plan preparation and validation meetings. Instead what they do is to constantly ask for some fees from the plot owners. Initialy, the process was said to be free of charge, but by the time this research was being conducted, the M3M3A comitee was charging fees of the same servises.

5.5.2.2.3 The Face of The World Bank Not Visible on Ground

The plot owners have been told about the financiers of the project. However they can only see government officials come to the ground. They still feel that the financiers of the project can listen to their grivances much better. What the community would like to see is the relocation of the World Bank consultants from Nairobi to Malindi where the plot owners can follow up with the progress of the process, correct mistakes on personal and plot details.

5.5.2.2.4 Compensation Plan To The Plot Owners Not Clear

The Government has not come out clearly to convince the plot owners who will be affected by roads and public utility proposals on the compensation plan.The plot owners still feel that they may not be compensated after all. Infact their proposal is that they should be compensated before any demilotion or relocation takes place.

5.5.2.3 Cominity Involvement

Even though there are claims by the plot owners that there are minimal cominity involvement in the titling process, a number of cases reveal that there were some level of cominity invilvement. The follwing were the ways in which the community was involved.

5.5.2.3.1 Validation of The PDP

The physical development plan that was prepared by the Private Physical planning consultant of KISIP was done in an open and transparent manner. This is at least as observed by the plot owners. At every stage of the plan preparation, the plan was brought to the community for validation. Diring the time this research was conducted, there was a copy of the plan displayed at the M3M3A office for the pl,ot owners to identify their plots, find out if their plots or structures have been affected by the proposed road network or the proposed public utilities. After this then the plot owners become psychologicaly prepared for any forthcoming. According to the M3M3A comitee, the plot owners have agreed to surrender their plots as long as they are compensated before demolition or relocation.

5.5.2.3.2 Facilitated the Operations of The M3M3A Comitee Members

All the activities carried by the M3M3A comitee members were facilitated through finances obtained from the plot owners. These charges included payment for a private surveyors fees, payment of office rent etc.

5.5.2.4 Performancesof Various Actors In Providing Security of land tenure

The perfomance of these actors varied from actor to actor with the community based organization called M3M3A Kilio Cha Umoja, Wanashungi Self Help Group leading, followed by the Central Government in collaboration with the World Bank, then the county government which is represented by the Malindi Municipality, then the NGOs whose contribution is not significant and finaly community initiatives (See Table 43).

On the first Position was the Community Baed Organization Named M3M3A. The reason why the contributions of this body were most significant in the project was because it was composed of all the plot owners of Muyeye united for the same goal. However its main weakness was the frequent charges imposed on the plot owners by the comitee members.

On the second Position was the Central Government. Their main contribution was the fact thet they initiated the informal settlement upgrading process through the then Ministry of housing, department of Kenya Informal Settlement Improovement Project (KISIP), sought for funds from the world bank and had then provided the community with hopes of obtaining land title deeds.

On third position were the community initiatives. The reason for their low rank here was because of the fact that the community felt helpless in fighting for their own rghts as plot owners. They had left the fight for their rights to the M3M3A comitee members.

On the fourth position was the county government/Malindi Municipal Council. This body had provided security of land tenure and taken the same away from the plot owners of Muyeye. Their contributions included surrendereing the land for allocation to the people of Muyeye, preparation of the initial physical development plan, bringing a physical planner and surveyor to help carry out the initial planning and surveying of the plots in Muyeye even though this was not succsesful.

On the fifth and last position were the NGOs. Their low perfomance was because their precence was not felt among the community. Table 43 shows the actors who were involved in Upgrading of Muyeye informal settlements, their positve contributions, negative contributions and their rank from first to fifth.

Table 43: Rank of different actors in providing security of land tenure to the people of Muyeye(Source: Field work, 2014).

Overal rank	Actor	Propotion of plot owners and the ranks they awarded different actors					Positive contributions	Negative contributions
		1st	2nd	3rd	4th	5fth		
1st	CBOs (M3M3A)	64%	27%	4%	1%	3%	• Prevented eviction by Malindi Municipal council.	• Overcharged the plot owners for servises.
2nd	Central Goverment	32%	60%	8%	0%	0%	• Initiated the land titling process	• Delay in the land titling process.
3rd	Community initiatives	5%	4%	19%	21%	51%	• Collaborated with the community based initiative	• Did not corporate fully in the titling process.
4th	County Government /Malindi Muncipal council	0%	8%	62%	12%	18%	• Surrendered land to be alocated to the people of Muyeye. • Prepared the initial physical development plan. • Brought a Physical planner and surveyor.	• Attemptes to evict the occupants. • Attempted to grab some plots when they brought in their surveyor.
5th	Ngos	0%	0%	7%	66%	27%	• No significant contribution	• No significant contribution

5.6 Emerging Issues

The analysis of the fieldwork findings has revealed a lot about the study area. This has ficused mainly of the objectives of the study. However there are several emerging issues that may not necessariry fall within the orbjectives of theresearch but are still very importans in making recommendations for future improovement. They include the following.

5.6.1 Hinderances To Achieving Security of land tenure

It is now clear that the plot owners know exactly what should be done to increase security of land tenure of their plots. Their efforts however have not been succesful in achieving security of land tenure. The following are the aspects that fight back the efforts to obtain security of land tenure to the people of Muyeye.

5.6.1.1 Povery And Lack of Finance

Because of the high cost of obtaining title deeds and the uncertanity of the outcome of the same, most of the plot owners choose to stay in their situation and only hope that someone will in the future come to save them.

5.6.1.2 Poor Leadership

In more than one occation, the challenge of obtaining security of land tenure has been brought about by poor leadership. First it was the Malindi Municipal council who attempted to grab land from the plot owners through their own surveyor. Then the M3M3A comitee whichh is compromised and constantly asks for money from the plot owners for servises they can not see. The plot owners also complain the the on going titling process is not transparent enough. The plea of the plot owners is that the leadership involved with the titliong process to be improoved on. First the M3M3A is to stop asking for servise money from the plot owners, then the leadership at the Malindi Municipal council to be evaluated.

5.6.1.3 Slow Government Titling Process

Some plot owners who know that the prepared physical development plan prepared by the KISIP Physical planning private consultant have affected them because their plots are located aither on the road reserve or public utility area, have already come to terms with thefact thet they might loose their plots and be compensated accordingly. However , there are several plot owners who do not know their fate and are still worried that they might ba affected. The plea of the plot owners of Muyeye is thet all the affected plots and structures be identified and marked early enough so that people

may have the confidence of building without fear. This according to the plot owners doesn't have to wait for the oncoming title deeds.

5.6.1.4 Low Level of Community Participation

The process so far has made attempts top involve the community. However the percentage of the plot owners who are normaly invided for the meetings is still low. Furthermore those who tern up for the meeting are also very few. The impact of this is that there is less faith among the community members of this process ever yielding any sabstantial fruits. Generally , the community will not suport most of the proposals and recommendations on the Physical development plan. This is because they are not widely consulted and educated on the importance and planning gains of the proposals. For instance, widening of aroad from say six meters width to say twelve meters width mauy not make much sense to the plot owners because very few people in the settlements own vehicles. What they do not realise is that the road reserve will carry the road carriage, power wayleafs, water and drainage, cimmunication networks etc. The collaboration among the community members should be enhanced at all cost.

5.6.2 Coping Mechnisms To Land Tenure Insecurity

In response to the land tenure insecurity situation, the people of Muyeye both at individual and community level have made up some efforts to cope up with the situation. Thehave done this by Joining the M3M3A community based organization, putting up buildings on their plots, praying to God to get the title deeds, installing water and electricity as a way of increasing the investments on their plots, corporating with the bodies that come up to assist them in obtaining security of land tenure, others have done enquiries with the land office on the tenure status of their plots.

At the community level, the main efforts have been forming the M3M3A / Kilio Cha Umoja, Wanashungi self help group, corporating with the bodies that come to assist them in obtaining security of land tenure and advising pple to observe the building line while building.

The coping mechanisms have however not led to much achievements. This is becaose of the impunity among the M3M3A comitee members, low building capacity, lack of unity among the community members and illiteracy among the community members.

However a few positive results can be associated by these coping mechanisms. They includes the arrival of the the world bank financiers to facilitate the titling proces,

there is more transparency on land issues than before and finaly the acceptance of their proposals by the municipal council.

5.6.3 Coping Mechanisms on theDegraded Environments

Just like land tenure insecurity, the plot owners of Muyeye do not like the current condition of the environment. They have therefore adapted to the situation through the following coping mechanism (See Figure 29).

5.6.3.1 General Cleaning

This they do through daily or weekly cleaning of the compounds, collecting, damping and burning garbage. Others have hired the servises of a private garbage collector to help in the transportation of garbage to the garbage collection points.

5.6.3.2 Flood Control

This they do through raising the ground and the building floor levels to ptevent flooding espaecialy during the rainy seasons. Others digg barrows and barriers to prevent flooding.

5.6.3.3 Landscaping

This is done through planting of trees and flowers and maintaining the same to enhance the aesthetics of the plots, prevent soil errosion, and reduce the effect of the hot weather conditions.

5.6.3.4 Sanitation And Proper Human Waste Disposal

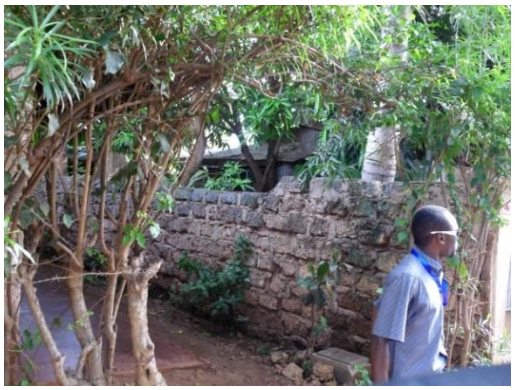
A few plot owners have built sceptic tanks to enable storage and disposal of human wastes. This is however not possible because some parts of Muyeye are not accesible by the exhauster servises vehicles.

5.6.3.5 Building

This is present though not common, the plot owners build inorder to improove on the condition of their environments.

Use of filled bags to minimize the effect of flooding.

Raising the floor levels of buildings to minimize the effect of flooding.



Minimal landscaping in parts of Muyeye.

Minute septic tanks in parts of Muyeye.

Figure 29: The various coping mechanisms to environmental degradation as applied in Muyeye(Source: Field work, 2014).

5.6.3.6 Sammury

The tenure status of the plots in Muyeye was under the category of Government land. The land was however undergoing the process of conversion to private land following the upgrading process which necessitates the surrender of the land to the occupiers.The security of land tenure was therefore higher than it was before the Government came in to address the insecurity of land tenure through upgrading of the settlement.

Muyeyeas a settlement had varying characteristics and quality of physical environment with zone three also known as the *kwavumbi* area being the most environmental degraded area and zone one being the least environmentally degraded area.

The variation in the characteristic and quality of the physical environment was indeed as a result of variation in the levels of insecurity of land tenure within the plots. The relationship was direct and could be stated as the more land tenure secure a plot was, the better its quality of the physical environment. This variation was because some

plot owners in Muyeye had not been able to take advantage of available opportunities to increase security of land tenure on their plots as others had done.These had probablybeen contributed to by factors which were beyond the control of the plot owners such as lack of education and poverty.

There were also a number of emerging issues that accompanied the research findings. First there were a number of actors who are supposed to facilitate the achievement of secure land tenure but are hindering these efforts. The occupiers of the informal settlements having lived within the settlement over a long time had also developed coping mechanisms for overcoming the challenges of insecure land tenure and degraded physical environments.

The chapters on introduction, literature review, the study area and the data analysis and research findings have adequately brought out the factors leading to insecurity of land tenure and degraded physical environments. They have also clearly explained the factors that have led to the failure to overcome the challenge of insecure land tenure and degraded physical environments. They have then brought out a number of successful mechanisms that can be applied to overcome the challenge of insecure land tenure. They therefore adequately inform the basis for the concussions and recommendations that are discussed in the next chapter.

6 CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

This chapter meets the fourth objective of this study which was to come up with land tenure options that can increase security of land tenure forMuyeye settlement and thus lead to better qualities of the environment(See page 3).The findings will therefore contribute towards decreasing the negative effect of security of land tenure on the environment through a more informed choice of policies, practices and technologies.

6.1 Conclusions

The findings of this research reveal a number of factors that meets the first three objectives of the study.

The land tenure status of Muyeye still remains Government Land until the individual title deeds of the occupiers are issued. The land has however been surrendered to the occupiers and the upgrading forMuyeye settlement is going on. The final aim of the upgrading is to issue the occupiers with land title deeds for the pots that they occupy or whichever plot within Muyeye that they will be allocated. The physical development plan prepared has already been approved. Insecurity of land tenure however remains high due to the delayed title deeds, complication arising from the surveying of the individual plots, and the issue of those left out by the relocation action plan because they were not affected by the informal settlement upgrading project (See Figure 11).

The physical environment of Muyeye is characterized by generally degraded conditions. Zone 3 of the settlements which is also the Kwa-vumbiarea is the most degraded followed by zone 4, then zone 2. Zone 1 has the least environmental degradation (See Figure 24). The main causes of environmental degradation in Muyeye being poor storm water drainage and poor waste disposal.

There is a relationship between insecurity of land tenureand the quality of the physical environment in Muyeye. In other words, an analysis of the various circumstances that the plots of Muyeye exist show that they have varying levels or categories of security of land tenurewhich have varying effects on the quality of the physical environment.

The relationship isdirect though not strong and can be stated that the more a plot has security of land tenure in Muyeye, the better the quality of the physical environment of that plot (See Figure 28).The final objective of the research is to be described in detail in the recommendation section.

6.2 Recommendations

The desire of the people of Muyeye is for Muyeye to become a high class estate which is well planned and servised despite the fact that it is already built up. The estate should have proper access, proper sanitation and waste management, spacious, safe and well lit streets and compounds (See Figure 30). The people too desire to have personal development and better lifestyhyles. For Muyeye providing security of land tenure to the plot owners will be an important and first step in achieving these dreams.

Figure 30: The ideal situation of desired Muyeye settlement (Source: Author, 2014).

Following the research findings mentioned earlier, the research proposes the following actions to help in providing security of land tenure which will then gradually lead to an improved quality of the physical environment and help the people of Muyeye achieve their dreams.

The recommendations in this research have been presented in a manner that gives the reader a broad statement of recommendation which is then followed by sub recommendations under the broad recommendation. These sub recommendations titles are numbered continuously from one broad recommendation to another. The recommendations tend to be specific to the study area but are also geared towards improving the security of land tenure or rather providing security of land tenure options and developing appropriate methodologies for the achievement of successful informal settlements upgrading projects.

6.2.1 Enhance people's Ability to Achieve Security of land tenure

The respondents had a number of reccomendations on increasing their security of land tenure and consequently improoving on the condition of the physical environments of Muyeye through planning, infrastructural improovement and servise provision, community education and sensitization, regularization of settlements. The discussion below provides details of enhancing the ability of the plot owners to achieve security of land tenure.

6.2.1.1 Recommendation 1: Planning

The physical development plan of Muyeye as prepared by KISIP consultants and as seen in Muyeye M3M3A office has contributed to some extent in increasingsecurity of land tenure. The plan which is currently displayed at the M3M3A office for public viewing, has given the plot owners an opportunity to verify the status of their plots. The verification has enabled the plot owners to know if their plots have in any way been affected by the proposed roads, ie whether parts of the structures on their plots are on the reserves or not. Obviously some plot owners have been affected by the proposed roads. The affected plot owners having known their fate , have already come to terms with the new developments and are willing to surrender parts of their plots which fall within the road reserves or are willing to surrender their plots which have in the Physical Development Plan, identified as sites suitable for certain public utility functions and allocated to the same functions.

There is also need to mainstream environmental concerns of informal settlements into action plans. Inorder to realise the provisions of the local physical development plan detailed action plans which requires short term measures/immediate sctions are to be done. These includes action plans for storm water management, solid waste management, sewer/liquid waste management and energy management.

The storm water management plan will ensure that all storm wated are drained within the shortest time possible to reduce or prevent cases of stangant water which may cause desease outbreak. The proposal is therefore that all storm water drains to be closed to prevent blockage.

The solid waste management plan will include setting aside spaces for garbage collection and provision of plastic bags for the collection of garbage. The plan should also include community garbage collection from the door steps to the garbage collection points. The wastes should be saperated at the household level to ease saperation by the local authority for recycling.

The sewer/liquid waste management plan will propose the extention of sewer line to cover the whole settlement for efficient disposal of liquid wastes.

The energy management plan will involve the promotion of clean energy sources. The plan will focus on use of solar energy, wind energy and biogas as environmentaly friendly energy sources.

6.2.1.2 Recommendation 2: Infrastructure and And Servise Provision

Since more security of land tenure means better quality of the physical environment, improoving on the condition of the physical environment also contributes to increasing security of land tenure. This is the case especialy if the improvements are done by the local authorities and other localy available institutions. This is because an increased investment in servise provision on the plot neighborhood by the servise providing institutions is an indicator of increased security of land tenure.The servise provision can also be accompanied by the introduction of taxes and land rates to the plot owners. The investment on infrastructure and servise provision will be made possible after the expandsion of road reserves and introduction of planning regulations and standards which as we will see later can be enforced by the localy elected Settlement Executive comitee members (See page 153). The widening of the road reserves in particular will enable the provision of adequate driveways, pedestrian walkways, street lighting and adequate storm water drainage channels. Additional allowance created by the building lines will give an opportunity for the creation of street landscaping and street furniture, and the instollation of other infrastructures such as water pipes, electricity cables, telecommunication networks and sewer channels(See Figure 31).

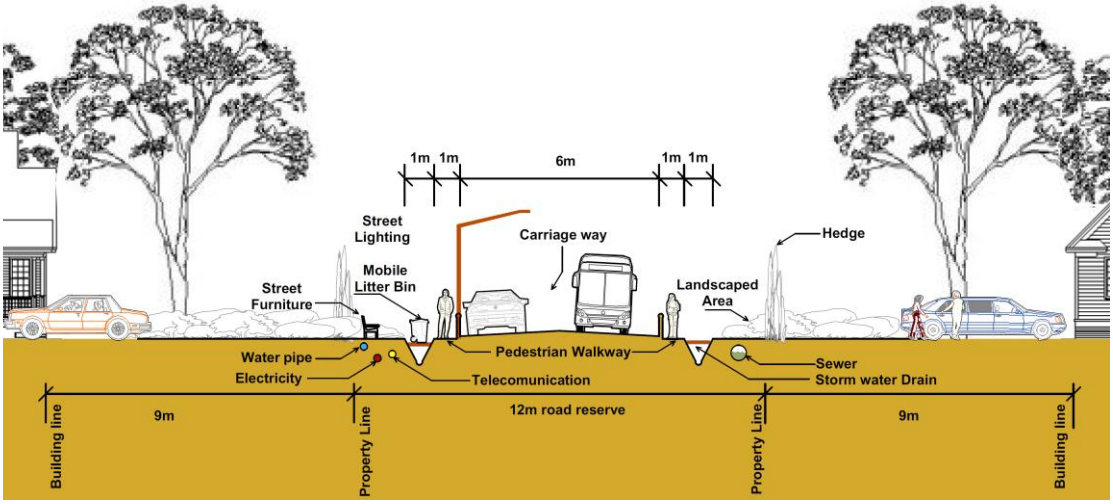


Figure 31: Cross section of desired street of Muyeye(Source: Author, 2014).

6.2.1.3 Recommendation 3: Community EducationAnd Sensitization.

The community should be educated on their rights as citizens of Kenya and as occupiers of Muyeye soon to be legitimate plot owners. They should in particular be informed that they can not just be evicted from their plots without a clear compensation plan. In Muyeye the observatio that was made after a public announcement of the anty eviction declaration as made by the then Provincial commisioner for the Coast province was increased investments though not regular in housing. The increased inevstment is an indicator of increased security of land tenure following the public declaration. Community education to increase security of land tenure should therefore focus on the bill of rights, land rights, anty eviction laws and the eviction procedures.

6.2.1.4 Recommendation 4: RegularizationOf Settlements.

This does not neccesarily mean that theplot owners have to be isssued with title deeds. The first step is for the Government to recognise these people as legitimate plot owners. This is followed by a procesing of Government recognised documents of ownership such as identification cards, certificates of lease or allotment letters. Special consideration should be made to the issue of minimum plot sizes. Plot owners in informal settlements should be allowed to own plots which are below the minimum size for titling. This is because of the fact that most of the plot owners do not have plots that meeet this requirement. The plots do not not neccesarily need to be titled individualy where the sizes are below the minimum, they can be combined with their immeddiate adjascent plots and issued with joint titles. Where titling is almost

impossible long term renewable leases of say 99 years can be issued to the plot owners to provide adequate security of land tenure.

6.2.2 Enhance Actors TechniquesIn Providing Security of land tenure.

Whevever government comes in to provide occupiers of informal settlements with security of land tenure as observed inMuyeye settlement Malindi, the occupiers are normaly very optimistic at the beginning of the processes. However their faith usualy diminishes because of reasons which are in most cases associated with the processes themselves.

This scenario is as a result of the lengthy nature of the proces thus creating a felling of ingeneuity of the process by the intended beneficiaries, lack of trasparency thur reducing the support from the community, conflict of interest by the bodies concerned with these proces and the amount of displacement of people throug demolition of their structures which raises anxiety and causes tention among the plot owners whenever such a process is launched.

Despite these negative observations, we can not rule out the roles played by these bodies in providing security of land tenure. There is therefore the need to enhance the role that is played by these actors in providing security of land tenure. Since these actors are normaly well funded and have the full support if the community in the informal settlements projects that they undertake, their failure is normaly as a result of lack of techniques in handling specific aspects of these projects.The following are some of the techniques that can be applied by these actors in increasing security of land tenure to occupiers in informal settlements.

6.2.2.1 Recommendation5: Shorten The Upgrading Process

There is a need for Government agencies to come up with a clear work plan for all informal settlement upgrading processes whose main aproach is to provide security of land tenure to the occupiers. The clear work plan should have clear descriprtion of activities for these projects and the deadlines for the said activities. If possible, the activity schedules should be shared with the members of the settlement that are of interest. The consultants in charge of carying out these projects should also be adequately supervisesed to ensure that they follow the timelines that are indicated in the work and activity schedules. This will ensure that the projects do not delay and that there is no doupt among the beneficiaries of such projects that the projects could

have failed. This also enhances the genuity of the projects among the beneficiaries and removes the doupt that the oncoming title deeds could be fake. The speed of the process can also be enhanced by relocating consultants and officers concerned with the processes to the nearest town from the settlement of interest where beneficiaries of such projects can at their own convenience be uptated on the progress of of such projects. The beneficiaries can also be able to verify their personal and plot specific details and correct if there is any mistakes with a lot of ease. For Muyeye, the upgrading process has reached an advanced stage. The challenge of this is that some plot owners are still not aware of the status of their plots and the structures that are on their plots. There is therefore for the need to carry out certain advanced steps that should beenable the plot owners who have been affected by the proposed road reserves or public utilities know their status early enough so that they can be psychologicaly prepared for what is to come and strat following up with their compensation. Figure 32shows steps that can be adopted to assist in shortening the informal settlements upgrading process.

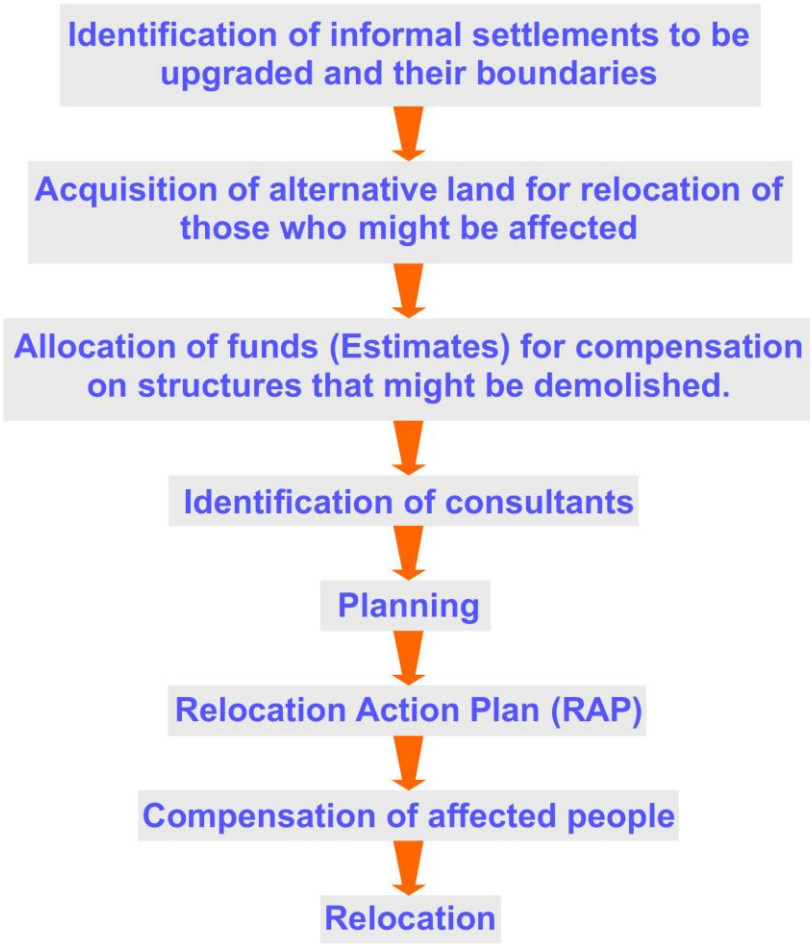


Figure 32: Recommended steps for informal settlements upgrading (Source: Author, 2014).

6.2.2.2 Recommendation6: FormulateClear Compensetion Plans

The Phisical development plan prepared for Muyeye has recommended the demilition of several structures that are aither located on the proposed road reserves or on public utility areas. This means that the owners of these plots and structures that will be affected must be compensated. If this doescent take place then there is a high chance of failure of the whole process especialy if the plot owners protest demolition of their structures. On the other hand, the Government does not have a clear compensetion plan for those who will loose their properties as a result of implementing the aproved physical development plan. Their plan for compensation is that for those who will entirely loose their plots, they will be relocated to some other vacant plots within the settlement and that for those whoose structures will be demolished, their compensation will come in the form of increased land values for their plots. Despite all these, the Government has not been able to adequately convince the plot ownrs on their compensation plan. In simple terms there is no clear compensation plan. Therefore there is a need to formulate a clear compensation plan for relocation of those affected. Below are the reccomended steps to be followed in the compensation plan and that will minimise opposition from the plot owners which might then lead to failure of the entire informal settlement upgrading process. Below are the reccomended steps for arying out informal settlements compensation.

Step 1: Identify the plots that have been affected by the proposed physical development plan and their owners.

Step 2: Identify the structures that have been affected by the proposed physical development plans and their owners.

Step 3: Capture the plot, structure and owners details of the affected plots. For plot details, captuure details on plot sizes, plot length and width, plot location. For structures, capture details on foundation, floor, wall, and roof materials and the year of construction of the structure. Also capture details on th number of rooms in the structure and the general condition (new, old or worn out) of the structure.

Step 4: Determine the values of each property that has been affected. The valuation should be based on the value of the plots and structures within the settlements and not based on neighboring settlements to prevent inflation of property values.

Step 5: Compensate plot owners by giving them money for the value of losseas they have incurred or relocate plot owners to theeir new plots for the sizes and value of plots they have list.

Step 6: Compensate plot owners for structured that are to be demolished according to the estimated value of the structures that are to be demolished through monetary compensation. The compensation here should be done for the entire structure despite the fact that in some cases only small portions of the structures may be demolished. This is because demolition of a very small portion of a permanent structure weakens the entire structure and in most if not all cases the owner will be required to rebuild the entire house.

It should however be noted that there is no one fits all model or approach that can apply to all informal settlements due to their uniqueness. Flexibility should therefore be allowed where necessary.

Once the conpensation has been done, the local authorities can then follow the steps of eviction of those to be relocated from their land and those whose structures are to be demilished (See Figure 33).

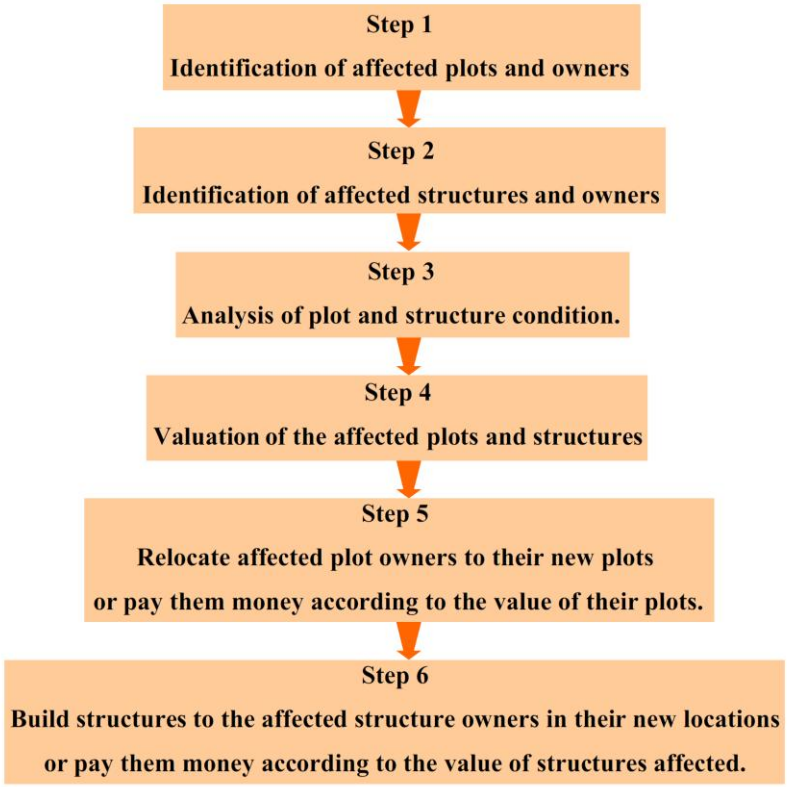


Figure 33: Summary of recommended steps for carrying out a compensation plan (Source: Author, 2014).

6.2.2.3 Recommendation 7: Adopt the Minimum Interventions Approach

The minimum interventions aproach(MINA) also reffered to the path of least resistance aproach is meant to reduce opposition to the upgrading processes which might arise as a result of implementation of the physical development plans. This comes as a challenge to planners because of the nature of irregularities that do exist within the informal settlements.

The irregularities include the existance of plot sizes which are below the minimum required for a single alotee as aresult of the rampant land subdivision. Then there are narrow spaces between the structures on the plots which are below the sizes of the narrowest possible road reserves.

There is therefore the need to formulate a planning methodology for minimum interventions aproach for plannig informal settlements. Below are some of the techniques that should be adopted in preparation of physical development plans with the minimum interventions aproach technique.

The minimum interventions approach is an already existing method for planning informal settlements. However the approach is not usualy as easy to appluy due to the magnitude of impact for those affected as compared to those not affected.

The MINA tries as much as possible to adopt the road network that is already existing rather than introducing a completely new road network which will lead to demilition of a lot of structures.Where a road has been proposed between two structures, the roads are placed in such a way that only structures that are on one side of the road are going to be affected and not on both sides. This minimises the nimber of structures affected.

When preparing the Physical Development plans and where possible allocate vacant plots public purpose fucnctions such as markets, health facilities, schools etc. instead of locating them in already built up areas which would then require a lot of demolition to give way for the proposed public utility activities.

However much cotion is taken we should not assume that there must be some form of resistance to these interventions. There is therefore the need to carry out these interventions in a rather slow and progressive manner at the convenience of

adequately consulted beneficiaries.**Figure 34**show a comparison of minimum interventions approach and the normal approach.

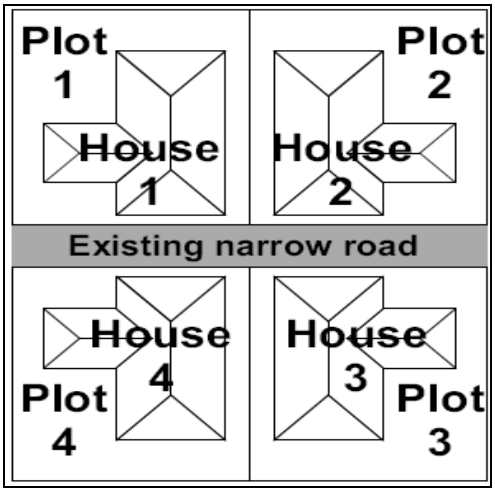


Illustration of an existing situation of an informal settlement where an existing narrow road is to be widened by planning

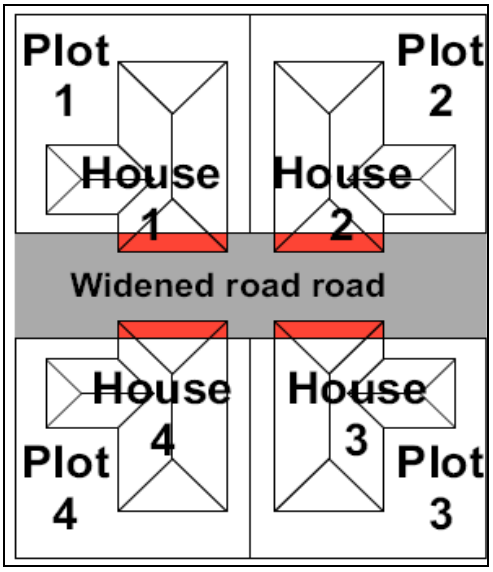


Illustration of the normal approach where four structures are affected after planning

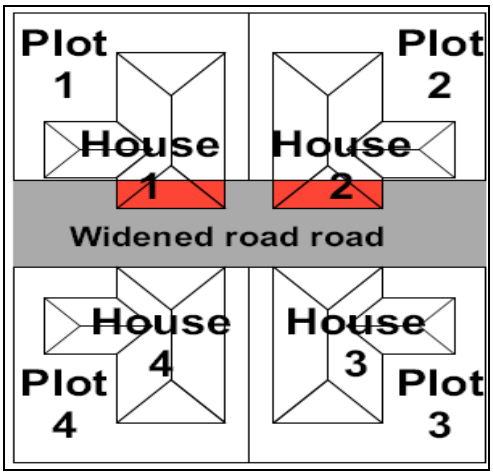


Illustration of the Minimum interventions approach (MINA) where only two structures are affected after planning

Figure 34: Comparison of the minimum interventions approach and the normal approach in Planning informal settlements (Source: Author, 2014).

6.2.2.4 Recommendation 8: Ensure Sufficient Community Participation

For mostinformal settlements upgrading projects including Muyeye, there is always a challenge of community involvement which at the end usualy makes the work of the concerned agencies almist impossible, especialy when there is minimal coorperation of the beneficiaries of these projects. Consultants and Government officers who are normaly entrusted with the slum upgrading processes too contribute to the low level of community participation.

The low level of community participation is due to the technocratic attitude of consultants which is based on the fact that the beneficiaries of these projects are not normaly knowlegable enough to make any meaningful contribution towards the projects. Then the community members themselves are not normaly interested in such projects because of the fact that they are not well educated or do not have faith in these processes following their experience in other settlements where such projects terribly failed. Finally the consultants entrusted with these are in most cases not adequately funded to enable them adequately carry out a considerable number of workshops thet could enable sufficient community participation and involvement. In fact most if not all of these consultancies are awarded to consultants with the lowest financial proposals.

In as much as it is impossible to involve the entire population, there is need to set up a minimum threshold for community participation below which planning of informal settlements should not proceed. Specific measures should also be taken to enhance community participation and involvement in these projects.

To enhance community partricipation in informal settlements upgrading processes whose main aproach is increasing security of land tenurem, the community should be sensitized on their land righst as plot owners, the importance of the upgrading processes and how it is important for them to corporate. Then for projects whereby private consultants are to be involved, there is the need to saperate the public participation component from the cost of the consultancy so that consultants do not quote low on public participation costs and then fail to meet the threshold for public participation when the project is actualy carried out. More funding should also go into the workshops to enable hiring of venues, meals and transport alowwances for the participants. There should also be a minimum threshold on public participation and

involvement should be set for all planninng excercises. This threshold should be set and superviosed to ensure that is is met.

The minimum thresholds on public participation and involvement on all planning excercises shoul include infrmin the entire population of the informal settlement through public announcements, public adress systems, leaflets and newspaper notices. Then at least more than a half of the entire population of the informal settlement must be involved and participate in the planning exercise aither directly or indirectly.All steps in the planning process must be witnessed by at least more than a half of the entire population. The same portion of the population must validate the same plan before it is approoved. There is also need to represent all groups in the planning workshops. These groups include but are not limited to youth groups, women groups, the elderly, the christian community, the muslim community and other religions, and the disabled. Finaly all settlement executive comitee members must attend all workshops and meetings. The threshold should state the minimum nimber of workshops to be held by the planning consultants before the plan is considered for approoval.

6.2.2.5 Recommendation 9: Minimise the Number of Involved Bodies

It has been realised that there are several bodies that are involved in helping people in informal settlements attain security of land tenure. For instance in Muyeye, before the central Government came to assist the people in obtaining title deeds, the Malindi municipal council had also made attempts to do the same without success. Also before the current M3M3A comitee was voted to office, there was a previous comitee which was voted out because of embezlement of the groups funds. These bodies seem to take care of their own interests rather than the interest of the occupiers. A complete audit and investigation should be done to evaluate the activities of all these bodies and establish their funding sources, how they spend the funding they receive, their activities in the informal settlements, aim of their activities and their achievements. The audit should aim at reducing the number of bodies concerned with issues of informal settlements upgrading to tose that are effective in providing security of land tenure and improoving the conditions of physical environment. The remaining bodies should then be responsible for any outcomes of the process whether negative or positive.

Another alternative is just to make maximm use of a central Government rather than a local authority which is inmos cases viewed by the occupants of informal settlements as enemies due to their pas experiences which are charactarised by frequent evictions and demolition os structures by these local authorities.

6.2.3 Enhance FormalLand Acquisition For The Urban Poor

Since it is now obvious that there is no informal settlement upgrading proces that will ever take place without the need to relocate a good number of people, especialy if there is aphysical development plan which has been prepared and there are long term leases or title deeds that are to be provided to the beneficiaries, ot is important to have a clear relocation plan before the entire proces is began. This will also help in reducing the cost involved with relocation of affected persons in the upgrading process. The government should therefore seek alternative and formal means of acquiring land cheaply in advance depending on their estimated number of families that are likely to be displaced so that the compensetion plan is smooth. It would be easier to convince plot owners of compensation by showing them the alternative land that they are to be relocated to rather than promising them that the Government will purchase the land and relocate them in the future. The following are proposed mechanisms for acquiring land for compensating those displaced in informal settlement upgrading processes.

6.2.3.1 Recommendation10: Appropriation of Uncommitted Public Land

As observed in many urban areas in Kenya as especialy within the Kenyan coast where most of the land is under government ownership, large tracts of public land remain vacant an unutilised. These tracks of land are often under the independent juristriction ofd the local authoprities which are reluctant to release them although plans for their utilization are still not there. The local authorities are in some cases tempted to sell the land illegaly. The reccomendation therefore is that an inventory of such land be prepared and their use by the urban poor can be proposed. Especialy those who needs to be comensated following their losses during informal settlements upgrading programes.

6.2.3.2 Recommendation11: Acquiring Land At Market Prices

There are several tracts of agricultural land lying iddle in the periphery of urban centres within the Kenyan coast. The posibility of the value of the land here increasing is very high due to the potential of the urban centres growing to these parts.

The reccomendation is therefore that the agricultural land be acquired at the prevailing agricultural prices, then new infrastructure be introduced here to make the land available for compensation of victims of informal settlements upgrading processes.

6.2.3.3 Recommendation12: Exchanges of Land

In cases where privately owned lands, particularly agricultural land on the fronge of the city which needs to be acquired for compenseting those relocated during informal settlements upgrading processes belong to owners who are not willing to sell them, another alternative can be adopted. Thye land can be exchanged for an equaly productive land in alternative locations. The principle of compensation can be based on the prescent productive income from the land rather on its potential for urban development, allowing owners to be reinstated in a new area without any loss of net revenue.

6.2.3.4 Recommendation13: Compulsory Acquisition of Land

In Kenya and several other countries the laws regarding the compulsory acquisition of land in the public interest apply only to the acquisition for public infrastructure or public facilities. The reccomendation is therefore that the the compulsory acquisition of land for public use be extended to cover the need to compensate people who lose land in informal settlements upgrading process.

6.2.3.5 Recommendation14: Preemtion of Undervalued Land

Within the Kenyan coast, there are several idle lying land that can be used for settling the urban poor. The owners are however unwilling to sell at reasonable prices so that the land can be used to settle the urban poor. The reccomendation here is that a legislation be established where land owners must declare the values of their lands for taxtation purposes, and where the local authorities can purchase these lands, they should do so at the declared value.Land acquired through pre emption can be used for relocating people displaced in informal settlements upgrading projects.

6.2.3.6 Recommendation15: Land In Lieu Of Inheritance Taxes

There is neeed to introduce inheritance tax laws in Kenya. This should especialy apply to the those inheriting large tracts of land say above 50 acres. The intention of this law is not to take away land from the owners but to ensure that a propotion of inherited land is appropriated for public use. This can be accomplished through the acceptance of land in lieu of taxes.

6.2.4 Enhance Peoples Ability to Improove on Quality of Environment

As we have seen earlier, improooving the quality of the environment is also another way of providing security of land tenure. The following are the various ways in which the ability of the plot owners to improove on the quality of their environments can be enhanced.

6.2.4.1 Recommendation16: Infrastructural Improvement

The instolation of a sewer system, construction of good roads, water provision, storm water drainage system will definitely improove on the quality of the environment. As mentioned earlier, the more the level of investments on infrastructure within the settlements, the more the plot owners are convinced that the plots are legitimete and therefore the more security of land tenure they have. The upgrading of infrastructure should also be done over time to provide the occupiers affected by changes in plot boundaries and rerves for instolation of infrastructure adequate relocation time.

The investment in infrastructure for the urban poor can at times be challanging and needs to be given special attention. The sesearch reccomends a step by step process designing and investing in urban infrastructure (SeeFigure 35).

Step 1: Poverty and vulnerability profile.

This step aims at establishing socioeconomic, infrastructure, environmental, institutional situation and stakeholder status of the informal settlement as discussed below.

Socioeconomic Status

It focuses on the spatial distribution of the poor, analysis of gender composition, and situation of minority groups; location of the poor and poor areas; map of coverage of service fees being paid, ability and willingness to pay, and savings capacity; challenges and gaps in relation to service levels.

Infrastructure Status.

The status of infrastructure (formal and informal) in poor areas, with information on coverage, standards, tariffs, location of offices,needs and gaps in infrastructure.

Environmental Status.

Location of sites vulnerable to hazards (natural and human made) and connection to areas where the poor live; needs and gaps of prevention or mitigation infrastructure.

Institutional Situation and Stakeholder Status.

Spatial mapping of public and private (formal and informal) organizations and their operations in the informal settlement related to infrastructure and services provision, as well as operation and maintenance; gaps in roles and responsibilities.

Step 2: Identification of target groups and key areas.

This step aims at defining the main beneficiaries and priority areas, accompanied by a short note about the rationale for the selection of target areas.

Step 3: Assessment of needs and setting of priorities.

This step aims at assessing the infrastructure conditions in a specified area that cover the quantity and quality of the available infrastructure in combination with an understanding of the needs, preferences, payment capacity, and willingness to pay of beneficiaries; interests of the various partners; and general financial implications.

Step 4: Definition of realistic and pro-poor project objectives and targets.

This step aims at coming up with defined objectives, and, on the other hand, quantifiable targets to be achieved by the project, together with a set of measurable indicators. These will become the basis for project monitoring and evaluation.

Step 5: Preliminary cost estimates and financial assessment.

The result of this step is a preliminary financial and affordability assessment that comprises of estimated project cost, identification of financial resources (County and Central governments), estimated requirements for other resources, initial calculation of cost-recovery by users, and a list of estimated benefits of the proposed infrastructure investment.

Step 6: Definition of actions.

The result of this step is the definition and validation of commitments by stakeholders and partners on who will do what and how, when, and at what cost.

Step 7: Safeguarding pro-poor implementation and monitoring.

The result of this step will be a monitoring and evaluation system with measurable indicators to follow up the progress of activities and evaluate the attainment of project objectives and targets. The system should also describe the involvement of beneficiaries.

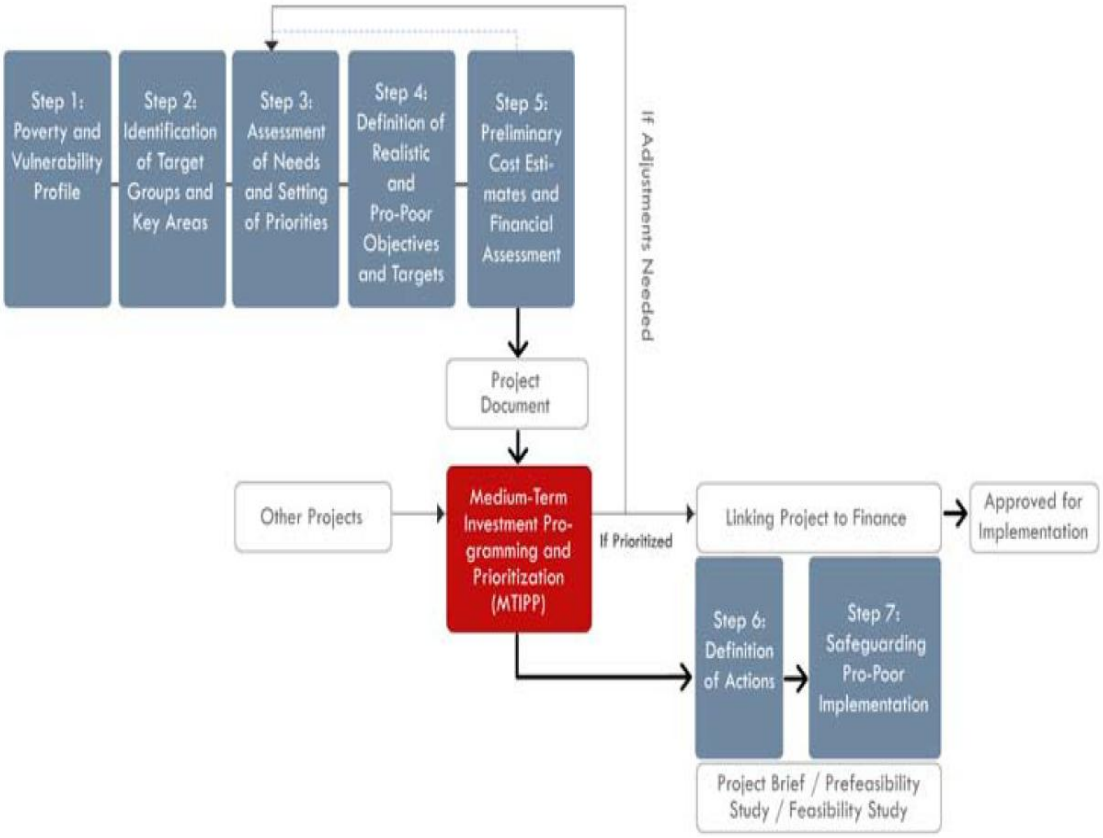


Figure 35: Steps for pro poor urban infrastructure design (Source: CDIA, 2012).

6.2.4.2 Recommendation17: Service Provision

The provision of basic servises to the people of Muyeye by th County Government of Kilifi will definitely improove on the quality of the environment. Such servises includes garbage collection, security etc. If needed then the County Government may need to hire a cleaning company to provide garbage collection servises. Other forms of servise provision requires infrastructurel investments in the same which also increases the security of land tenure level of the plots.

6.2.4.3 Recommendation18: Technical Support on Cheap Building Techniques

The Plot owners of Muyeye should be educated on the need to improove on their environments and how they can do it. This will be particularly important in improoving their buildings and compound contitions. The training should in particular focus on the application of self help cheap, efficient and affordable buiding technology to enable them come up with descent housing. Technical support should also be provided to the plot owners of Muyeye who have not been able to build descent housing.

Some of the cheap, affordable and descent housing techniques that can be applied in Muyeye includes the use of localy and cheaply available building stones for

construction, building block hydrophones or interlocking brick machines[7]to supply cheap, affordable and quick stone building techniques, cheap sand bags and earth bags building techniques, and finnaly stones in barbed wire technique[8].

Figure 36 indicates some of the affordable and cheap building techniques that can be applied by the plot owners to enable them achieve the demand for descent housing within the informall settlement.

Sand and Earth bag house

Stones and birbed wire technique as used in building.

An interlocking stabilised block and the interlocking block maker

Building made of the stabilised interlocking blocks

Figure 36: Cheap affordable and quick building techniques(Source:Author, 2014).

The community education venues should also be used as forums for them to come up with new inovative measures of coping up with environmental challenges or rather

[7] The interlocking brick machines make use of all soil types except black cotton soils mixed with cement to prepare interlocking stabilized blocks which do not require the use of mortar during building. The use of interlocking blocks reduces the cost of construction by up to 50%. The interlocking block maker machines are widely available in Naorobi, Mombasa and Eldoret at fair prices that range from approximately 90,000 Kshs to approximately 120,000 Kshs.

[8] The stone and barbed wire technique is a building technique that is commonly used in the Northern Kenya towns like Marsabit. The technique involves the use of steel columns, barbed wire, wire mesh and small stones to make the building wall frames which is then plastered with little mortar. The techniques is argued to be suitable for building descent low cost housing which reduces the cost of building to almost 50%.

improoving on the techniques that they are already using such as raising the level of houses, using earthbags and ridges to controll the effect of flooding etc.

Focus should also be laid in the need to educate the community on some of the cultural practices that might have inflwenced their environments negatively. For instance in Muyeye some of the structures are built of Makuti roof which is a typical swahili roof building material and that is not as long lasting as iron sheet roofs. In other locations, the narrow streets are as a result of the islamic architetural chractaristics which are on the other side not very suitable for adequate vehicular and pedestrian access. The spaces are not also adequate enough for the instolation of servise provision infrstructure such as sewer, water supply etc.

There is also need to lay focus on the parts of the settlements which according to the analysis of maps indicating aread of most environmental degradation are mostly affected. For Muyeye, zone 3 is the mostl affected by environmental degradation and requires special focus to enable it adequalely respond to the informal settlement upgrading process.

6.2.4.4 Recommendation19:Financial Support

The cost of putting up proper housing is still high for most of the plot owners of Muyeye. Their ability to improove on the environments has in a great way been hindered by socio econimic factors which is charactarised by low income and high unemployment levels. Their ability to improove on their environment can be greatly enhanced by providingfinancial sypport for housing construction. The available financial institutions too are not responsive to the needs of the people in informal settlements. They are simply not interested in financing housing in informal settlements. There is therefore a need to establish a friendlyfinancial institution that is responsive to the need of occupiers of in informal settlements an which will provide low interest rates and sufficient residential construction loans with minimal security and that will enable the plot owners to sufficiently invest in improovement of their housing. The ease of access to financial access can also be enhanced by the establishment of cooperatives. Corporate entities can gain better access to credit than individuals, especialy if they collectively own land which can be useed as collateral.

6.2.5 Flexible Development Laws

Development laws for informal settlements should be made flexible enough to be able to allow for the achievement of a more development controlled settlement and subsequently lead to increased security of land tenure. What is therefore required is a policy for development controll for informal settlements which will be more flexible on the legal and statutory requirements for development controll. Providing approoval for development to plot owners in informal settlements also increases the security of land tenure of the plot owners because of the fact that in rare occation does a e local local authority which has approoved a development come to demolish the same development that it had approoved. The following are recoomendations for flexible development laws.

6.2.5.1 Recommendation20:Flexibility in Development Aprooval Documents

For any local authority in Kenya, the only legal document required for approoval of development is the land title deed. This should not be the case for informal settlements since we know that they obviously do not have land title deeds. The policy should therefore be flexible enough to allow for approoval of development without the the availability of the title deed. Other documents such as allotment letters, land sale agreements and share certificates should also be able to replace the role played by the land title deed in aprooval of developments. This will then give the local authorities an opportunity to carry out development controll in settlements whose land tenur status is contested.

6.2.5.2 Recommendation 21: Reduced Statutory Fees

Local authorities usualy charge certain fees for aprooval of developments such as building plans, subdivision plans, change of use etc. The fees includes public works fees, public health fees, physical planning fees, environmental assesment fees etc. For most low income plot owners the satatutory fees are usualy very high and can very easily discourage them and prevent them from aproaching the local authority to obtain approoval for development. There is therefore the need to reduce the fees that is required for obtaining or achieving a properly planned housing. In simple terms, the statutory fees for approoval of development for informal settlements should be sabsidised to a point of almost costlessnes to enchourage the plot owners to apply for approval of development. Another alternative would be to finance up to 100% of building plan preparatin and aprooval. In this case standard building typologies or rather prototypes should be prepared for all the plots with opportunities for

comprehensive individual development of the plots should be prepared. This will aslo anable some form of uniformity in the housing of the informal settlements.

6.2.5.3 Recommendation22: Reduced Proffesional Fees

Sometimes the greatest hinderance to development controll is usualy caused by the consultancy fees that private consultants including architects and structural engineer charge for develpmant. There is therefore the need to establish a consultancy department specific for informal settlements whose main aim is to reduce the cost of cosnoltation for development aprooval within informal settlements. The department which should be composed of physical planners, architects, structural engineers, surveyors, environmentalist and any other proffesionals of in the built environment industry should carry out all consultancies for approval of informal settlements at at a cost reduced to almost zero. The department should also be able to take advantage of internal working arrangements to enable quich processing of aproovals for development.

6.2.5.4 Recommendation 23: Appropriate Standards For Land Development

In many countries, standards for land subdivision are identical for all income groups, even though the poor can be satisfied with lower standards and can never afford to purchase land in standard subdivisions. The reccomendation is therefore that satandards on minimal plot sises be made flexible for informal settlements to enable legal acquisition of land to the urban poor. Another alternative would be the development of comprehensive development plans for the entire settlement which will also ensure that the buildings are of certain standard (See Figure 37).In this kind of arrangement, the plot owners need not be provided with individual title deeds to obtain security of land tenure. Instead they can be issued with long term leases for the houses that they occupy. Another alternative would be to provide one title deed to the entire community or to the individual blocks whose members get share certificates for the blocks in which they fall.

Figure 37: A typical comprehensive development plan for informal settlements (Source: Author, 2014).

The comprehensive plan should also be accompanied by layout plans for individual units to minimise the cost of consultation for each unit (See Figure 38). Note that deliberate measures have been made to reduce the cost of building. The layout plans have taken the following measures to reduce the cost of building

- Shared common wall between adjascent neighbors.
- Common frontyards and backyard thus no need for boundary fences.

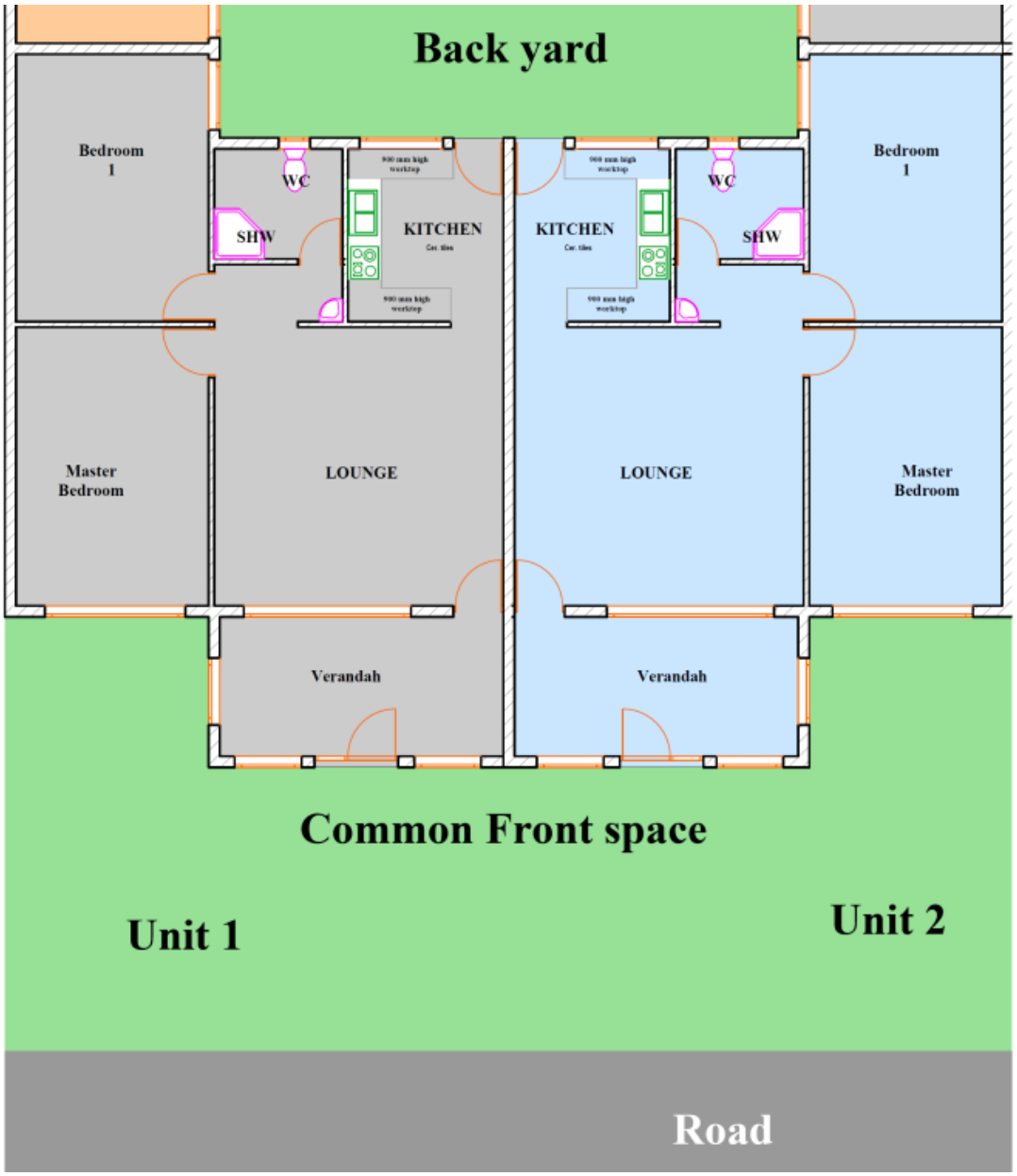


Figure 38: Typical building layout plans for comprehensive development plans for informal settlements (Source: Author, 2014).

With this kind of arrangement, individual plot owners need not to struggle to meet unachievable minimum land size requirements for them to own plots within the settlements. They can simply be issued with long term leases which will provide them

with adequate security of land tenure for them to inves in the improovement of their physical environment.

6.2.6 Enhance The Roles Played By Informal Actors/Institutions

Informal institutions that exist in informal settlements includes the settlement executive comitee members and the the rules that govern their activities in informal settlements. As established earlier in the literatre review and in the study findings, these institutions are best suited to assist the people of muyeye to achieve security of land tenure.

6.2.6.1 Recommendation24: Empowering The Settlement Executive Comitees

This reccomendation takes advantage of the fact that most informal settlements usualy have an elected settlement executive comitee that is respected and trusted by the members of that particular settlement. For settlements without such a comitee arrangements can be made so that the members of that settlement elects the comitee. The reccomendation is therefore that the existing settlement comitees in collaboration with the existing local authorities be used in development controll within the informal settlements. This will definitely require that the settlement executive comitee members be trained in the need and techniques that they will use in carying out development controll. They should also be renumerated by the local authority to enchourage them in doing their assigned duties and also so that they can be made accountable for any illegal developments taking place within their settlements. They should be able to report to the local authority any development that is to take place before it is aprooved. This is most likely to succed because it will prevent th upcoming of structures overningt within the informal settlements because the settlement sxecutive comitee members are also live within the settlements. The responsibilities of the settlement executive comitee members and in collaboration with the available local authority should include but not limited to the following.

- Abitrate land sales, transfers and inheritance within the settlement.
- Controol land prices to avoid speculation and gentrification.
- Facilitate aprooval of all land subdivisions, amalgamations and change of use, building plans for developments within the settlements.
- Monitor all developments within the settlements to ensure that they are done in accordance with the aprooveals for development.
- Abbitrate and solve all land disputes within the settlements.

- Facilitate and supervise community cleanup activities.

6.2.6.2 Treating Each Settlement as a Unique Entity

Each informal settlement has unique characteristics which determine the various levels of security of land tenure of the different plots. This then mean that for each settlement, there are circumstances that make some plots more land tenure secure than others such as the plot sizes, the number of plot owners, period of ownership etc. This recommendation is also based on the understanding that better understanding will eventually lead to better action. Better understanding of the mechanisms that the urban poor have access to land is likely to give planners a wider range of methods of intervention in the provision of low-income housing, and that a closer look must be taken at unorthodox interventions in the market for land and housing (Angel et al,1983:10).

Table 44: Circumstances of best quality of environment (Source: Author, 2014).

Category	Circumstance of best quality of the environment
Sex	Females
County of birth	Those who come from outside the coast region.
Age	31 - 40
Education level	Collage/University
Occupation	Public servant
Work place	Outside Muyeye
Residence	Outside Muyeye
Income per month	30,001- 40,000
Plot acquisition method	Allocation
Proof of ownership documents	Temporary Occupancy License
Length of ownership of plot	6-8 years
Number of plot owners	2 Plots
Number of other plots owned	2 Plots
Plot use	Residential/Commercial
Plot size	10,001 – 12,000 square feet
Zone	1

There is therefore the need to treat each settlement as a unique case. This will enable us to identify the circumstances which make some plots more land tenure secure than the others and thus have better conditions of physical environment even though they

are within the same settlement which experiences challenges of land tenure insecurity. Table 44summarizes the circumstances that were observed to have led to the best quality of the physical environment in Muyeye.

Based on these findings, the research proposes the following mechanisms a way of improving security of land tenure for Muyeye and thus improving on the quality of the environment in Muyeye. Below are the mechanisms for improving security of land tenure for Muyeye based on the best circumstance analysis

6.2.6.3 Recommendation25: Economic Empowerment

The people of Muyeye should be economically empowered to enable them have stable sources of income which will then enable them improved on the quality of their environments. This can also be achieved by encouraging the plot owners to seekemployment from outside the settlements.

6.2.6.4 Recommendation26: Government Allocation of Land Parcels

Since those who were allocated the pieces of land they currently occupy have better environments, the government should freshly allocate the pieces of land to the current occupiers so that they can gain security of land tenure based on the fact that the Government that has allocated them the land that they occupy cannot evict them from the same piece of land.

6.2.6.5 Recommendation27:Issuance of Temporary Occupation Licenses

The ongoing titling process is of great importance in providing people with security of land tenure. However the proof of enumeration document issued by KISIP does not seem to be adequate in providing security of land tenure to the people of Muyeye at the moment. This is partly because the documents were filled from the field and do not have government seals or stamps. The government should therefore provide other documents such as temporary occupation licenses which are generated from Government lands offices as the people of Muyeye wait for other recognized proof of ownership documents.

6.2.6.6 Recommendation28: EncouragePartnership in Ownership of Plots

The people of Muyeye should be encouraged to own plots jointly. This will enable them to unite and obtain strength in fighting for their rights as plot owners which will

consequently lead to increased security of land tenure and thus improving on the quality of the physical environment.

6.2.6.7 Recommendation29:SetMinimum Plot Sizes

The plots should have a minimum size of 5,450 square feet which is the minimum for a plot to obtain title deeds. This is also adequate enough for the plot owners to be able to provide basic services such as vehicular access and human waste disposal. For plots which shall not have met the minimum sizes required for them to obtain title deeds, joint ownership can be adopted where the shares of each plot owner is indicated in writing and on plan. This will also enable them join up in improving the quality of environments of their plots.

6.2.6.8 Recommendation30: FocusOn The Poor Performing Groups.

Community sensitization efforts that are aimed at improving security of land tenure and the consequently improving on the quality of the physical environment should focus on focus on groups within the informal settlements that have more negative effects of land tenure insecurity which is manifested through more environmental degradation.The aim is to improve the quality of the environments of these plots to at least reach the quality of environments of plots that have better quality of physical environments within that particular settlement. The following are the recommended detailed description of steps that should be followed in applying the technique of "borrow from the best circumstances within each informal settlement" in upgrading of informal settlements (See Figure 39). Below are the recommended Steps for Applying the Best Circumstances Technique.

Step 1: Conduct a detailed socio economic survey and evaluation of the settlement of interest so that there is a clear understanding of the socio economic attributes of the individual sample plots.

Step 2: Conduct a detailed evaluation of land tenure insecurity and the condition of the physical environment based on the methodology provided earlier which uses a point's award system towards ranking sample plots based on observed circumstances within which they exist.

Step 3: Tabulate the scores of each sample plot on quality of physical environment or on security of land tenure. The condition of physical environment can be alternated

with security of land tenure because as we have already proved, have a direct relationship and either of them will give the same results.

Step 4: Compare the socio economic attributes and other circumstances of the sampled plots with their corresponding scores onsecurity of land tenure or condition of the physical environment so that the socio circumstances under which the poor, average and best performing groups can be identified.

Step 5: Conduct thorough community sensitization workshops with a special focus on the groups that had the poorest performance on security of land tenure or condition of the physical environment. The high performing groups can also be involved with the aim of making them share their techniques and circumstances that led to their high scores and that can be applied by the poor performing groups to increase on their security of land tenure and consequently improve on the conditions of their physical environment.

Informal settlement upgrading projects can also target on the poor performing groups so that they can at least be upgraded to the level of high performing groups before upgrading the entire settlement.

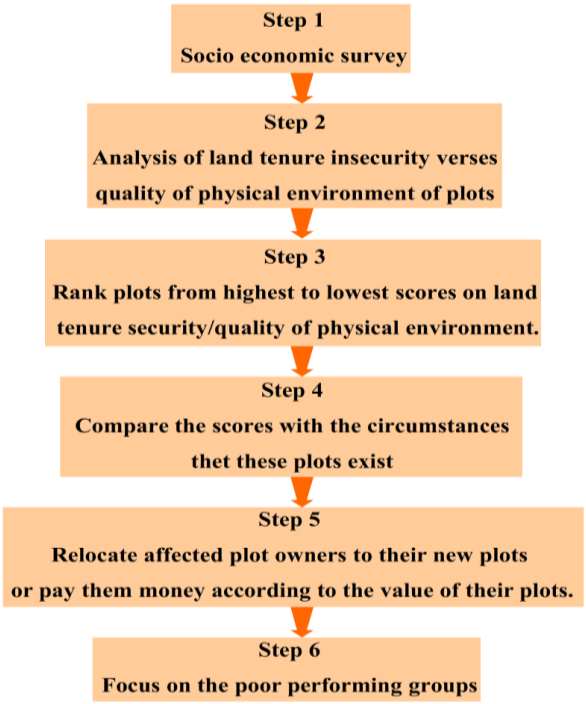


Figure 39: Summary of recommended steps for carrying out a best circumstance technique in informal settlements upgrading (Source: Author, 2014).

Table 45shows the groups that should be focused on in informal settlements upgrading due to their poor scores on security of land tenure and quality of the physical environment in Muyeye.

Table 45: Groups of focus in community sensitization on land rights for Muyeye(Source: Author, 2014).

Category	Groups/Areas of focus
Gender	Male plot owners.
Age	Plot owners of age groups 61 – 70, 71 – 80, 51 – 60, 41 – 50 and age 21 – 30.
Education level	Plot owners without university or college education
Employment	Plot owners who are not public servants.
Places of residence	Plot owners whose places of residence are within the settlements.
Places of work	Plot owners who work withinMuyeye.
Zone within the settlement	Zone 3

In order to implement the recommendations brought out, there is need to formulate a detailed matrix that will assist in their implementation which is provided in the next chapter.

7 CHAPTER SEVEN: THE IMPLEMENTATIONMATRIX

A total of six main recommendations and thirtysub recommendations have been presented in chapter six of this research. The recommendations aim at enhancing the roles played by informal actors/institutions, enhancing the ability of the plot owners to improve on the quality of their environments as a way of achieving security of land tenure, enhancing the ability of the plot owners to achieve land tenure, enhancing the techniques by actors in providing security of land tenure and enhancing formal land acquisition for the urban poor. In order to effectively and timely implement these recommendations, there is need to have a comprehensive implementation matrix which indicates the strategies that have been proposed in this research, the activities that are to be carried out towards achieving these strategies, the actors to be involved in these activities, the time frame for achieving these strategies, and the indicators for the achievement of these strategies (See Table 46).Just as the research intended, this implementation matrix focuses on the need to provide land tenure options and mechanisms for upgrading of informal settlements in the entire country but with a

special attention to the Kenyan Coast region and with specific attention to Muyeye as a settlement. Some strategies and actions are therefore specificMuyeye as the study area. The time frame s in this matrix are approximate and based on the desires and aspirations of the plot owners of Muyeye and the time within which these projects are achievable based on wide consultation, experience and reason.

Table 46:The implementation matrix (Source: Author, 2014).

Strategy	Actions	Responsible actors	Time frame	Indicators
Enhance The Ability of The Plot Owners To Achieve Security of land tenure.	• Physical Planning. • Infrastructural improovermrnt and servise provision. • Community Education and sensitization.	• County Governments. • Central Governments. • Private consultants. • Informal institutions. • The community.	5 years	• Generally improved environments especially housing. • Improved infrastructure and services provision.
Enhance the techniques used by Actors in providing security of land tenure.	• Developing a clear and faster process of informal settlement upgrading. • Develop and adopt a clear compensation plan for persons affected by informals settlement upgrading project. • Ensure sufficient Community Participation and Involvement in informal settlement upgrading projects.	• County Governments. • Central Governments. • Private consultants. • Informal institutions. • The community.	1 Year	• Acquisition of long term leases allotment letters or land title deeds to the occupiers of informal settlements. • Efficiency in informal settlements upgrading projects. • Increased corporation among the community with agencies on

				informal settlements upgrading projects.
Adopt Formal Land acquisition for the urban poor.	• Appropriating vacant public land for the poor. • Acquiring land at market prices • Exchanges of land • Compulsory acquisition of land • Preemtion of undervalued land	• County Governments. • Central Governments. • The community.	5 years	• Reduced resistance and opposition to relocation and compensation plans. • Increased number of regularized informal settlements. • Increase in housing stock for the urban poor.

Enhance the ability of the plot owners to improve on the quality of their environments as a way of achieving security of land tenure.	• Envirormental planning. • Infrastructural improvement and service provision. • Community Education programs. • Financial support on building better houses. • Development of flexible and appropriate development laws and standards for informal settlements.	• County Governments. • Central Governments. • Private consultants. • Informal institutions. • The community.	5 years	• Increase in number of plot owners seeking development approval. • Increased efficiency in development control. • Improved housing condition. • Improved service provision. • Improved infrastructure.
Enhancing The Roles Played By Informal Actors/Institutions.	• Empower the Settlement Executive comitee members. • Ttrain the settlement executive comitee members to carry out development controll.	• County Governments. • Central Governments. • Private consultants. • Informal institutions. • The community.	2 Years	• Increase in number of plot owners seeking development approval. • Increased efficiency in development control. • Improved condition of the environment.

7.1 Conclusions

The research has made a number of findings which meet its objectives. First is the land for Muyeye remains government land until the informal settlement upgrading process is complete and allotment letters or leases or land title deeds are issued to the occupiers of Muyeye. Since insecurity of land tenure is already being addressed through upgrading, there is a generally positive impact of this to the quality of the physical environment. Majority of the plot owners still remain optimistic of the process despite its delay.However, the uncertainty of the plot owners who are located within the plots which are not affected by the project and are affected by the major highways going through the site to some extent reduces the security of land tenure that has been achieved over time. Informal settlement upgrading projects for settlements like Muyeye which are crossed by proposed major highwaysshould cover all the members of the settlement and not leave out those who are not affected by the project. Those who are left out may jeopardize the whole process. If possible the two projects should be done concurrently.Second is that the levels of environmental degradation in Muyeye vary from place to place with the Zone three being the most degraded area.

Third is that there is a variation in the levels of insecurity of land tenure within Muyeye as a settlement which is as result of the different circumstances under which the plots exist such as plot sizes, period of ownership, number of plot owners etc. The research also reveals that there is a direct relationship between security of land tenure and the quality of the physical environments of Muyeye. In other words, the more a plot has security of land tenure, the better the quality of the physical environment. There is therefore the need to establish the circumstances under which the plots with the highest security of land tenure within the settlements and thus the best quality of physical environment exist so that this can be adopted by the plots with the least security of land tenure within the same settlement to enable them achieve maximum possible security of tenure within the settlements and thus improve on the quality of the physical environment before external interventions come to improve the entire settlement. There is also need to put focus on improving both security of land tenure and the quality of the physical because these are related and both affect each other. Efforts made in the past has focused more on providing security of land tenure with an aim that the quality of the physical environment will improve as an effect of this

while in actual sense, improving in the quality of the physical environment also helps in improving security of land tenure.

The research also reveals that there are a number of bodies whose mandate is to enable the achievement of security of land tenure and which willingly or unwillingly do the exact opposite of what is expected of them. There is need to reduce the number of bodies involved in these processes so that a few accountable bodies can be left. The activities of these bodies should also be closely monitored to ensure the interests of the community are taken care of.

7.2 Recommended Areasfor Further Research

The research recommends two main areas for further research. The first area is on the role of actors in the success of informal settlement upgrading projects. This research should aim at investigating in depth the positive and negative impacts of various actors involved in informal settlement upgrading projects. This is because of the observation made that these actors have in several occasions worsened the situation of informal settlements. The aim should therefore be to come up with code of conduct for the actors involved in providing security of tenure.

The second area for further research is on the contributions of urban development standards in attaining security of land tenure. This topic should be researched with an aim of understanding the negative impacts of urban development standards towards the upgrading of informal settlement with an aim of spearheading the development of flexible urban development laws for planning informal settlements. .

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Appendix -1: Research work plan

No	Activity Name	June 2013	July 2013	August 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan-Dec 2014	May 2015
1	Development of Research Proposal	DONE	DONE	DONE	DONE	DONE				
2	Literature Review (Analysis of secondary data)	DONE	DONE	DONE	DONE	DONE	DONE			
3	Preparation of Data Collection tools (Questioners, Scheduled interviews, Cameras, GPS, Tape measures etc.)					DONE				
4	Preparation for data collection (Field reconnaissance, identification of sample size & sampling technique, identification and training of research assistants, identification of key research informants.)						DONE			
5	Collection of Primary Data						DONE			
6	Data entry, Analysis and Synthesis.						DONE			
7	Preparation of proposals and recommendations.							DONE		
8	Preparation and presentation of the draft research project report.							DONE		
9	Incorporating comments from the presentation in 8 above.								DONE	
10	Submission of final research project report									DONE

Appendix -2: Research budget

Activity No:	Activity Name	Cost in Kshs
1	**Development of Research Proposal**	
	Printing of stage by stage versions of the proposal	2,000
	External hard drive for data storage	6,000
	Project camera	9,000
	Subtotal	**2,000**
2	**Literature Review (Analysis of secondary data)**	
	Online downloading of documents	2,000
	Photocopying and printing	2,000
	Books related to land tenure insecurity and its effect on the condition of the physical environment in the Kenyan coast and elsewhere.	10,000
	Writing materials	2,500
	Subtotal	**16,500**
3	**Preparation of Data Collection tools (Questioners, Scheduled interviews, Cameras, GPS, Tape measures etc.)**	
	Hiring of GPS @ 3,000 Kshs per day for 7 days	21,000
	Printing of interview schedules @ 100 Khsh per copy for 20 copies	2,000
	Printing of questionnaires @ 100 Kshs per copy for 200 copies	20,000
	Purchase of tape measure @ 200 Kshs per piece for 7 pieces.	1,400
	Subtotal	**44,400**
4	**Preparation for data collection (Field reconnaissance, identification of sample size & sampling technique, identification and training of research assistants, identification of**	

	key research informants.)	
	Travel to and from Malindi @ 4,000 per trip for 1 trip	4,000
	Accommodation @ 2,000 per day for 3 days	6,000
	Food @ 1,500 per day for 3 days	4,500
	Subtotal	**14,500**

5	**Collection of Primary Data**	
	Payment of 7 research assistants @ 1,000 per day for 7 days	49,000
	Communication costs @ 100 Kshs per day for 7 days for 7 research assistants.	4,900
	Communication costs @ 200 Kshs per day for 7 days for me.	1,400
	Transport and movement @ 100 Kshs per day for 7 days for research assistants and me.	4,900
	Transport and movement cost @ 100 Kshs per day for 7 days for me.	700
	Travel to and from Malindi @ 4,000 Kshs per trip for 1 trip	4,000
	Accommodation @ 2,000 Kshs per day for 7 days	14,000
	Food @ 1,500 Kshs per day for 7 days	10,500
	Subtotal	**89,400**

6	**Data entry, Analysis and Synthesis.**	
	Payment of 3 research assistants @ 1000 Kshs per day for 7 days.	21,000
	Subtotal	**21,000**

8	**Preparation and presentation of the draft research project report.**	
	Printing of the draft project report @ 10 Kshs per page for 150 pages.	1,500
	Subtotal	**1,500**

10	**Submission of final research project**	
	Printing of six copies of research thesis @ 10 Kshs per page for 150 pages, and six copies.	9,000
	Subtotal	**9,000**

	GRAND TOTAL	**198,300**

The fund for this research was obtained from two main sources. 50% of the funds was obtained from my own savings and the rest from my employer.

Appendix -3: Plot based questionnaire

UNIVERSITY OF NAIROBI
DEPARTMENT OF URBAN AND REGIONAL PLANNING
MASTERS OF ARTS IN PLANNING
Plot owner Questionnaire –Muyeye settlement

INTRODUCTION

This plot owner questionnaire is meant to help in achieving the goals of a research entitled: **Land Tenure Insecurity and the Environment in Muyeye, Malindi, Kenya.** The aim of the research is to derive the relationship between land tenure insecurity and the condition of the environment so as to establish factors that lead to the highest levels of security of land tenure and thus the best conditions of the environment. This will then guide decision making and policy formulation for the upgrading of informal settlements.

Note: The information given herein will be solely used for academic purposes.

Questionnaire No: _____Date:_____
Zone: _____
Name of Interviewer: _____
Checked by: _____Date_____
Mobile No: _____

Respondent Information

1.1 **Name: (Optional) _____**
1.2 Sex: 1=Male 2=Female
1.3 Place of birth_____
1.4 Age:_____
1.5 Level of education:
1=No formal education 2=Lower Primary (1-3) 3=Upper primary (4-8) 4=Ordinary Secondary (1-4) 5=Advanced secondary 6=Vocational training 7=Collage/University.
1.6 Occupation:_____
1.7 Place of work:_____
1.8 Place of residence_____
1.9 Average income per month:_____
1.10 Nationality:_____

Section A: General questions on land tenure insecurity.

2.1 What rights/benefits do you have as a result of owning this plot?
1=Right to sell 2=Right to transfer 3=Right to build 4= Right to use the plot for obtaining loan (Collateral) 5= Other
2.2 What are the levels of these rights inMuyeye settlement?
1=Very low 2=Low 3=Average 4=High 5=Very high
2.3 What are the levels of these rights in your plot?
1=Very low 2=Low 3=Average 4=High 5=Very high

2.4 If average, low or very low, why?
-

_____
_____
_____
_____

2.5 Has this affected the surrounding (Soil quality, air quality, building and surrounding aesthetics, solid and liquid waste management etc.) of Muyeye negatively? 1=Yes 2=No

2.6 If yes How?

_____
_____
_____
_____

2.7 If yes, what have you done to increase rights to your plot as an individual?

_____
_____
_____
_____

2.8 If yes, what have you done to increase rights to your plots as a community?

_____
_____
_____
_____

2.9 Have these efforts led to any achievements? 1=Yes 2=No

2.10 If yes which ones

_____
_____
_____
_____
_____
_____

2.11 If no why not?

_____
_____
_____
_____
_____

2.12 Name any agencies, NGOs or any other institution that have come to help increase rights to land?

_____
_____
_____
_____
_____

2.13 Are they adequate in helping you increase rights to land?
1=Yes 2=No

2.14 If not why do you think they have not been successful?

_____
_____
_____
_____

2.15 If yes what are the achievements?

_____
_____
_____
_____
_____

2.16 What do you think should be done to increase rights to land in Muyeye?

_____
_____
_____
_____

Section B: Plot specific questions on land tenure insecurity.

3.1 Method of plot acquisition

1=Self-Acquired 2=Allocation 3=Inherited 4=Purchased 5=Squatting 6=Resettlement 7=Ancestral land 8=Other Mode_____

3.2 Ownership proof document

1=Title deed 2=Certificates of lease 3=Allotment letters 4=Sale agreements 5=Share documents 6=Temporary Occupancy License 7=No document 8=Other document_____

3.3 Tenure status/continuum of land rights

1=Registered freehold 2=Leases 3=Group tenure 4=Adverse possession 5=Anti-evictions 6=Occupancy 7=Customary tenure

8=Other tenure status_____

3.4 Length of ownership

1=(Over 10 years) 2=(8-10 years) 3=(6-8 years) 4=(4 to 6 years) 5=(2 to 4 years) 6=(below 2 years)

3.5 Number of plot owners_____

3.6 Number of other plots owned _____

3.7 Plot use

1=Residential 2=Industrial 3=Educational 4=Transport 5=Urban Agriculture 6=Public purpose 7=Public Utility 8=Other Use_____

3.8 Plot size_____

Section C. Condition of environment questions.

4.1 What desired characteristics are present in the surrounding of Muyeye?
1=Good air quality (clean and fresh air) 2=Landscaped spaces 3=Clean compounds and streets 4=Beautiful scenes 5=Proper solid waste disposal 6=Proper storm water drainage 7=Other_____

4.2 What are the non-desired characteristics of the surrounding of Muyeye?
1= Poor air quality 2=Lack of vegetation cover 3= Dirty compounds and streets 4= Ugly scenes 5= Soil erosion 6=Poor waste disposal 7=Other_____

4.3 How do you rate the condition of the surrounding of Muyeye?
1=Very low 2=Low 3=Average 4=High 5=Very high

4.4 How do you rate the condition of the surrounding of your plot?
1=Very low 2=Low 3=Average 4=High 5=Very high

4.5 What do you do to improve or/and maintain the good condition of the surrounding of your plot?

_____

_____

4.6 How has the level of rights to land of Muyeye affected the surrounding of your plot?

_____

4.7 How has the level of rights to land of Muyeye affected the surrounding of Muyeye as a whole?

_____

4.8 Which parts of Muyeye have been mostly affected negatively by the level of land rights? (Name and/ locate on map)

_____

4.9 What do you think are the reasons for the high negative effects of these areas?

_____

4.10 What is the averagelength of stay of tenants on your plot? _____

4.11 What services are provided for/available in your plot?
1=Vehicular access 2=Pedestrian access 3=Water 4=Electricity 5=Solid waste management services 6=Sewerage services 7=Storm water drainage. 8=Internet

services

9=Other_____

4.12 What do you think should be done to improve on the condition of the surrounding of Muyeye?_____

4.13 What do you think will be the effect of increasing rights to land in Muyeye on the condition of the surrounding?_____

Section D. Condition of environment. Mainly observation.

5.1 Year of construction of building_____

5.2 Level of investment on plot:

1=Damp site 2=Open land 3=Cattle keeping 4=Agriculture 5=Mud House 6=Semi-permanent building 7=Permanent building 8=Other_____

5.3 Building Wall material:

1=Carton paper 2=Polythene 3=Iron sheets 4=Wooden 5=Earth 6=Stone 7=Other_____

5.4 Building Roof material:

1=Tiles 2=Iron sheets 3=Wooden 4=Grass thatched 5=Other_____

5.5 Building floor material:

1=Cement 2=Timber 3=Earth 4=Other_____

5.6 Percentage of open space landscaped:

1= (0%) 2= (1% to 20%) 3= (21% - 40%) 4= (41% - 60%) 5= (61% - 80%)

6= (81% -100%)

5.7 The plot coverage:

1= (91% – 100%) 2= (81% – 90%) 3= (71% – 80%) 4= (61% - 70%)

5 = (51% – 60%) 6 = (50% and below)

Section E. Roles of different actors in providing security of land tenure

6.1 Do you know of any civil society organizations that have helped the people of Muyeye increase their rights to land?

_____

_____

6.2 How were you involved in the activities of the above mentioned agencies?

_____

_____

6.3 What kind of support do the above agencies give to the people of Muyeye?

-

_____

_____

6.4 What roles does the County Government play in providing security of land tenure for Muyeye?

_____

_____

6.5 What roles does the Central Government play in increasing security of land tenure for Muyeye?

_____

_____

6.6 How are you involved as a community in these efforts?-

_____

_____

6.7 In order of priority, which agencies have helped you best increase your rights to land?

a).....Central Government of Kenya.

b) .....County Government of Kilifi.

c).....NGOs.

d) .....CGOs.

e).....Community initiatives.

6.8 What do you think the civil societies should do in order to accelerate the achievement

of increased security of land tenure to the community of Muyeye?

_____

_____

_____

_____

SECTION F:Way forward

7.1 In your opinion, how can your capacity to increase rights for your plot and forMuyeye settlement as a whole be enhanced? (Local solution to land tenure insecurity)

_____

_____

_____

7.2 In your opinion, how can your capacity to improve on the condition of the surrounding (air quality, solid and liquid waste disposal, storm water drainage, ground vegetation cover etc.) of your plot and that of Muyeye as a whole be enhanced? (Local solution to environmental degradation)

_____

_____

_____

7.3 List any other recommendations regarding to increasing rights to land?

_____

_____

_____

7.4 List any other recommendations regarding to improving the condition of the surrounding?

_____

_____

_____

7.4 What kind of Muyeye would you like to live on in the future?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR PARTICIPATING

Appendix -4: Key informant interview schedule

UNIVERSITY OF NAIROBI
DEPARTMENT OF URBAN AND REGIONAL PLANNING
MASTERS OF ARTS IN PLANNING
Key Informant Interview Schedule –Muyeye settlement

INTRODUCTION

This interview schedule is meant to help in achieving the goals of a research entitled: **Land Tenure Insecurity and the Environment in Muyeye, Malindi, Kenya.** The aim of the research is to derive the relationship between land tenure insecurity and the condition of the environment so as to establish factors that leads to the highest levels of security of land tenure and thus the best conditions of the environment. This will then guide decision making and policy formulation for the upgrading of informal settlements.

Note: The information given herein will be solely used for academic purposes.

N/B separate sheet is provided for filling in the answers.

Institution Name: Ministry of Environment, Water and Natural Resource.

Section 1: General Questions

1. When was your organization created?
   _____
2. What is the core function of your organization?
   _____
   _____
3. What are the organizations visions?
   _____
   _____
4. What is the organizations mission?
   _____
   _____
5. What are the organizations strategies?
   _____
   _____
6. Has the organization incorporated providing security of land tenure (Increasing peoples land rights) in its strategies?

_____
_____

7. What is the level of understanding of land tenure insecurity or among your staff?

_____
_____

8. What is your organization doing in Muyeye in terms of increasing security of land tenure (Increasing peoples land rights)?

_____
_____

9. What is your organization doing to upgrade the condition of the environment of Muyeye (Improve on air quality, reduce soil erosion, improve soil and liquid waste management)?

_____
_____

10. What are the challenges faced in the above activities?

_____
_____

11. What are your organizations strategy in regard to providing security of land tenure (Increasing land rights) to informal settlements?

_____
_____

12. What are your organizations strategy regard to upgrading the condition of environments (Improving on air quality, improving on solid waste and liquid waste management etc.) of informal settlements?

_____
_____

13. How does your organization help the people of Muyeye in attaining security of land tenure (Increase land rights)?
    -

_____
_____

14. How does your organization help the people of Muyeye in upgrading of the condition of the environment (Improve on air quality, reduce soil erosion, improve soil and liquid waste management)?

_____
_____

15. What mechanisms has your organization put in place to help them cope with the land tenure insecurity (Lack of land rights) situation in Muyeye?

_____
_____

16. What challenges has your organization faced in carrying out these activities in Muyeye?

_____
_____

17. How can the organization be strengthened to better be able to provide security of land tenure?

_____
_____

18. How can the organization be strengthened to better be able to upgrade the condition of the environment (Improve on air quality, reduce soil erosion, improve soil and liquid waste management)?
    _____
    _____
19. What can be done to increase security of land tenure (Increase land rights) in Muyeye settlement?
    _____
    _____
20. What can be done to upgrade the environments of Muyeye settlement (Improve on air quality, reduce soil erosion, improve soil and liquid waste management)?
    _____
    _____
    _____

Appendix -5: Round table discussion guide

UNIVERSITY OF NAIROBI
DEPARTMENT OF URBAN AND REGIONAL PLANNING
MASTERS OF ARTS IN PLANNING
Round table discussions guide -Muyeye settlement

INTRODUCTION

This round table discussion guide is meant to help in achieving the goals of a research entitled: **Land Tenure Insecurity and the Environment in Muyeye, Malindi, Kenya.** The aim of the research is to derive the relationship between land tenure insecurity and the condition of the environment so as to establish factors that leads to the highest levels of security of land tenure and thus the best conditions of the environment. This will then guide decision making and policy formulation for the upgrading of informal settlements.

Note: The information given herein will be solely used for academic purposes.

N/B separate sheet is provided for filling in the answers.

1. How do you rate the levels of land tenure insecurity (Lack of land rights) in Muyeye?

Right to sell	Very low	Low	Medium	High	Very High
Right to transfer					
Right to build					
Right to use the plot for obtaining loan (Collateral)					

2. How do you rate the condition of environment of Muyeye?

	Very low	Low	Medium	High	Very High
Air quality					
Open spaces					
Streets					
Views					
Solid waste disposal					
Storm water					

drainage					
Security					

3. How has the land tenure status (Absence/presence of Lack of land rights) of Muyeye affected the condition of the environment (Soils, air, building materials, open spaces etc.)?
4. How do you rate the following in an ascending order starting with the one that offers the lowest security of land tenure and finishing with the one that offers the highest security of land tenure?

Method of plot acquisition	**Ownership proof document**	**Tenure status/continuum of land rights**
• Self-Acquired.	• Title deed.	• Registered freehold.
• Allocation.	• Certificates of lease.	• Leases.
• Inherited.	• Allotment letters.	• Group tenure.
• Purchased.	• Sale agreements.	• Adverse possession.
• Squatting.	• Share documents.	• Anti-evictions.
• Resettlement.	• Temporary Occupancy License.	• Occupancy.
• Ancestral land.	• No document.	• Customary tenure.
• Any other	• Any other	• Any other

5. How do you rate the following plot uses in an ascending order starting with the one that is associated with the lowest security of land tenure and finishing with the one that is associated with the highest security of land tenure?
    a) Residential
    b) Industrial
    c) Educational
    d) Transport
    e) Urban Agriculture
    f) Public purpose
    g) Public Utility
    h) Other Use
6. How do you rate the following in an ascending order starting with the one that offers the lowest quality of environment and finishing with the one that offers the highest quality of environment?

Level of investment on plot	**Building Wall material**	**Building Roof material**	**Building Floor material**
• Damp site • Open land • Cattle keeping • Agriculture • Semi-permanent building • Permanent building • Any other	• Carton paper • Polythene • Iron sheets • Wooden • Earth • Stone • Any other	• Tiles • Iron sheets • Wooden • Grass thatched • Any other	• Stone • Timber • Mud • Any other

7. How do you think increasing security of land tenure will affect the condition of the environment?
8. What do you think are the causes of land tenure insecurity in Muyeye?

9. What do you think should be done to increase security of land tenure of Muyeye?
10. What do you think should be done to upgrade the environments (Soil quality, air quality, etc.) of Muyeye?

THANK YOU FOR PARTICIPATING

Appendix -6: Scores of different plots on level of security of land tenure and the level of quality of the physical environment. (Source, Author 2014)

Questionaire Number /Plot Number	Scores on security of land tenure									Scores on level of quality of the environment								
	Number of rights available	Plot acquisition method	Proof of ownership documents	Continum of land rights	Length of ownership	Number of plot owners Plotowners	Number of other plots owned	Plot size	Total land tenure security	Servises available on your plot	Year of building construction	The level of Investment on plot	Building Wall material	Building roof material	Building floor material	Perventage or Portion of plot Landscaped	Plot coverage	Total environment
25	3	2	1	1	4	1	3	6	21	4	3	3	3	2	2	0	6	23
21	3	4	2	1	4	1	1	4	20	5	3	3	3	2	2	0	5	23
46	2	4	2	1	4	1	0	6	20	1	3	2	3	2	2	2	6	21
24	3	4	2	1	4	1	0	4	19	4	3	3	3	2	2	1	3	21
51	3	4	2	1	4	1	3	1	19	3	3	3	3	2	1	0	1	16
75	4	4	2	1	4	1	1	2	19	3	3	2	3	2	2	0	1	16
22	3	4	2	1	4	1	0	3	18	4	3	3	3	2	2	0	6	23
23	4	4	2	1	4	1	0	2	18	5	3	3	3	2	2	0	1	19
26	1	4	2	1	4	2	2	2	18	3	4	3	3	2	2	0	5	22

35	3	4	2	1	4	1	1	2	18	4	3	3	3	2	2	0	1	18
48	3	4	2	1	4	1	0	3	18	3	3	3	3	2	2	0	2	18
49	3	4	2	1	4	1	1	2	18	1	2	3	3	2	2	0	2	15
52	4	4	2	1	4	1	0	2	18	2	3	1	2	1	1	0	1	11
58	3	4	2	1	4	2	0	2	18	1	4	2	3	2	2	0	5	19
11	1	4	2	3	4	1	0	2	17	2	3	3	3	2	2	0	6	21
18	3	4	2	1	4	1	0	2	17	1	3	1	2	2	1	0	3	13
19	1	4	2	1	4	2	2	1	17	1	3	3	3	2	2	0	1	15
41	3	4	2	1	4	1	0	2	17	1	3	2	3	2	2	0	1	14
65	3	4	2	1	4	1	0	2	17	4	3	3	3	2	2	0	1	18
67	3	4	2	1	4	1	0	2	17	3	3	2	3	2	2	1	1	17
69	3	4	2	1	1	1	3	2	17	4	4	3	3	2	2	0	1	19
73	4	4	2	1	4	1	0	1	17	2	3	2	3	2	2	0	2	16
76	3	4	2	1	4	1	0	2	17	1	3	1	2	1	1	0	1	10
5	1	4	2	1	4	2	0	2	16	4	3	3	3	2	2	4	6	27

9	1	4	2	1	4	1	1	2	16	1	3	2	3	2	2	0	1	14
13	1	4	2	2	4	1	0	2	16	2	3	2	2	2	1	0	3	15
15	1	4	2	1	4	1	0	3	16	3	3	3	3	2	1	0	5	20
16	4	4	2	2	1	1	1	1	16	2	3	3	3	2	2	0	3	18
17	3	4	2	1	1	1	1	3	16	2	4	1	1	2	1	0	6	17
20	2	2	3	1	4	1	0	3	16	3	2	2	3	2	2	0	2	16
40	4	4	3	1	1	1	0	2	16	1	2	1	2	1	1	0	6	14
43	1	4	2	1	4	1	0	3	16	2	3	2	3	2	2	1	2	17
53	2	4	2	1	4	1	0	2	16	1	3	1	2	2	2	1	1	13
60	2	4	2	1	4	1	0	2	16	1	3	2	3	2	2	0	1	14
66	1	4	2	1	4	1	0	3	16	4	3	3	3	2	2	1	5	23
71	1	4	2	1	4	1	1	2	16	2	3	3	3	2	2	0	2	17
74	1	4	2	1	4	1	0	3	16	2	2	1	2	1	1	0	6	15
2	2	4	2	1	3	1	0	2	15	3	3	2	3	2	2	0	3	18
3	1	4	2	1	4	1	0	2	15	2	3	1	2	2	1	2	6	19

4	1	4	2	1	4	1	0	2	15	2	2	2	3	2	2	0	1	14
6	1	4	2	1	4	1	0	2	15	1	2	2	3	2	2	0	1	13
7	1	4	2	1	4	1	0	2	15	1	3	1	2	2	1	0	5	15
8	1	4	2	1	4	1	1	1	15	1	3	1	2	2	2	0	1	12
14	1	4	2	1	1	1	0	5	15	2	4	1	2	1	1	0	6	17
27	2	4	2	1	4	1	0	1	15	1	3	2	3	2	2	1	1	15
31	1	4	2	1	4	1	0	2	15	3	3	2	3	2	2	0	1	16
36	1	4	2	1	4	1	1	1	15	1	3	1	2	2	2	0	1	12
47	4	4	2	1	1	1	0	2	15	3	4	3	3	2	2	0	1	18
50	1	4	2	1	4	1	0	2	15	1	3	2	3	2	2	0	6	19
54	1	4	2	1	4	1	1	1	15	1	1	1	2	2	2	2	5	16
61	3	1	0	1	4	1	1	4	15	1	1	1	2	2	1	1	6	15
68	3	4	0	1	4	1	0	2	15	2	3	2	3	2	2	0	1	15
72	3	3	1	1	4	1	0	2	15	4	3	3	3	2	2	0	6	23
39	1	4	0	1	4	1	2	1	14	1	3	2	3	2	2	1	3	17

42	1	4	2	1	4	1	0	1	14	1	2	1	2	1	1	1	1	10
45	1	4	0	1	4	1	1	2	14	3	3	2	3	2	2	0	1	16
59	3	4	2	1	1	1	0	2	14	1	3	2	3	2	2	0	5	18
10	1	2	2	1	4	1	0	2	13	1	3	1	2	3	1	2	6	19
28	1	4	0	1	4	1	0	2	13	1	3	2	3	2	1	0	1	13
29	2	4	0	1	4	1	0	1	13	1	3	2	3	2	1	0	1	13
44	1	4	0	1	4	1	0	2	13	1	3	1	2	2	1	1	5	16
55	1	4	2	1	1	1	1	2	13	4	3	3	3	2	2	0	5	22
70	1	4	2	1	3	1	0	1	13	1	3	3	3	2	2	0	5	19
12	1	2	2	1	4	1	0	1	12	1	3	1	2	1	1	0	1	10
56	1	4	2	1	1	1	0	2	12	1	3	2	3	2	2	1	5	19
57	4	1	2	1	1	1	0	2	12	3	3	2	3	2	2	0	5	20
30	1	4	2	1	1	1	0	1	11	1	3	2	3	2	2	0	1	14

Appendix -7: Key to awarding scores to different categories of security of land tenure of the plots. (Source: Author, 2014)

Category	**Scores**						
	0	1	2	3	4	5	6
Method of plot acquisition		Self acquired	Inherited	Allocation	Purchase		
Ownership proof documents	No document	Temporary	Sale	Proof of enumeration			

		Occupation Licence	agreements				
Tenure status/continum of lands rights		Anty evictions	Adverse Possesion	Registered freehold			
Length of ownership		4 yrs & below	5 – 6yrs	7 – 8 yrs	9 yrs & above		
No. of plot owners		1 Owner	2 Owners	3 Owners			
No. of other plots owned	0 Plots	1 Plot	2 Plots	3 Plots	4 Plots	5 Plots	6 Plots
Plot size		Less than 2000 Square feet	2001 – 4000 Square feet	4001 – 6000 Square feet	6001 – 8000 Square feet	8001 – 10000 Square feet	10001 -12000 Square feet

Appendix -8: Key to awarding scores on categories of quality of physical environments to plots. (Source: Author, 2014)

Category	**Scores**						
	0	**1**	**2**	**3**	**4**	**5**	**6**
Year of construction		1950 - 1969	1970 -1989	1990 – 2009	2010 - 2019		

of building							
Type of building		Temporary	Semi-permanent	Permanent			
Wall material		Iron sheet	Earth	Stone			
Roof material		Grass	Iron sheet	Tiles			
Floor material		Earth	Cement				
Plot coverage		91 - 100	81 - 90	71 – 80	61 – 70	51 – 60	50 & below
Percentage of Open space landscaped	0% Landscaped	1%-20% Landscaped	21%-40% Landscaped	41%-60% Landscaped	61%-80% Landscaped		
No. of servises available at the plot level	No service	1 of six	2 of six	3 of six	4 of six	5 of six	6 of six