

IMPLICATION OF CONTESTATION FOR URBAN SPACE ON STREETS:
A Case of Mwhoko Street, Githurai - Kiambu County

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DECLARATION

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This research project is my original work and to the best of my knowledge has not been previously presented in this or any other University for an award of a degree or any other purposes.

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DEDICATION

I dedicate this project to my family

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ABSTRACT

Urban streets are places that play a pivotal role of making urban life more enjoyable and lively. When not well planned, they become dysfunctional. Mwhoko Street has become an attractive place for all kinds of traffic that is viewed as a potential market by those in the informal sector. This has led to an influx of informal activities onto the streets, and in so doing, have affected the smooth functioning of the street. The main aim of the research was to assess the implications of urban street space use contestation by informal activities. While the subsidiary aim of the research was to propose better planning approaches that can mitigate/mediate the space contestation. The study was guided by a number of objectives, and it employed a non-experimental research method carried out under phases: preliminary, data collection, data analysis & finally, conclusion and recommendation. The research established that the study area has attracted many informal activities that contest for space use, and include: encroachments from commercial buildings; street vendors; on street parking, and pedestrians, boda bodas, and motorists competing for space on the roadway. All these have led to: reduced street size, traffic jams, street users contest to use the carriageway, blocked storm drains and loss of business on the part of formal enterprises. The study proposes various intervention measures to be put in place. At policy level, the study proposes: the national government to **formulate** Flexible Change of User Laws that **are** not cumbersome, to enable private investors provide extra spaces for traders; street vendors should advocate for a progressive National Policy on Street Vending – what is in existence is not being felt on the ground (they should advocate for youth & women funds to target vendors); another recommendation is for street designers to adopt negotiated and collaborative approaches in street design – by incorporating street users while designing urban streets and also to embrace collaborative approaches whereby the design has to take a multidisciplinary design processes; and lastly, advocate the county governments to implement the Urban Areas and Cities Act, 2011 which requires the setting up of Town Management Committees for Urban Areas and Cities so as to bring services closer to people. At site level, the study proposes: the Preparation of an urban Development Plan for the town; upgrading Githurai to a service centre with the following components – a modern storey market, paving of back streets & back lanes, paving the roundabout, provision of proper drainage and street lighting; modernisation of the street to segregate users with provision of spaces for street vendors; and lastly, the study proposes the construction of two wide Non-motorized Flyovers to link Githurai 44 and Githurai 45.

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GLOSSARY OF ACRONYMS & ABBREVIATIONS

CABE	Commission for Architecture and the Built Environment, UK
CBO	Community Based Organizations
DETR	Department for Environment, Transport and the Regions
GIS	Geographical Information Systems
KNBS	Kenya National Bureau of Statistics
NMT	Non-Motorized Transport

SACCOs	Savings and Credit Cooperative Organizations
SPSS	Statistical Package for Social Scientists
UIDP	Urban Integrated Development Plan
WIEGO	Women in Informal Employment: Globalizing and Organizing
WILL	Concept of: W ork, I nvest, L ive, and have L eisure

CHAPTER 1: INTRODUCTION

1-1 Introduction and Background to the Problem

Human settlement takes place on a defined '*space*' that should be ordered and planned for proper functioning. Stout (2008), argue that the concept of space has taken on increased importance in the practice of planning as officials attempt to order and re-image communities in an effort to attract and retain private investment. He further argues that expert place making practices are often at odds with the informal ways in which local users contribute to the meaning of space. Schneekloth & Shibley (2000), argue that space, both as a concept and a discrete place on earth, is a contested terrain. They further argue that contested space use may be defined to include sites of conflict where people or ideals collide resulting in a scramble for a place by each individual, owners and a number of land uses within the situation. They further argues that contestation for space may refer to locations where existing land uses contest for accommodation, and all struggle for control of these spaces. Spaces contested may include: forest reserves, riparian zones, undeveloped lands, open spaces, streets, and generally public land.

Space contestation has been accelerated by Urbanization that is taking place in 3rd world countries at an alarming rate. UN-Habitat (2015), puts the urban population in Kenya at 25.6% of the total population, while the annual Rate of urbanization is 4.34%. Panwar and Garg (2015) argue that poverty and lack of gainful employment in the rural areas and in small towns, drive large numbers of people to the cities for work and livelihood. These people generally possess low skills and lack the level of education required for the better paid jobs in the organized sector. Besides, permanent protected jobs in the organized sector are shrinking hence even those having the requisite skills are unable to find proper employment (Bhowmik and Saha, 2012). The high population require places to live, invest, work and have leisure (unpublished urban studio notes, 2015). Bhowmik (2012) argue that there are few formal job opportunities that can accommodate these large population. The excess population that cannot be absorbed into the formal economy, ends up in the informal sector being their only means for their survival. The informal sector has not been taken seriously by the planning fraternity. And therefore, it is not accommodated in Development Plans of our towns. Those who join the informal sector, tend to occupy spaces set aside as commons – (in most cases, streets), where you find all kinds of informalities contesting for space use (Brown, 2008).

A well-functioning street should be one that is segregated with the presence of: sidewalks, cyclist paths, and free traffic flow that provides transport for goods and passengers to various destinations. It connects factors of production – making the whole process cheaper. It also influences land values, and rents tend to be higher for investors (Michael et al. 2003). The street is usually attractive to the informal sector activities since it is used by all kinds of people in different ways including: driving through, walking through as pedestrian, and others pass through as customers of goods on display. All these become potential customers for the informal sector activities. And as such, those in the informal sector struggle to occupy vantage spaces along the street, from where their goods can attract many customers (Skinner, 2008).

The informal sector consists of those activities characterized by ease of entry into the activity concerned: reliance on indigenous resources, family ownership of enterprises, small scale of operations, labour intensive and adaptive technology, and skills acquired outside the formal school system and unregulated and competitive markets (ILO, 1972). Davy (2009), argue that, while entrepreneurs gain the right to use office space or shops from private property or rental agreements, the self-employed poor often use their homes or the commons for business purposes (street vendors). The unemployed poor also often miss out on services that are typically associated with a workplace (like internet access). Kim (2015), argue that in large cities around the world, the most competed for public space is the streets and accompanying sidewalks. As a result of historic migration and immigration to urban centres, the spatial projects vying for this space have multiplied. In particular, the growth of street vending causes us to reconsider some of the fundamental concepts that we have used to understand the city. Vending can be seen as a private taking over public space. It can contribute to civic vitality, as well as be an impediment to traffic flow. Vendors are often micro-entrepreneurs who cannot access the private real estate market as spaces for livelihood. The issues about the legitimate use of public space, the right to the city, and local ordinance enforcement/dereliction are often complicated by class conflict as well as the street vendors' diverse ethnic and their migrant/immigrant status (Kim, 2015).

Davy (2009), argue that the street falls under “the contested spaces of urban commons”. He goes further to state that, “the spatiality of poverty and wealth is grounded in plural perceptions of land and the social production of land uses by the wealthy and the poor. Although most spatial planners position themselves as promoters of social and ecological issues, they often neglect the relationship

between the poor and the land”. Allison Brown in her book titled “*Claiming Rights to the Streets*”, argues that public space can and should be considered a common property resource from which the urban poor can generate a livelihood (ibid). Davy, (2009), argue that since many of those who encroach the street are the poor, who cannot afford to own a piece of land within the urban Centre, then the commons are essential for their land use practices, even if the roadside offers little comfort to them. The activities that contest for space use on streets, take many forms, including: the selling of goods - whether from individual kiosks or more expansive markets; small businesses such as cafes, ‘*mama mbogas*’ (vegetable vendors), apparels, fruits vendors, vehicle repair shops; uncontrolled stops by buses, Matatus (Passenger vehicles), taxis, ‘*boda bodas*’ (motor cyclists who ferry passengers); all other informal public transport, and other unregulated parking often associated with business activities on the road reserve; there is also uncontrolled development in the built environment whereby structures are put up so close to the road without observing the building codes.

Added to this list of activities are social activities associated with the roadside which are far from being illegal. In rural areas, in particular, but also in urban areas and at entrances to towns and villages, the roadside provides a social venue. People congregate along streets to talk, smoke, and drink or watch the traffic. The encroachment of all these activities into the street, interferes with the efficiency of the street in question and ends up creating challenges in mobility. Rodrigue, (2013), states that efficient transportation reduces costs, while inefficient transportation increases costs. Therefore, areas with good streets, influences land values whereby land prices and even rent tend to be higher. This is the case, since movement of goods and services is efficient and those who reside in such areas are prepared to pay more. This research is designed to assess the Implications of Urban Street Space Use Contestation by Informal Activities along Mwioko Street in Githurai, with a view to formulate sustainable land use planning proposals that will accommodate such informal sector activities for harmonious co-existence, and development of the area.

1-2 Problem Statement

Githurai market Centre is urbanizing at a very fast rate due to its proximity to Thika superhighway, and also, the large population residing at the Centre given that it’s a dormitory for those working in Nairobi city. Currently, there exists a large open air market that is serving traders from as far as

Tanzania who bring in their produce for sale to retailers. The retailers transport the produce to neighbouring estates. While the majority of traders are based in Githurai, where they display their wares in the open air market (which cannot accommodate all), the rest display their goods along the streets. Mwihoko Street is the main distributor road for many estates in the hinterland of Githurai. It is the only tarmacked road in Githurai urban Centre, and thus all the traffic is directed there. This Street has so many vehicles for both personal and for passengers. It also serves a big pedestrian populace who come to the Centre for various transactions or travelling to and from the bus terminus en-route to or from work places. The high population along this Street has attracted street vendors who scramble for the little space along the Street, and even on sections of the tarmac; and therefore, rising tension with other street users.

The function of the street of being a place to do business, has taken much space to the detriment of the other functions. This has been due to many people viewing the street as a place to eke out a livelihood. Many of those who have encroached the street space, are informal sector activities, the majority being street vendors. Brown, et al. (2014), states that today, modern street vending plays a vital role in the urban economy, as a source of jobs, revenue and 'value added' to the economy. Street vending provides a flexible link in economic supply chains, gives vitality to urban streets, and provides affordable goods for many urban residents. Yet street vending exacerbates congestion at busy sites e.g. city centres where the facilities have not been provided to accommodate them. These informal activities are set to increase given the high population increase. The informal activities were never envisaged in the initial plan for Githurai which had set aside a small area for an open air market. Much of the land in the area is private, and mostly under residential and commercial use. Most of the building structures are dilapidated, thus requires renewal. The main challenges include: Impediment of street mobility function, lack of traffic segregation, informal activities carried on the street: street vendors, boda bodas, Matatus, cyclists, cart pushers, timber yards etc. all these have led to, congestion, accidents, and insecurity being witnessed in the study area.

There are a number of financial institutions that are operating in Githurai Centre e.g. Coop bank, Family bank, Equity bank, Post bank etc. Many supermarkets have also been set up e.g. KassMart, Nairobi Mart, Naivas and other small ones. All these serve residents of Githurai and surrounding estates e.g. K.U, Kahawa Sukari, Kahawa Wendani, Zimmerman, Kasarani, Mwihoko, Kwa

Mumbi, Kizito etc. This means the population catchment area for Githurai centre is large and therefore the centre needs some reorganization in terms of infrastructure development for efficient provision of the required services. Given the fact that the institutional framework has been rigid and has been ineffective in solving problems of contestation for space use along Mwihoko street, there is need for immediate intervention that will ensure re-organisation of space a long this street (space for commons) to accommodate compatible land uses, and separate incompatible land uses, segregate users, and also propose mixed land use in the adjacent plots.

1-3 Research Aims, Questions and Objectives

1-3.1 Research Aims

The main aim of the research is to assess the implications of urban street space use contestation by informal activities. A subsidiary aim of the research is to propose better planning approaches that can mitigate/mediate the space contestation.

1-3.2 Research Questions

This research raises a number of research questions, the main ones being:-

1. What are the major activities located along Mwihoko Street, Githurai?
2. What factors have influenced their location?
3. What are the planning and development implications?
4. How can better planning approaches be proposed for mitigating and mediating the street space use contestation by informal activities in urban areas?

1-3.3 Research Objectives

The specific objectives of the research are:-

1. To investigate and map major activities located along Mwihoko street in Githurai
2. To examine the factors influencing space use contestation along Mwihoko Street
3. To examine the planning and development implications of street space use contestation along Mwihoko street
4. To propose better planning approaches for mitigating and mediating space use contestation along Mwihoko Street.

1-4 Justification and Significance of the Study

Since Mwihoko Street is the main artery street in Githurai, if the current situation is left unchecked, it may become impassable and accidents may escalate, leading to the situation reaching critical levels and therefore, bringing Githurai to a standstill. Hence, the study on implications of urban street space use contestation by informal activities along Mwihoko Street, will come up with the right spatial, institutional, as well as identify policies, which will bring harmony, efficient mobility, and integrate informal sector activities contesting for space use, thus accommodating even the lowly in society, in our urban setup. Hence, this study is very significant in understanding how such activities can be integrated into the urban system. This project is best suited to be undertaken by the urban planning discipline given the fact that this is where things to do with space use are best dealt with. Under the discipline, compatible land uses are put next to one another, while incompatible land uses are separated from one another by being designated in different areas. Given the fact that the problem at hand is that of having incompatible land uses next to one another, the discipline of planning will come in handy to solve most of these problems in the study area.

Many studies done on informal sector activities have concentrated on how governments should provide more space to this sector, but have not brought in the element of integrating this sector into our urban system by involving private investors in space provision. The study intends to bring out involvement of private investors in space provision, and show that urban planning should incorporate other disciplines (urban road design included) in the process of bringing order to our urban centres.

The outcome of the study will be significant to various beneficiaries in that: by re-designing Mwihoko Street so that users are segregated, the tension experienced in the study area at the moment, will reduce tremendously. The study intends to come up with alternative sites for informal traders and propose innovative ways in which more space can be created from the prevailing environment. This will go a long way in reducing the tension that usually exist between those operating from adjacent buildings and the informal traders who block their business premises. The study will also be significant to urban planners in that for a long time they have not given great attention to informal sector activities which have become a norm in our urban centres. It will show how extra spaces can be created in our urban system so as to integrate such activities. At policy level, the study aims to propose that it will be mandatory, while designing urban streets, urban designers should come up with Wide Streets designs with enough space to accommodate

different users, and at the same time accommodate traders at selected sites without interfering with other users.

In summary, this study on activities competing for space on our urban streets is very significant in understanding how such activities can be integrated into the urban system during planning. It will go a long way to show how the same approach can be replicated in other towns, since many of our urban centres have been affected with the menace of informal activities competing for the small public spaces set aside for other land uses. It is through the implementation of the proposed intervention and recommendation of this study, that the benefits of integration will be achieved. Thus, this study will add knowledge about integrating informal activities in our urban system given that it is a reality that can no longer be ignored for the proper functioning of our towns.

1-5 Assumption and Limitations of the Study

The research setting on space use contestation is limited by the geographical scope of the study area, which covers Mwihoko Street - a stretch of 300 metres from the junction with Thika Superhighway, within a distance of 200 metres on either side of the street. An assumption taken by this study is that the findings, results, outcomes and recommendations can be validated and generalized for any urban street experiencing similar challenges. This study is limited to space use contestation on urban streets. An assumption taken by this study is that the outcomes and recommendations may be used in other facets of urban and regional planning encountering similar challenges. This may for instance include; space contestation on riparian reserves, urban upgrading, forest reserves, green open spaces, and land in general.

The theoretical scope of the study concentrated on the informal sector activities contesting for space use, but more weight was given to street vendors who are the majority within the study area. The research examined types of informal sector activities contesting for space use, and assessed their implications on the study area. It examined factors influencing these activities to be where they are and also looked at the opportunities that may be available for those involved. It assessed the condition of the open air market. Finally, it addressed the policy and legislative framework that guides the integration of activities contesting for space use along urban streets. The outcome helped in proposing possible intervention measures that may be applied to ensure effective and sustainable co-existence of informal sector activities on urban streets without interfering with the functions of those streets.

CHAPTER 2: LITERATURE REVIEW

In a city, the street must be supreme. It is the first institution of the city. The street is a room by agreement, a community room, the walls of which belong to the donors, dedicated to the city for common use. Its ceiling is the sky. Today, streets are disinterested movements not at all belonging to the houses that front them. So you have no streets. You have roads, but you have no streets

– Louis Kahn

2-1 Introduction

This chapter is designed to review literature that will help in understanding the implications of urban street space use contestation by informal activities. It reviews: definitional and conceptual issues, street as an emerging area for contestation, planning and development implications of space use contestation, legitimacy of street vending, case studies from success practices will also be examined, and lastly, outlines the conceptual framework.

2-2 Definitional and Conceptual Issues

2-2.1 Definition of Street

According to Urban Street Design Guide, (2013), Streets are the lifeblood of our communities and the foundation of our urban economies. They make up more than 80 percent of all public space in cities and have the potential to foster business activity, serve as a front yard for residents, and provide a safe place for people to get around, whether on foot, bicycle, car, or transit. According to <http://mentalfloss.com/> (2012), Streets connect people for interaction, while roads connect towns and cities for travel. According to Kenya's Planning and Building Regulations (2009), a street refers to a road lined with buildings including avenues, crescents, cul-de-sacs, alleys, closes, courts, places, lanes and drives. A street may also refer to any highway, road or service lane, or any land reserved for a highway, road or service lane, and includes any bridge, footway, square, court, alley or passage, whether a thoroughfare or not (Local Government - Building By-laws 1968).

2-2.2 The Concept of the Street

A clear distinction can be drawn between streets and roads. Whereas words such as road (from the Anglo-Saxon *riode*) suggest movement from one place to another, the word street (from the Latin *sternere*, meaning to pave) suggests an area for public use but not exclusively devoted to circulation (CABE, 2002). Roads are essentially highways whose main function is accommodating the movement of motor traffic. Streets are typically lined with buildings and public spaces, and while

movement is still a key function, there are several others, of which the place function is the most important (CABE, 2012 - *manual for streets*). And therefore; Streets connect people for interaction, while roads connect towns and cities for travel.

MacKenzie (2014), states that Streets are our most fundamental shared public spaces, but they are also one of the most contested and overlooked. Today, and for most of the last century, we have taken for granted the idea that our streets are primarily zones for cars, parking, and the transporting of goods. This has not been the case, however, throughout most of history. Across many cultures and times – since the beginning of civilization – the street has held vast social, commercial, and political significance as a powerful symbol of the public realm.

2-2.3 Streets Functions

The street is, by definition, a multi-functional space, providing enclosure and activity as well as movement. According to CABE (2002), Streets are the most common feature of our towns and cities: they are the veins which allow places of every shape and size to function. They exist not just for movement, but as a space that everyone shares. So pervasive are they that they constantly run the risk of being taken for granted, treated as something that can always be relied upon however much they are abused or neglected. It is assumed that they can be depended on, at all times and in all conditions. The multiple functions of streets in urban life can be summarized as: a channel of movement, a communication space, a public space, a place of social and commercial encounter and exchange, a place to do business, a political space and also a symbolic and ceremonial space in the city. Streets are regarded as a public good, the space that is collectively used by residents but not appropriated individually by anyone.

Its main functions are: to provide Circulation (Movement), for Vehicles and Pedestrians. Providing for movement along a street is vital, but it should not be considered independently of its other functions. The need to take vehicular movement into account is well understood by transport planners but the passage of people on foot has often been neglected in the past, despite the importance of this aspect of street design. Walking and cycling are important modes of travel, offering a more sustainable alternative to the car, making a positive contribution to the overall character of a place, public health and to tackling climate change through reductions in carbon emissions. The movement function of a street can be assessed by examining the volume and length of journeys normally made along it. On this basis, a residential cul-de-sac would have a smaller

movement function than a major arterial route serving a city Centre, but both can be streets. Certain categories of traffic may be given priority in the street by, for example, providing bus or cycle lanes (CABE, 2002).

Streets also provide access to buildings, provide light and ventilation for buildings. Direct access to buildings and public spaces is one of the things that distinguishes a street from a road. In most cases, access will be for vehicles and for people on foot, but sometimes may be limited to the latter. Providing frontages that are directly accessible from the street is highly desirable in most circumstances, as this helps ensure that streets are lively and active places. Pedestrian access should be designed for people of all ages and abilities (CABE, 2002).

Streets play the role of being a Route for; Drainage, Utilities and Street Lighting. Streets are the main conduits for drainage and utility systems in built-up areas. Although they are unseen for the most part, these systems can have a major impact on the design and maintenance requirements of streets. Sustainable drainage systems can bring environmental benefits, such as flood control, creating wildlife habitats and efficient wastewater recycling (CABE, 2002).

Streets are also supposed to provide Storage Space (Parking), especially for vehicles. Parking is a key function of streets, although it will not be appropriate in all circumstances. A well-designed arrangement of on-street parking provides convenient access to frontages while adding to the vitality of a street. Conversely, poorly designed parking can create safety problems and reduce the visual quality of a street (CABE, 2002).

According to Project for Public Spaces (2007), streets play the function of being a Public Space for Human Interaction, Sociability, everything from parades and protests to chance encounters. The place function is essentially what distinguishes a street from a road. Creating a sense of place is fundamental to the achievement of richer and more fulfilling urban spaces, and comes largely from achieving a strong relationship between street itself and the buildings and public spaces that frame it. A sense of place include a number of aspects of street design, like; Local distinctiveness; Visual quality; and Human interaction (CABE, 2002). The choice of Surface materials, planting and street furniture has a large part to play in achieving a sense of place. Excessive and insensitive use of traffic signs and markings and other standardized street clutter has a very negative impact on place-making. The place function is also linked to the types of land use along the street and the

activities which stem from these uses. Providing access to buildings and public spaces along the street is linked to the place function. An important principle, first established in *Places, Streets and Movement*, is that when planning new developments, place making considerations should come before the design of street alignments, cross-sections and details. Streets should be fitted around significant buildings, public spaces and important views, rather than the other way around (CABE, 2002).

Virtually all streets in urban areas perform all of these functions, and often the balance between them will vary along the length of the street. Ideally, all these facets of the street can successfully coexist, but all too often it is one function (especially the movement of vehicles) which has been allowed to dominate (Manual for Streets - UK, 2007). Getting the balance right at the right place is critical because streets are the most important part of the public realm, and are fundamental to how we live together in towns and cities. They influence our lives at the functional level (how we get around) but also in how we relate to each other and to public authorities. They are the testing-ground for how we, as individuals, share the citizenship of the places (CABE, 2002).

According to Manual for Streets - UK, (2007), other valued functions and attributes of streets and road reserves include: Provision of adequate natural light and air to the streetscape and buildings; Allow sunlight penetration to ground level; facilitate the safe and efficient movement of people and traffic and ensure the safe and functional use of the road; Provide access for pedestrians or vehicles to adjoining properties; Allow traditional urban and historically significant views to be maintained; Allow the growth and preservation of street trees; Ensure access for emergency vehicles and services; Provide for a variety of pedestrian experiences, activities and recreational opportunities; Permit emergency repairs or maintenance works on buildings; Permit hoisting of plant, machinery or materials to a building façade, floor, or roof; Permit future public improvements and utilities to be installed; Provide a safe environment for the public; Permit installation of signage, street furniture and lighting; Provide for the servicing of properties with gas, electricity, water, storm water and waste water drainage and telecommunications; Create spatial separation between buildings and break up bulk; Permit the erection of temporary structures and site amenities for building construction works; and Provide opportunities for the provision of public art, public services and other aesthetic improvements to the City.

2-2.4 Street Zones & Design Elements

CABE (2012), argue that a street is considered to be the entire right-of-way or from building face to building face in areas where buildings are situated on the front property line. Streets are further divided into zones (see figure 2.1) as follows:


- Roadway Zone: Includes travel lanes for traffic, including cars, transit, trucks, and bicycles.
- Curb side Zone: May include parking lanes, bump outs, loading zones, and other uses adjacent to the curb.
- The Pedestrian Area: extends from the curb to the face of the building and/or the edge of the right-of-way and encompasses the following three specific zones:
 - ✓ Amenity Zone: Between the curb and main sidewalk area, containing street furnishings, amenities, landscaping, and expanded pedestrian areas.
 - ✓ Walking Zone: Primary through travel zone for pedestrian foot traffic and where paved sidewalks are located.
 - ✓ Frontage Zone: Area between the sidewalk and building face. Often a 2 foot clear zone immediately adjacent to buildings.
- Intersection Zone: Area where streets intersection and location for crosswalks, traffic signals, and other controls. Figure 2.1 illustrates street intersection zones.

2-2.5 Scheme Street Designs

According to New Zealand pedestrian planning and design Guide (2008), most roads must accommodate a range of users. Their often conflicting requirements needs a balance to be struck in the level of service provided for each user group and the allocation of limited space to each. The guide further states that, to achieve an *integrated approach*, road controlling authorities (RCAs) internationally are increasingly using a different type of hierarchy called a '*road user hierarchy*' which endeavours to: bring non-private motor vehicle road users to the heart of the planning process, ensuring the most vulnerable road users are considered early on and appropriately; identify generally the importance of each travel mode for policies that impact across the various components of the road user hierarchy; and lastly identify more specifically the importance of each travel mode in localized situations based on local understanding and needs. In some cases, a user hierarchy could even potentially change at different times of the day (for instance before and after school).

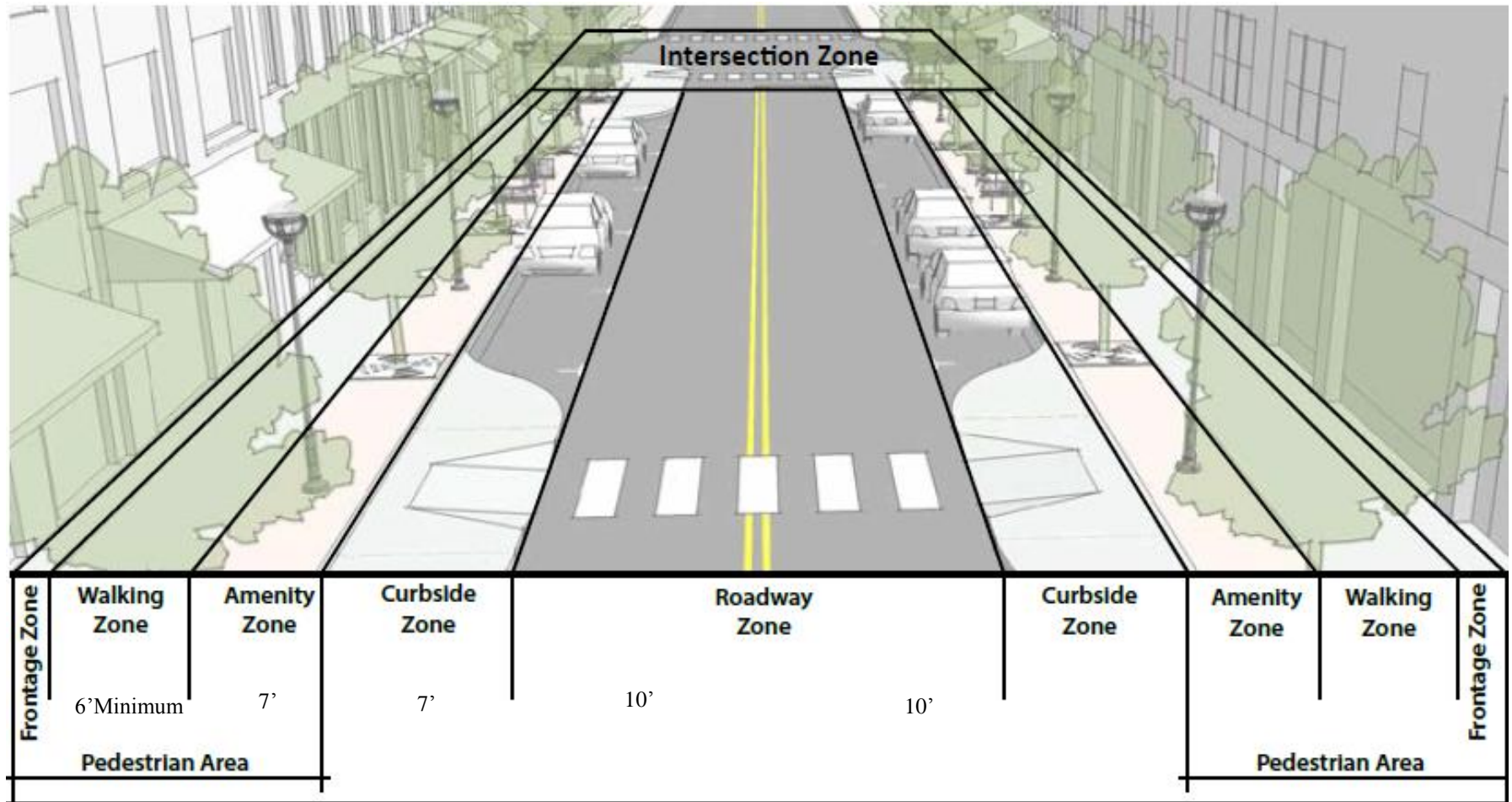
The guide further argues that such an approach requires an awareness of the impacts and purpose of the wider transport network, along with a strong understanding of the interaction of the different transport modes, and the benefits and costs of different planning decisions or treatments for each road user group. The guide argues that the first stage in a scheme development, therefore, would be to identify the importance of different road user groups (their relative positions in the hierarchy). As designs are developed they can then be assessed for their benefits and costs for different road user groups, and in particular for those that have been identified as higher up the established road user hierarchy. Manual for streets UK (2007), recommends that during a subdivision scheme, the designers should follow the user hierarchy shown in Table 2.1. The manual states that applying the hierarchy will lead to a design that increases the attractiveness of walking, cycling and use of public transport. Delays to cars resulting from adopting this approach are unlikely to be significant in residential areas.

Table 2. 1 Hierarchy of user consideration during scheme design

Consider first  Consider last	Pedestrians
	Cyclists
	Public transport users
	Specialist service vehicles (e.g. emergency services, waste, etc.)
	Other motor traffic

The manual explains further that the hierarchy is not meant to be rigidly applied and does not necessarily mean that it is always more important to provide for pedestrians than it is for the other modes, but rather, they should at least be considered first, then followed by consideration for the others in the order given in table 2.1. This will help to ensure that the street serves all of its users in a balanced way. There may be situations where some upper-tier modes are not provided for – for example, buses might not need to be accommodated in a short, narrow section of street where access for cars is required.

Figure 2. 1: Street Intersection Zone with respective dimensions



Source: CAFE Street Design Manual, 2012

2-2.6 Historical Perspectives of Streets

Young et al. (2007), argue that most historic places owe their layout to their original function. Towns have grown up around a market place, a bridgehead or a harbour; villages were formed according to the pattern of farming and the ownership of the land. The layouts catered mostly for movement on foot. The era of motorized transport and especially privately-owned motor vehicles has, superficially at least, removed the constraint that kept urban settlements compact and walkable. Stanley et al. (2007), argue that among the earliest written descriptions of cities, cuneiform inscriptions from Babylonian cities mention three kinds of streets: (1) “broad street, way of the gods and king,” (2) “narrow street, way of the people,” and (3) “blind alley” (Baker, 2009: 95). This ancient three-part classification matches our three urban scales, suggesting continuity in the significance of streets from the earliest cities to the present. In ancient as in modern cities, streets functioned as pedestrian and vehicular corridors as well as crucial locales of social interaction, political demonstration, ritual, recreation, economic production, and trade.

The Romans constructed boulevards through the city for triumphal military parades, even though these spaces were rarely used for other purposes (Favro, 1994). Chinese streets in Chang’an, during the transition from the Tang (618–906 AD) to the Song period, morphed from highly regulated space in which most activities were prohibited to informally regulated places allowing diverse activities, including commerce (Heng, 1994). Teotihuacan in Mexico had a long north-south open axis (today named “Street of the Dead”) lined by major buildings and segmented by low, stepped, wall-like platforms. At the Aztec capital of Tenochtitlan, key east-west avenues extended from the central precinct (Calnek, 1976, 2003). Roads at Xochicalco, Morelos, continued into the countryside to project state dominance even though human porters did not require them for transport (Hirth, 2003).

In many historical contexts, secondary streets have been the cultural and functional heart of urban open space, home to a wide diversity of uses. In “Arab-Islamic” cities, generally lacking in other open public spaces, primary streets functioned as critical transportation corridors between extra-mural trading plazas and urban storefronts as well as marketplaces (Bianca, 2000). Under the Islamic tradition of generative building, streets can become progressively narrower over time; Cairo’s Bayn al-Qasrayn, for example, began as a notable plaza in the 11th century but shrank to street width due to political manipulation and the consistent encroachment of residential buildings and shops (AlSayyad, 1994). In medieval European cities, streets often represented extensions of working households and became sites of economic production, sales, play, and social interaction (Mumford, 1961; Schlumbohm, 1980).

Beginning in the 19th century, Western urban planners sought to establish order by imposing open, grid-like streets in dense urban zones or in newly planned districts, a phenomenon culminating in the modernist emphasis on streets as mono-functional vehicular corridors, backed by standardized codes (Trancik, 1986; Southworth & Ben-Joseph, 1997). Informal settlements in modern developing countries, representing much of the world's newly created urban space, have trended in the opposite direction—the lack of planned open space forces transportation to share streets with a wide variety of social, recreational, and economic activities (Habitat, 1982). Housing in many ancient cities was probably constructed informally (Smith, 2010), suggesting similar patterns in many but not all pre-modern cities. Cantona, in Mexico, had a network of built streets and passageways, some converging on the main precinct but most serving neighborhoods (Cook, 2003). Aztec Tenochtitlan was honeycombed with canals and streets serving residences (Calnek, 2003).

Young et al. (2007), argue that when the regulation of roads and streets began, the spread of fire was the main concern. Subsequently, health came to the forefront and the classic 36ft wide bye-law street was devised as a means of ensuring the passage of air in densely built-up areas. Later, the desire to guarantee that sunshine would get to every house led to the requirement for a 70ft separation between house fronts, and this shaped many developments from the 1920s onwards.

Bradbury et al. (2007), argues that it was not until after the Second World War, and particularly with the dramatic increase in car ownership from the 1960s onwards, that traffic considerations came to dominate road design. In the decades following the Second World War there was a desire to achieve a clear distinction between the two types of highway. *Traffic in Towns* advised that there should essentially be two types of highway – distributor roads, designed for movement, where pedestrians were excluded or at least marginalized, and access roads designed to serve buildings, with pedestrians allowed. This approach limited the provision of multi-functional streets to the most lightly trafficked routes, an approach which had many adverse consequences for pedestrians, cyclists and the public realm. It is now widely recognized that there are many advantages in extending the use of multi-functional streets more widely within urban areas. Making attractive streets that engender a sense of place amongst local people is vital for the creation of sustainable communities (Young et al., 2007).

2-2.7 Theories of Urban Design

Figure-ground theory

This theory defines the physical spaces of a city as a solid-void pattern. It refers to building masses as the solids, which forms the exterior space with both its shape and its exterior façade. Aalto, A. & Schildt, G. (1998), argue that it is important to relate buildings with their surrounding in order to form positive voids, where people tend to use that space more densely. Susanna T. (1990), describes the relation of voids and solids as the sequences between open spaces to more closed spaces which also can be varied in different shapes. Therefore, while designing our towns designers should be aware of realities of modern urban trends which require a balance between space for buildings and spaces set aside for residents to use. In this case, more spaces should be provided where informal economic activities can be carried out without being an impediment to other space users.

Linkage Theory

Trancik (1986), argues that Linkage theory was intended to identify the relations between the spaces in more path wise way. The aim is to be understood as a try-out to make effective areas of the city linked /related according to provisioned paths. It was highly popular in 1960s and involved the organization of lines that connect the parts of the city, and the design of spatial datum from these lines relate buildings to spaces. Linkage is simply the glue of the city. Fumihiko Maki (2015), argues that linkage is the most important characteristic of urban exterior space. The important point is to make comprehensible links between discrete things. This results with the order and control within the city. When these linkages (streets) are not well spread out in urban centres, then different users tend to compete for the available few for their connectivity and linkage to various destinations. This is a major problem in the study area in that the streets are not well linked, and therefore Mwioko street (since is the only one that is tarmacked), takes much of the pressure due to inadequacies of the other streets.

Place Theory

Trancik (1986), argues that place theory adds a '*human touch*' to the other urban design theories by paying attention to the *historical, cultural and social setting* of a particular urban design. While the meaning of "space" is bounded or purposeful void with the potential of physically linking things, it becomes "place" when it is given a contextual meaning derived from cultural or regional content. Donald Appleyard (1981), in his work "*livable streets project*", where he explored the physical and social complexities of street, developed an ecology of street life. He

says people modifies their environment as a defense against traffic. He takes streets as spatial entity. Thus, the different perception people have concerning the street leads to different ways in which they use that space which in many cases may lead to conflict between users. As is the case along Mwhoko street, users have different perceptions about the street and therefore utilize it differently. Street vendors view it as a possible site with potential customers; while boda bodas, buses & matatus view it as a termini.

2-3 Street as an Emerging Space for Contestation

2-3.1 Space Use Contestation

According to Kalipeni et al, (1999), there are many types of spaces which include: real spaces, architectural spaces, imaginary spaces and symbolic spaces, such that, the term space resists a single definition in either formulation or words. Geographers' interest in the distinction between 'place' and 'space' emerged during the 1970s, when a qualitative shift in the field of geography paved the road to the development of social and cultural geography (Yakobi, 2004). Tuan (1977) locates 'space' as a general term in opposition to 'place' as material. In other words, space is nothing but the relationship between objects (Norberg, 1979).

Similarly, Madanipour (1996), distinguishes absolute space as a container of material objects in opposition to relational space that is defined as perceived and socially produced. Relph (1976), claims that place do not refer to the abstract but an experienced phenomenon. Thus, place is a defined, built or natural space that has meaning (Noberg, 1979). By implication, this phenomenological perspective urges planners to produce places not spaces. In other words, spatial practices of planning are viewed as agents in the production of place.

According to Pratt (1999), contested spaces refer to social and economic spaces where cultures meet, clash, and grapple with each other, often in context of highly asymmetrical relations of power". She goes further to state that, contested space can be identified to be space where people or ideals collide resulting in the scramble for temporary place for each player within the situation causing tension and friction among them. Contested space can vary from a very physical sense, to a completely mental state, affecting how we go about our daily operations. In this regard, contested space refers to the location on land where land uses compete for accommodation and struggle to gain control of the place.

2-3.2 Public Space and Informal Activity

The concept of public space is a broad one with a multiplicity of divergent meanings and some mainstream treatments of the subject focus on the politics of the 'public sphere' or 'civic space'

in democratic societies (Drummond, 2000). Generally, these originate in notions of unconstrained space within which political movements organize and expand into wider arenas (Mitchell, 1995:116). Alternatively, it is represented as the material location where social interactions and political activities of all members of the public occur (ibid). Such locations usually serve as common grounds where people carry out the functional and ritual activities that bind a community, including both the normal routines of daily life or periodic festivities (Carr et al. 1992).

Public Space is almost by definition urban space, and Low & Smith (2006: 3) note that in many current treatments of public space “the urban remains the privileged scale of analysis, and cities the privileged site.” In their usage of the term, ‘public space’, the interests of urban designers incline towards finding better ways of designing cities for leisure and aesthetic purposes or to enhance urban vitality and improve security (Brown, not dated).

Designers and architects also explore how physical form and spatial relationships influence people’s movement and experience of public space to facilitate social exchange and a vibrant street culture (Brown, 2006). According to Low & Smith (2006), urban public space comprises a range of *social locations* offered by the street, the park, the shopping mall and local neighbourhoods etc. Brown (2006) also outlines the spatial specificity of urban public space as comprising physical locations such as the square, pavement, sidewalk, boulevard, promenade, esplanade, plaza, piazza, park, playground, mall, arcade and market. Typically, these physical locales have a social significance as being “very recognizable geographies of daily movement” (Low & Smith, 2003:3).

Therefore, more than the sheer vacuity of physical spaces, buildings or objects, people and events and their relationships therein constitute the centrality of the conceptions of urban public space. As Harvey (2006:17) acknowledges, “we do not, after all, experience the city blankly.” According to Harvey (2006), urban public space may be interpreted to include “the long drag of the commute, the jostle of subway crowds, the blandness of the shopping mall...the panhandlers [and traders] on the sidewalk etc.” (ibid)

It is only intuitive that physical spaces that accommodate the social relations in cities will normally belong in the non-private realm. Webster (2002) identifies the totality of these spaces as the ‘*public realm*’ and defines the ‘public realm’ as the *spatial domain* within which de facto or de jure economic or legal consumption rights over a local public good attribute are shared by all individuals within a city for diverse purposes including circulation, transportation,

congregation and *informal activity*. Such spaces are thought of as ‘public realm’ because they are jointly consumed by the public and they are contrasted with the private realm – space consumed privately (ibid). Traditionally, rules of access, the source and nature of control over entry, individual and collective behaviour sanctioned in specific spaces differentiate public from private space (Lead, 2003; Webster, 2002; Benson, not dated).

Low & Smith (2006: 4) note that whereas private space is demarcated and protected by state-regulated rules of private property use, public space, while far from free of regulations, is generally conceived as open to greater or lesser public participation. Nonetheless, the conceptualization of urban public space is beyond simple or neat delineation of physical spaces into private and the public. There are situations where urban spaces may not be clearly identifiable as either public or private. Brown (2002) argues that in such circumstances, urban public space ought to encompass all the areas of the urban environment that are not exclusively private but that has some degree of accepted and legitimate public or community use. These include spaces between buildings and the plots on which they stand (Webster, 2002), areas of land in government ownership including road reserves and underdeveloped or ill-defined spaces (Brown, 2002).

The literature on urban space strikingly inclines towards the urban experiences of the West drawing ample examples from Europe, North America and Australia. Set in western constructs, experiences and interpretations of the city dating as far back as Greek antiquity, there is little discussion about urban public space in developing cities where urban space constitutes between a quarter and a third of all space (Brown, 2006; Brown 2002; Drummond, 2000). The disproportionate representation both narrows the scope of the concept, rendering it inappropriate for effective analysis of important trends in the urban built and natural environments of developing cities.

For instance, in many developing cities various forms of space in the public domain have evolved from their initially intended functions to embrace a diverse range of informal economic activities. These spaces include streets, sidewalks, pavements, road reservations, walkways, cab and mini-van stations, railway terminals, spaces between buildings etc. The expression of urban public space has come to be defined by the architecture of the street and the diversity of informal economic activity it accommodates. According to Brown (2006), this phenomenon has emerged as the fundamental defining character of the image of towns and cities.

2-3.3 Factors that Influence Space Use Contestation

As much as streets may have great designs, but the users have different views on the usage, then such streets cannot provide the community with its full benefits. Street as a public space, change and take various forms for different people according to their values, ideologies, opportunities and interests. These values in most cases, go against the norms and rules set by the planners, urban designers, architects and surveyors. The multiplicity of publics with different interests on the streets, leads to street space use Contestation. Factors that influence people's perception and therefore leading to space Contestation include:

a) Individual's Interest

Healey (1993), argues that individuals have different interests and needs, and this makes it difficult to identify common traits in a singular civic sense. She further says that social forces such as globalization, polarization, and fragmentation; have made any singular identity more of an inspiration than a reality. In reality, there are multiple publics conflicting and divergent; competing for scarce resources, and left to their own devices to create their place. These publics, or discourse communities, have their own goals, ways of understanding, and means of furthering their aims (Healy, 1993, & Swales, 1990). The need for planners to define a singular public interest can reinforce and create conflict & tension between the interests of various publics or discourse communities. Agonisms and tensions are usually experienced when police power is used to enforce the singular public interest created by the planner. Those in the informal sector are roughed-up and chased out of spaces they occupy. Thus, the situation deteriorates to a cat and mouse chase between the police and the street vendors.

b) Public Space

Not only are people becoming more private, but also there is a general consensus that public space is increasingly privatized and exclusionary in regulatory and physical terms (Mitchell 2003; Soja 1996; Davis 1990). This is partly a response to increased concern for order and security in the public realm. Following severe disinvestment in cities, especially central cities, the urban environments worldwide have witnessed and continue to be impacted by physical, economic and social deterioration. Private property owners have abandoned buildings leaving them to deteriorate. Concepts, such as the broken windows, placed significant blame on the quality of public spaces proclaiming that an apparent lack of order invited and bred crime (Kelling 1982). Such abandoned spaces tend to be viewed by others as public space that can be converted for some other use. It is a natural reaction for cities and planners to exhibit concern for these marginalized and deteriorated areas and the condition of the public space. There have been a myriad of responses and trends to combat the condition of the public spaces that inform

our perception of communities. When the planner tries to provide guidance on how best such areas may be utilized, their view may contradict those of many competing views of new occupants who with displeasure may resist any attempt of reordering the affected place according to the planner's view.

c) Right to the City

“The right to the city” deals with social relations, alienation and the implications of the official power structure in controlling and regulating the accessibility and function of public space (Lefebvre, 1996; Mitchell, 2003, Banerjee, 2001). De Soto (2000), argues in his book *“The Other Path”*: that the "informal economy is the people's spontaneous and creative response to the state's incapacity to satisfy the basic needs of the impoverished masses" (p. 14). Hall & Pfeiffer (2000), argue that the urban poor of the year 2000 have *"built their own city without any reference whatsoever to the whole bureaucratic apparatus of planning and control in the formal city next door"* (p. 15). The practice of place-making implemented by those that live and use a space, and hence, define the experience and sense of place, has been referred to as *“the right to design the city”* (Mattila, 2002). This right to design the city is limited. This is partly because it has been determined that it is in the public interest to exert influence over the experience of public space through ordinances, land-use policy, design guidelines, redevelopment strategies, surveillance and police powers (Loukaitou-Sideris et al. 2005). While in most times these strategies are effective in achieving the intended results, it should also be noted that these regulations have effectively de-emphasized, privatized, and excluded activities and people from public space (Loukaitou-Sideris et al. 2005). The implications of these regulations and their effect on the production and experience of space have raised concerns for social justice (Stout, 2008). Blomley (2004), argues in his book (*Unsettling the City: Urban Land and the Politics of Property*), that in cities the ownership model of properties is premised on the *‘right to exclude’*, but such premise is challenged by those who experience exclusion, and therefore, constantly devise ways and means to circumvent the exclusion.

d) Democracy and Participation

One way in which planners and designers address social justice is by promoting the concept and practice of participation. There has been a championing of democratic processes in planning as one of the most important opportunities for research (Kalinski 2006). Public participation, is expected to increase in the planning process in Kenya since the enactment of the new Constitution (2010). Still, participatory strategies of research are often limited in their reach and feasibility for practical use by planners. The formal nature and expert knowledge of planning therefore fails to be inclusive of the complexity of social relations (Stout, 2008).

According to report of Project for Public Spaces (2007), the issues associated with expert place making practices are complex and problematic, leading to a number of problems with the current trends of expert place making practices. The report states that there is growing heterogeneity and divergence of the public interest which is difficult for planners to serve through a centralized and generalized approach to place making. The report further argue that the control and regulation of public space excludes certain persons and activities explicitly and indirectly limiting the possibility and diversity of experiences. The report concludes by saying that the result of place making is defined by those capable and willing to participate through official processes, but unfortunately, the poor are rarely consulted and therefore, have no means of participating in the process of place making. According to Stout, (2008) such exclusion leads to the poor creating their own spaces in the city that are in contradiction with what the planner and those that participated in the planning process, had in mind. With an understanding of the growing separation between “expert producers” of knowledge and the life of “local consumers”, the idea of the everyday developed by Lefebvre and deCerteau serves to legitimize and strengthen the political dimension of everyday practices (Stout, 2008).

e) Every day Public Space/Loose space

It is from these basic ideas on the philosophy of everyday life that recent ideas of everyday public space and loose space have become part of the lexicon in theories of urban design and that offer new territory for understanding their democratic and participatory aspects. Every day public space includes spaces that have been appropriated for temporary uses and have “multiple and shifting meanings rather than clarity of function.” Everyday spaces represent a bottom-up approach to re-configuring urban space that lies outside the professions of planning and design where users are able to redefine the function a space should accommodate. Most importantly they are distinct from the “normative public spaces, which produce the existing ideology, these spaces help to overturn the status quo” (Crawford, 1999: 28).

Generally, loose space is similar to everyday space. It is made up of the publicly accessible spaces in the city and those that offer a freedom of choice as well as physical elements that a user can appropriate and re-configure. Loose space is predicated on group and individual activities (Franck and Stevens, 2007: 2). Loose space can be planned as open space or as leftover spaces that are usually publicly owned but void of any determined or exercised function. Loose space affords opportunities and new possibilities to occur. It is the “indeterminacy of loose space, along with free access, that opens the space to other possibilities: to activities not anticipated, to activities that have no other place, to activities that benefit from a relative lack of control and economic constraints” (Franck & Stevens, 2007: 17).

With this looseness comes a mixture of people with diverse interest, backgrounds and intentions. This diversity “nurtures particularity in the urban public realm, sustaining local practices and allowing the identity of a place and culture to flourish” (Franck and Stevens, 2007: 21). They further add that the ability to afford new meaning, intrinsic to the daily life of users, enables urban space, public or private, to address the complexity of contemporary urban condition. It is the reflection of values and beliefs in all their diversity and conflict that offers the potential for lived, every day and loose space to engender stronger cultural and social significance in a place and to provide for more democratic and participatory places.

f) More Meaningful, Diverse and Democratic Spaces

Because local practices allow for a more direct relationship between the user and the environment, spaces can become more meaningful and significant. Not only do local practices potentially produce more meaningful spaces because they exhibit the cultural and social relationships inherent in our understanding of space, but should also produce more diverse spaces (Crawford, 1995).

A community that utilizes certain means for various ends and defines space differently from another community can coexist in the same space. The places of different publics can overlap and inform others’ experiences. This diversity, when made manifest, is a means of various groups building tolerance, consensus and understanding, in effect more justice. In this regard local practices have interesting implications for the participatory nature of planning. Viewing the individual actions as decisions that affect the experience of space, suggests that local practices enable people to participate in production of space in ways that are related to their values and cultural differences (Kalinski, 2006).

Not only does everyone have the right to the city, their everyday activities exercise their right to design the city. This exists outside of traditional participation, but the dialogue that places affords can be read as participation and signify demands of underrepresented citizens. Innovations in participatory design processes as well as in the democratic functions of governing are expanding. Considerations of the tools and experiences of users are becoming critical for all planning practices (Kalinski, 2006).

Specifically, local practices of production of space offer planners with unlimited potential resources for informing and implementing expert interventions in place making. The expert and non-expert knowledge can enable the “communal practice of creating beloved spaces that also enrich the basis for knowledge and our ability to situate knowledge in place while opening spaces for multiple and contested meanings” (Schneekloth & Shibley, 2000: 133).

With the understanding of the nature of space use Contestation and the realms of space under which it operates, this research seeks to allow for more meaningful, participatory and democratic places, especially in locations where space is being contested by different groups that have access to different participatory and power structures. In moving out of the realm of expert practice we create new opportunities for place-making, to contribute to the vitality of everyday life (Schneekloth & Shibley, 2000:130).

2-4 Planning and Development Implications of Space Use Contestation

Given the fact that the main functions of a street is: to provide circulation, for vehicles and pedestrians; to provide access to buildings, and the provision of light and ventilation for buildings; to provide routes for utilities; to provide storage space - especially for vehicles; to provide public space for human interaction and sociability - everything from parades and protests to chance encounters; - nearly all streets in urban areas perform all of these functions, and often the balance between them will vary along the length of the street (CABE, 2002). Ideally, all these facets of the street can successfully coexist, but in most cases it is one function (movement of vehicles) which has been allowed to dominate. Getting the balance right at the right place is critical because streets are the most important part of the public realm, and thus fundamental on how we live together in towns and cities. They influence our lives at the functional level (how to get around) but also in how we relate to each other and to public authorities. They are the testing-ground for how we, as individuals, share the citizenship of the places where we live and work. A famous court case on the use of the highway, summarizes the duties which arise from sharing this common space:

'The law relating to the user of highways is in truth of the law of give and take. Those who use them must in doing so have reasonable regard to the convenience and comfort of others, and must not themselves expect a degree of convenience and comfort only obtainable by disregarding that of other people. It is the price they pay for the privilege of obstructing others.'

(Harper v. Haden & Sons Ltd 1932)

Street space use contestation may have various implications on the streets affected. According to the ILO (2002), street vendors are often viewed as a nuisance or obstruction to other commerce and the free flow of traffic. Their encroachment of road reserve results to absence of clear street zones that leads to narrowing of the street. The ILO report further argues that the struggle for control of space on the street leads to disorder resulting to: conflicting land use activities, spill over into sideways, streets & open spaces. Another result they noted is the environmental degradation due to enormous waste generated by various activities. The report also highlights the increase in accidents on the affected streets. The report further notes that demonstrations, chaos & battles results when authorities decide to remove traders from

occupied spaces. According to Tshedy (2016), encroachment of building structures onto road reserves is another impact that results from street space contest and thereby interfering with the functions of the street. The next section attempts to help explain how these groups manage the spaces they occupy.

2-4.1 Informal Activities on Urban Streets

The informal sector constitutes economic activities involving the production and distribution of goods and services that are not registered and regulated by the state or local government in contexts where similar activities are regulated (Sinclair, 1978: 84; United Nations, 1996). Some of the characteristics of the informal sector activities are: small scale, labour intensive, low fixed costs, use of simple technology, reliance on family labour, use of personal or informal sources of credit, non-payment of taxes, relatively easy to establish and exit (Hart, 1973; Fidler and Webster, 1996; Hope, 2001).

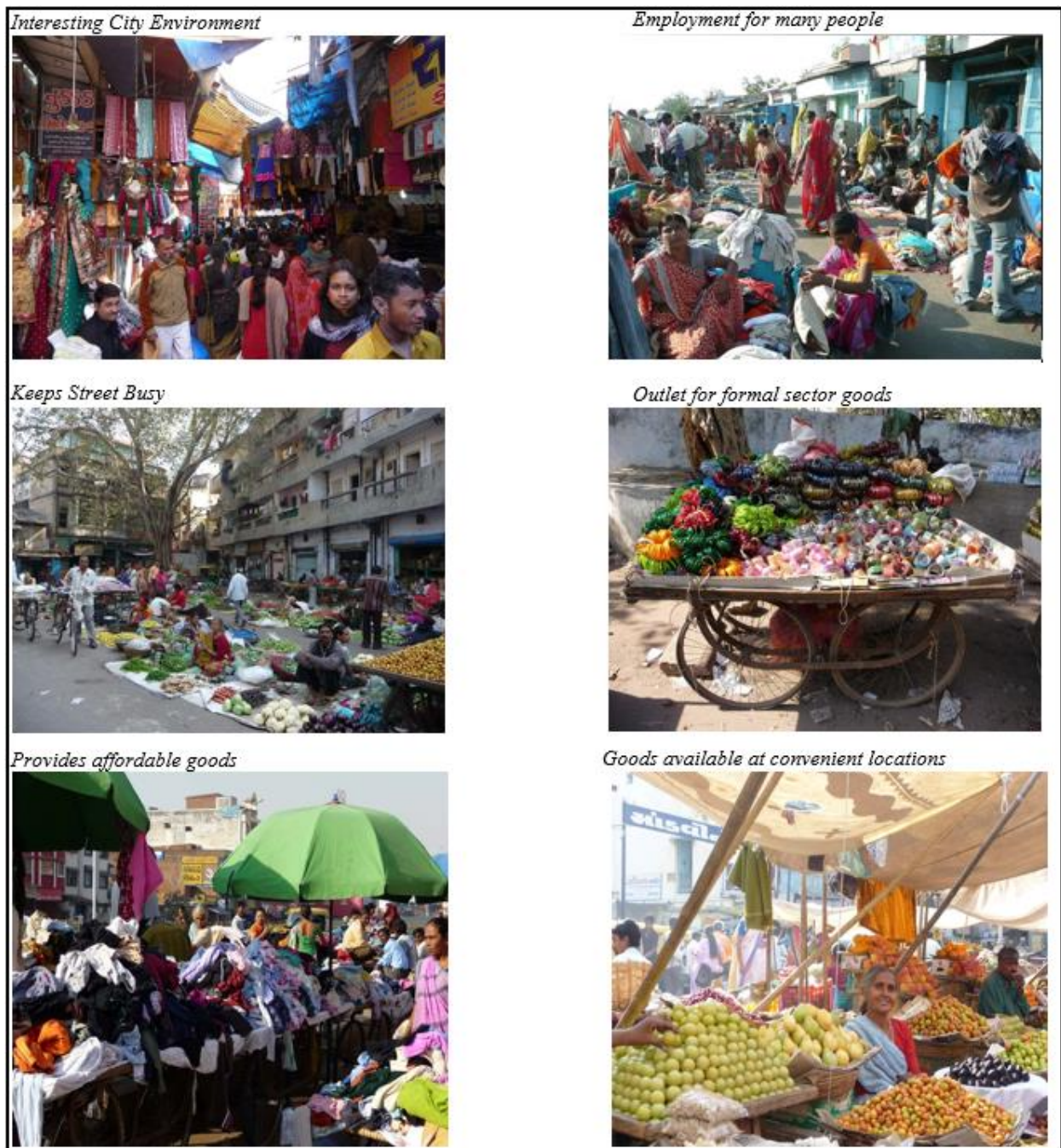
Brown et al. (2014) states that the most common form of informal activity that is witnessed on many streets, is street vending. For generations, street vending has provided vibrancy, colour and a market outlet in many cities. However, as the 21st century progresses, the dynamic growth of city populations, the scale of physical development, and globalizing economies, create new challenges for street vendors, who face changing political, economic and social contexts and increasing competition for space.

Brown et al. (2014) argue that today, modern street vending plays a vital role in the urban economy where it acts as a source of employment, revenue from taxes and ‘value added’ to the economy. He further states that street vending provides a flexible link in economic supply chains, giving vitality to urban streets, and provides affordable goods for many urban residents. But he cautions that street vending may exacerbate congestion at busy sites (e.g. city centres where competition for space is acute), where vendors may lack the facilities for ‘decent work’.

Case Study 1 - Street Vending in India

Literature review reveals that Street vending provides many opportunities to a large population of the Indian society. According to Inclusive Design for Street Vendors in India (2014), street vending provides self-employment to a large number people. The report argue that street vending can create an interesting city environment with all kinds of goods on display. It also adds that street vending keeps the street busy, safe, providing goods and services at convenient locations and at affordable prices. Plate 2.1 attempts to highlight this positive story;

Plate 2. 1: Informal Activities on Urban Streets - Street Vending in India



Interesting City Environment

Employment for many people

Keeps Street Busy

Outlet for formal sector goods

Provides affordable goods

Goods available at convenient locations

Source: *Inclusive Design for Street Vendors in India (2014)*

Problems that face street vendors

According to *Inclusive Design for Street Vendors in India (2014)*, street vendors in India are faced with a number of problems in the course of their work. Top on the list of problems is the lack of vending space e.g. surfaced pavements and secure vending sites. The report argue that vending sites lack facilities that are essential to a good working environment. Such facilities include; proper shelter, proper drainage along the street, and non-availability of water and toilets. The street vendors also lack storage facilities for their goods. Plate 2.2 illustrates this.

Plate 2. 2: Problems Facing Street Vendors



Source: *Inclusive Design for Street Vendors in India (2014)*

Problems for other street users

According to inclusive design for street vendors in India (2014), as much as street vending has had positive effects to society, on the other hand there are a number of problems that are associated with street vending. The report states that street vending may sometimes cause problems to other street users in that it takes up street space and at the same blocks pavements and parking space and therefore cause congestion to other street users. This is illustrated in plate 2.3;

Plate 2. 3: Problems Street Vendors cause other street users



Source: *Inclusive Design for Street Vendors in India (2014)*

Case Study 2 - Buildings Encroaching onto the Street Area

A road reserve (as shown in section 2.1.4) is a legally described area within which facilities such as utility lines, roads, pedestrian way, and associated features may be constructed for public travel. There's a problem in many urban centres, where road reserve encroachment has been experienced. The encroachment becomes a challenge to deal with as there is resistance from those who have encroached (Tshedy, 2016). Below is an Image of Quthing Showing Encroachments and "Pinch" Points. In areas with Single Street, buildings either residential or commercial, are lined on both sides and in many cases, have encroached into the road reserve. Mostly you find cars parked on pavements where pedestrians are supposed to be walking, and plans to expand such a road are limited (Tshedy, 2016). See pates: 2.4, 2.5 & 2.6.

Plate 2. 4: Image of Quthing Showing Encroachments and "Pinch" Points



Source: Tshedy, 2016

Plate 2. 5: Imagery of Quthing



Source: Tshedy, 2016

Plate 2. 6: Extraction from the imagery of the urban centre



Source: Tshedy, 2016

Plate 2.6 shows an extraction from the imagery of the urban centre. The Polygons which are deep green in colour illustrate buildings in the road reserve, which is shown in a brownish colour. Such Building Encroachment interferes with both pedestrians and vehicular movement, and also the placement of utilities along the affected street.

2-5 Legitimacy of Street Vending

The study on street vending lacks both a well-defined theoretical framework and analytical rigour. As a segment within the informal sector, debates about street vending are subsumed within the theoretical discourses on the informal sector. Since its debut in development studies, debates on the informal sector tend to be polarized into two grand discourses in socioeconomic debates: the Reformist & Marxist schools (Nattrass, 1987), even though other discourses have recently emerged i.e. the gender perspective, the health & environmental concerns, and other debates around street vending (Jimu, 2004).

2-5.1 The Reformist School of Thought

The reformist school draws inspiration from the observations of the International Labour Organization (ILO) mission to Kenya in the 1970s; Hart's discourses of the informal income opportunities and urban employment of Accra, Ghana, in the 1970s and other country based studies in the 1980s and 1990s; and the World Bank (WB) and African Development Bank reports. The reformists perceive the informal sector as an important sector having vast vitality for employment creation, on job training or developing entrepreneurial skills, and promoting economic growth (Fapohunda, 1985; United Nations, 1996). This view has been echoed in a large body of literature in developing countries experiencing precarious socio-economic

prospects due to declines of the formal economy, rising unemployment and underemployment, and rising poverty levels (Rogerson and Hart, 1989; Hope, 1997, 2001). The general feeling is that poor socio-economic prospects reflect the failure of conventional economic wisdom, one that focuses attention on the government and the private sector as engines of economic growth, employment, prosperity, success and general welfare of the people (Jimu, 2004). Considerable rhetorical emphasis is placed on the potential role of the informal sector in alleviating poverty and unemployment. The idea is to go informal or at least to recognize and promote the informal ways of economic life popularly termed as the informal sector. However, there is little clarity about precisely how such stimulation should occur, although it is acknowledged that the competitiveness of the informal sector derives from a lack of bureaucratic and hierarchical structures, unregulated operating environment, and informality, making business in the informal sector cost-effective and profitable to the participants. Often, the argument has been that, to enhance the benefits emanating from the informal sector, focus needs to be on securing an environment free from bureaucratic constraints. However, it could as well be argued that, the lack of regulation is a disincentive as it jeopardizes the vitality of the informal sector chiefly because as a non-tax paying sector, governments are swift to disregard or at best, to ignore it completely with grave consequences. Although there is growing toleration and acceptance of the informal sector, is it realistic to expect governments to be proactive in promoting a sector that makes no direct contribution to the tax base or revenue? Should the government invest resources ameliorating such concerns as: inadequate provisions for premises, barriers of access to credit and finance, inadequate social infrastructure and other public support and minimal development assistance to a sector which makes little contribution to the tax base? (United Nations, 1996: 17; Esim, 1996: 142-3). In the context of this study, the reformist school of thought may be regarded as a pro informal economic activities since it supports its existence by taking cognizance the critical role it plays in the wellbeing of society – where it can contribute to poverty alleviation through provision of employment. Therefore the reformist school of thought is in support of the objectives of this study which ultimately intends to solve the problem of street space contest by accommodating all street users.

2-5.2 The Marxist school of thought

The Marxist school focuses on the structural dependency and exploitative relations between the formal and informal sectors. In Marxist discourses, (Nattrass, 1987: 861), the informal sector is a 'marginal' sector involving 'petty commodity production'. As a 'marginal' or a 'petty commodity production' sector, Marxist theorists argue that the informal sector is just a distinct

'marginal pole' which by acting as a reserve army of labour and producing or offering cheap, poor quality, subsistence goods and services; facilitates capital accumulation in the formal sector (Tokman, 1978; Moser, 1978). By implication, the participants in the informal sector or *'the dangerous classes'* (Fapohunda, 1985: 19) make little contribution to national gross domestic product (GDP). This means that there would be very little loss to the economy, as a whole, if the informal traders are taken off their occupation. Such a view is hostile to the informal sector and governments pursuing this line of thinking do not see any need to provide physical, economic and social space for informal economic actors, such as street vendors.

Such view is what usually lead street vendors to create their own space in urban areas from where to operate contrary to vision of the urban planner and designer. It is however critical to recognize that the informal sector is not just subordinate to the formal sector, as Marxists posit, but that, it compliments, if not challenges the formal sector. Although both informal and formal sectors of an economy, are subordinate to the structural constraints of the broader national and global economy, the informal sector is a challenge to the formal sector, because it enhances social justice by accommodating people not considered fit in the formal sector, by undermining and even displacing the formal economy (Emizet,1998: 129). In the context of this study, the Marxist school of thought goes contrary to the objectives set out since it tends to delegitimize the existence of informal sector by referring to it as; a distinct marginal pole activity that is subordinate to the formal economy, and therefore encourages those traders in the informal sector to be taken off their occupation. Such a view that cannot be pursued in the study area since doing so will be running away from current urban realities.

2-5.3 Health and Environmental Issues around Street Vending

Street vending is blamed for contributing to environmental problems. Street vendors are noted for erecting structures, which do not by any means conform either to building codes, or zoning regulations. Street vendors sometimes take-over sidewalks and force crowds out into the street creating serious traffic snarl-up. Street food vendors are noted for generating excess litter, which stretches the capacity of sanitation departments to keep the urban area clean. Street food vending also poses health risks, particularly the spread of food-borne diseases (Bromley, 1978; Rogerson and Hart 1989; Murry, 1991). Again street vending is a security concern; it encourages crowding of people in the streets, thereby providing a haven for criminal activities (Rogerson & Beavan, 1985). No wonder street vending is regarded as a social evil and an affliction to be purged. Aesthetic, social, environmental and economic concerns highlighted above minimize the comfort that is hypothetically a characteristic of urban life. Street vending

is regarded as an inappropriate form of earning a living and inconsistent with the ideals of economic life for the city. Taking cities as the abode of modernity, one would be forced to argue that street vending is inconsistent with modernity. Suffused with the ideology of modernization, local and national governments, planners etc., may consider street vendors as 'obstacles' in the way of modernization (Post, 1996). In the context of this study, the health and environmental issues around street vending may be true to a certain extent, but others are an exaggeration. Some research have shown that street traders provide an extra eye on the street, since criminals will not dare steal when there are many eyes looking at them. The urban planner should not consider street vendors as 'obstacles' in the way of modernization but rather a reality that should be recognized and accommodated in our urban system.

2-5.4 The Gender Perspective

The potential of the informal sector to promote social justice becomes clearer when one takes a gender perspective, which focuses on the level of participation in the economy by males and females. Studies in Africa and other countries in the developing world, indicate that women constitute the principal labour force in the informal sector, particularly in such activities as food and beverages, retail trade, pottery, basket weaving and cross border trade (Murry, 1991; United Nations, 1996). A sectoral analysis of women's participation in the informal sector, for instance, in the Democratic Republic of Congo (DRC), the Gambia and Zambia, indicates that women are highly involved making 94.1, 88.9 and 90.6 percent of retailers, respectively (United Nations, 1996:11). Researchers have argued that the dominance of female participants in the informal sector is a factor of low education and employable skill levels among women, which prevent a majority of them from directly enjoying the benefits of a growing formal sector. However, radical feminists would argue that the trend reflects the gender imbalances (with women relegated to the informal sector) inherent in patriarchal societal arrangements that favour males to females, in education and skill training and employment. Hence, majority of those contesting for space use on streets are women given the fact that they are financially disadvantaged compared to their male counterparts, who can easily acquire spaces to operate from or use their might to occupy more vantage point as compared to their female counterparts.

2-5.5 Lessons Drawn in the Legitimacy of Street Vending

In summary, as a most conspicuous aspect of the urban informal sector, street vending is caught within this matrix of pro and counter arguments of the informal sector. To the reformist, the economic value of street vending cannot be overemphasized. Street vending contributes to job

creation, income generation and distribution, and conveniently provides goods and services (Murry, 1991). In this regard, street vending provides a viable alternative for subsistence living in urban areas to formal employment and the parasitic or anti-social occupations like theft, prostitution and destitution (Murry, 1991).

Hart (1973), one of the pioneers in the informal sector scholarship, would argue that, it is a buffer against instability and insecurity of work and income opportunities among the urban poor. Street vending should therefore be seen as a survival strategy for the groups of people relegated to work and eke out a meager existence in 'the dungeons of the informal sector' (Rogerson and Hart, 1989: 29). Trading on the streets is or represents one particular avenue of 'legitimation and recognition' for urban residents who discover that the 'promises of modernity are fast becoming a broken dream for all but an elite few' (Nyarnnjoh, 2002: 118, 120). Instead of engaging in criminal activities, a considerable number of people settle for street vending to make ends meet at the same time providing conveniently, cheap consumer goods at negotiable prices. On the other hand, Marxists and administrators or governments pursuing this line of thinking would perceive street vending less of an opportunity and more of a disincentive.

Critics, often from middle class orientations, the educated and those highly placed in society, perceive street vending as a social problem and the street vendors as saboteurs of the urban economy. Street vending is also perceived to be an inefficient, backward, irrational, and frequently unhygienic form of economic activity. Often street vendors are paraded as tax evaders (income tax, surtax, even market fees) and illegal consumers of public services and spaces. City authorities are apt to argue that street vendors compromise efforts to institute order in the organization and utilization of urban space and the satisfaction and efficaciousness of urban life. These arguments are illustrated by the street vendors' conduct of business (Jimu, 2004). Generally, from all these views, the pros for the continued existence of informal economic sector activities outweigh the cons propagated by some researchers. And therefore, this goes on to support the objectives of this research which is to integrate the informal economic sector activities to our urban system. Thus, this points to a fact that if informal economic sector activities along Mwioko street can be integrated into urban planning of Githurai urban centre, many of the problems experienced will be minimized.

2-6 Innovative Planning Approaches to incorporate Urban Street Vendors: Case Studies

Many countries have come up with policies to ensure that streets function well in terms of being: a channel of movement, a communication space, a public space, a place of social and commercial encounter and exchange, a place to do business, a political space and also a symbolic and ceremonial space in the city. The following Case studies attempts to demonstrate this:

2-6.1 Case Studies from Asia

Normal planning procedures provide various opportunities for vending on under-used space, or the allocation of space through normal planning and zoning procedures. The following case studies illustrate three types of planning intervention that have provided space for street vendors:

a) Incidental space – identified through community led design: Jamalpur

Jamalpur Market, Ahmedabad, is a vegetable market accommodating about 675 vendors, at the eastern end of Sardar Bridge at the junction of Bhagtacharya Road and Jamalpur Road, which are connected by a new flyover. The informal market lies outside the Sardar Patel Agricultural Produce Market Committee (APMC) market, the vegetable and grain wholesale market for the district. Vendors buy in bulk from the main market and sell in smaller quantities along the street. According to SEWA (2012), many attempts had been made to solve congestion problems at Jamalpur...

1975 APMC shifted to Jamalpur; wholesale market attracted a few vendors

1979 Vendor numbers increased to 90

1985 Riots – more vendors shifted to Jamalpur for safety

1996 Vendors given demarcated space under Clean City campaign by AMC

2002 AMC built platforms for vending at an open plot beside the bridge

2003 Market and security poor, so vendors shifted back to the original place

2004 SEWA form a trust for vendor members, Jamapur Vechnara Bajar Sewa Samiti

2004 AMC wanted to allot riverside space to other vendors; vendors filed a case

2006 Court passed stay order

2008 Increase of vendors due to financial crisis; SEWA regulates vendors

2008 Flyover built under JNNURM project to reduce traffic congestion at junction

Many vendors were displaced by construction of the flyover, but this also created an opportunity. Led by SEWA, which has a strong membership in the market, the vendors argued that shifting the market under the flyover would reduce traffic conflicts and give them shelter.

Plate 2. 8: Market along the road next to APMC



Plate 2. 7: Wasted space, with potential for trading



Source: Research by SEWA, 2012

In 2011, SEWA prepared a design proposal to accommodate 249 vendors under the flyover, and negotiated with AMC for approval. The scheme is now implemented and ready for occupation as can be seen in plate 2.9 & figure 2.10. The rest of the vendors were to be given space near the flower market.

Plate 2. 10: Trading from the ground - before improvement

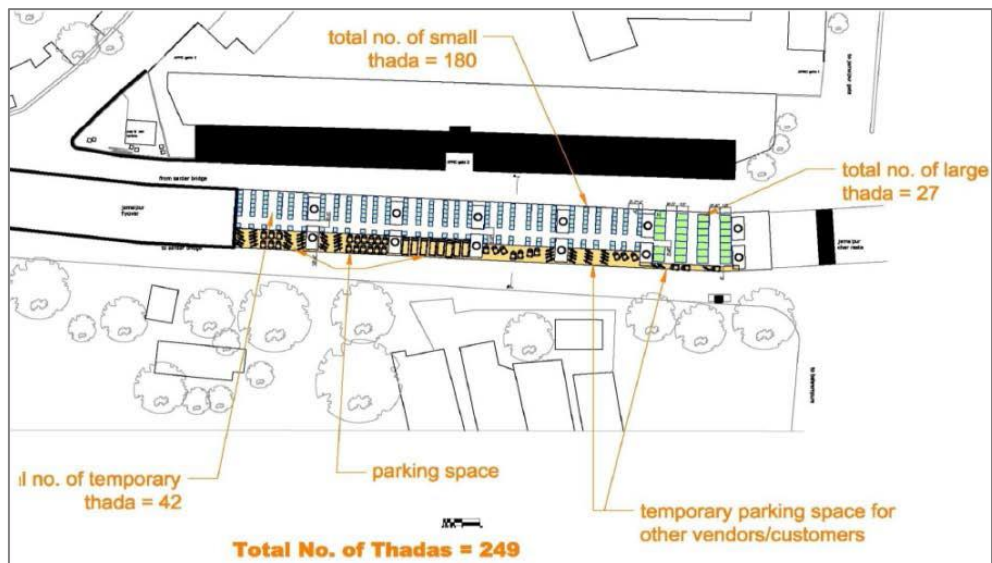


Plate 2. 9: The new platforms - not yet in use



Source: Research by SEWA, 2012

Figure 2. 2: The Natural Market – Proposed Schematic Solution



Source: SEWA Proposal, use of incidental space under Jamalpur Bridge, Ahmedabad

b) Markets identified through planning legislation

Saiyadpura market

Under the Gujarat Town Planning and Urban Development (GTPUD) Act, 1976, Town Planning Schemes must be prepared for existing and new areas. These allow for the allocation of land for housing, retailing etc. In Surat, the GTPUD has been used to allocate vending areas for convenience goods (vegetables and food items) in housing schemes, as in Saiyadpura Market. Saiyadpura is primarily a meat market, catering to the local area. The market also includes a Vegetable Market constructed by the Surat Municipal Corporation (SMC). SMC has provided the vendors with platforms and has constructed a semi-permanent tin roof over the whole market. SMC collects Rs. 2- 3/- per day for using the space, and there is storage inside the market.

Plate 2. 11: Vegetable Market at Saiyadpura



Source: Research by SEWA, 2012

Bhatar market

At Bhatar Market, in 2011 Surat Municipal Corporation (SMC) allocated spaces for street vendors next to an SMC housing scheme. Vending times are 10:00 – 13:00 and then again 16:00 – 22:00. SMC officials visit once or twice in a month to collect monthly fees of Rs. 50/- to Rs. 100/-. Vendors can store their goods and accessories in the market itself.

Plate 2. 12: Bhatar Market - Fixed stalls on raised platform



Source: Research by SEWA, 2012

Time-sharing of space - rotating market: Bitten Market

In Bhopal, Bitten Market operates for 3 days a week on Tuesdays, Thursdays and Saturdays. On other days, vendors sell elsewhere in the town. The market is located on a large open space that is usually a playground and park. Bhopal Municipal Corporation (BMC) has provided basic facilities, including a raised platform for the market. The management arrangements include the following: Daily vending fee of Rs. 20/- collected by BMC; Electricity provided by private contractor, for which vendors pay an extra Rs.20/- day; Vending area demarcated from footpaths by different coloured paving, but with no change of level; Seating provided on raised platforms; Shelter provided by vendors who put up temporary shade, using plastic sheets, bamboo and rope (plate 2.13); Pay toilets and drinking water provided; Space allocation for each vendor is 1.8m x 2.4m. The vendors are not licensed – due to the fact that the sites they operate from are temporary and not permanent.

Plate 2. 13: Time-sharing of space – with Temporary shade



Source: Research by SEWA, 2012

Time-sharing of space: Sunday market, Bhopal

In Bhopal, the Sunday Market operates only on Sundays, when the roads are pedestrianised. Paid parking is provided nearby to support market activities. There are no structures provided. Bhopal Municipal Corporation (BMC) collects Rs. 20/- per day from each vendor. Electricity is provided by a private service provider via generators for which Rs. 20/- per day is charged separately. These vendors sell in Bitten Market on Thursdays, Tuesdays and Saturdays. The vendors are not licensed. BMC has not allocated individual spaces for vendors, so spaces are created through informal arrangements amongst vendors.

Plate 2. 14: Pedestrianised Street on Sunday



Source: Research by SEWA, 2012

2-6.2 Development of National Policies

In India the Supreme Court confirmed in 1989 that street vendors had the right to vend and that streets were not only “meant exclusively for passing and re-passing and no other use”. In 2004,

a National Policy on Urban Street Vendors was adopted, reflecting a change from prohibition to regulation of street vending. It seeks to legalize street vending by providing for legal vending zones, establishing fee-based regulation rather than limited number of licenses, promoting the organization of street vendors and implementing participatory mechanisms, amongst other initiatives. The Policy calls for spatial planning norms that acknowledge and accommodate the existence of demand-driven, locality-specific “natural markets” where street vendors tend to congregate (WIEGO, 2011). Implementation of the policy at state level has proved challenging, however, with only a few draft State-level laws based on this policy currently under discussion. A new National Policy was adopted in 2009, revising the 2004 Policy. The revised policy insisted on the need for a legislative framework and includes a Model Street Vendors (Protection of Livelihood and Regulation of Street Vending) Bill.

2-6.3 Private Sector Involvement

Researchers have shown that the involvement of the private sector space creation, can go a long way in solving problems of space to informal sector players. Kusakabe (2006), provides a good practice from Thailand, by arguing that, one of the key to success, is dialogue between the urban managers and street vendors. Managers need to accommodate street vendors. He provides two examples of good practices: **First case** - An individual won a concession from the ministry who owned the area, to manage a private market. The market is well-organized and managed, resulting in a win-win situation for all parties involved. The owner goes around the market every day and is responsive to the vendors’ problems. **Second case** - The market is in a private company’s housing estate. The private company organised and managed the market. A high rent is charged and high standards of hygiene, orderliness, and security are maintained. At first, the vendors were not happy to relocate, but gradually, as business at the market picked up and the managers tried to persuade the vendors, relocation was completed and the market flourished. Through renovation by the company, the market has good infrastructure, including restrooms and a car park, and this has contributed to the increase in customers and consequently, an increase in income for vendors. Hence, vendors are also willing to pay higher rent.

Rotterdam Market Hall in Netherlands

This is another example of how private sector involvement can contribute to space provision for traders. It calls for innovative designs from architects, so that the building designs they come up with, are inclusive (and not exclusive) in terms of use. See plate 2.15.

Plate 2. 15 Rotterdam Market Hall in Netherlands



Residential Units

Market Stalls

Displays of Market Produce

Source: <https://www.google.com/imgres>

Rotterdam Market Hall in Netherlands combines a residential project and a market hall - designed by Dutch architects. This arch building comprises of 228 apartments, of which 102 are for rent. It creates a large hall which houses 100 market stalls, shops and restaurants, 1200 parking spaces and an underground super market (McManus, 2016). The apartments have a balcony on the outside and a window to the inside of the market. Insulation prevents any unwanted effects. The 40 meter tall and wide opening of the front and back are covered with a flexible suspended glass façade, allowing for maximum transparency and a minimum of structure. The interior of the arch displays market produce. Such a private investment, can solve many problems like; – parking lots, residential units, clean environment, and a lively & vibrant surrounding.

2-6.4 Integrated Approaches to Support Street Vendors

This has been exemplified by Durban municipality in South Africa. The Self-employed Women's Union (SEWU), launched in 1994, and the Informal Trade Management Board, established in 1995, lobbied and negotiated with the Durban local authorities to obtain infrastructures for street vendors. Their activities ensured the incorporation of vendors in city planning (Skinner, 2008: 233). In 2001, an acclaimed policy on Durban's informal economy, inspired by several pilot projects, was adopted. It made a number of suggestions for improving street vending with regards to, for example, registration (simplification of the registration process and reduction of its cost), site allocation (criteria for allocation should be negotiated with stakeholders and the allocation of sites should then be done by officials), and operating charges (different transparent fees should be set according to location, size and services provided; payment should be simplified). It established a good framework principles for by-laws.

An integrated approach requires a continuous, consultative process with commitment and competence on the sides of both the authorities and trade associations. Despite having adopted a progressive informal economy policy in 2000 and spent considerable resources to construct facilities for traders around the Warwick Junction transport node, Durban's revamped City Council resumed evictions and police actions against traders after 2004 – perhaps associated with a desire to 'develop' the area in preparation for the 2010 World Cup (Skinner, 2008). The police started removing street vendors merchandise at several locations in the city and the Council approved a plan to stop "illegal, unlicensed street trading". Since it had only issued 872 permits, most of street vendors were considered illegal (Ibid. pp.236-237)

Plate 2. 16: Durban's Warwick Junction



Source: <https://www.google.com/search?q=warwick+junction+urban+renewal+projec>

In Bogotá Colombia, they used to have the problem of street vendors, and the City authority only remedy was to expel them from the streets. The vendors took the authorities to court for violating their right to legally earn a living. And therefore, the Constitutional Court stated that it was necessary to reconcile the two conflicting constitutional rights to public space and to work when dealing with the expulsion of street vendors. Expulsions are therefore permitted only when they have been ordered through a proper judicial process, and when there are guarantees that the evicted traders will not be neglected. According to the Court, training for vendors and improved access to credit are permissible alternatives to relocation (Ibid. pp.55-56).

2-6.5 Licensing and Infrastructural Support

This is exemplified by Dar es Salaam, where street vendors have been issued licenses and are allowed to operate since the early 1990s. Shelves and tables have been standardised and guidelines have been adopted setting up a framework for managing street vending. The city council has been persuaded to adopt a consultative approach which greatly helped in the implementation of the plan and resolved many issues such as crime and street cleanliness (Bhowmik, unpublished, p.41 and 44). Some 240 self-help groups are represented by an 'umbrella organization – the Association of

Small Scale Businesses – which acts as a lobbyist and pressure group and is involved in the selection of public space for business activities’ (Nnkya, 2006).

In general, however, Skinner (2008) affirms that the evidence ‘suggests that many traders are not affiliated to any organization at all. Where trader organizations do exist, they focus on one or more of three concerns – financial services, lobbying and advocacy, particularly at a local level and on product-specific issues. The role of trade unions appears to be increasingly important.’ Nevertheless, it must be acknowledged that associations have their vulnerabilities and weaknesses, and may not be able to negotiate on behalf of all traders (Lyons & Brown, 2007)

Nnkya (2006), does however point out that there are implementation inconsistencies - with management being haphazard in parts - and that while some are included, others most notably women traders are not. This was particularly the case in the more lucrative trading sites in the CBD. In comparison to many other cities in Africa overall, he argues, Dar es Salaam has created an enabling environment for street traders.

Plate 2. 17: Street Vendors in Dar es Salaam



Source: www.google.com/search?q=street+vendors+in+dar+es+salaam

2-7 Lessons Learnt from Literature Review

Mwihoko street can learn many lessons from literature review. Literature review has shown that a street is an area for public use not exclusively devoted to circulation but serves as a multi-functional space. For streets to serve all these functions, they have to be segregated into different zones. But many urban streets lack clear segregation, and therefore, have over the years led to space

contest among different users. This has come about as a result of high rate of urbanization which has seen many people moving to urban areas in search of employment and better life opportunities. Literature review has also shown that the huge number of people who have moved to urban areas have overwhelmed the available resources and job opportunities. As a survival mechanism, the excess population has devised ways of surviving the urban hardships. And one way of doing this, has been through joining the informal economic sector, more so, street vending which does not require a lot of capital to join.

Literature review shows that much of the urban land is in the hands of private individuals. Due to the fact that planners define a singular public interest to urban space, this usually creates conflict & tension between the interests of various publics. And therefore, those joining the informal sector have devised ways of creating spaces for themselves to operate from due to their different perceptions of space. The review also shows that modern street vending plays a vital role in the urban economy where it acts as a source of employment, revenue from taxes and ‘value added’ to the economy. Street vending also provides a flexible link in economic supply chains, giving vitality to urban streets, and provides affordable goods for many urban residents. But literature review has also shown that street vending may exacerbate congestion at busy sites. Street vending takes up space and at the same time block pavements and parking space and therefore cause congestion to other street users. Street vendors end up erecting structures that encroach and interfere with both pedestrians and vehicular movement, and also the placement of utilities along the affected street. Once street vendors encroach a street, the encroachment becomes a challenge to deal with as there is resistance from those who have encroached.

Literature review has shown how different arguments have been put forward by various researchers concerning street vendors. The arguments are for pro and counter arguments of the informal sector. To the reformist, street vending contributes to job creation, income generation and distribution, and conveniently provides goods and services. Therefore, street vending provides a viable alternative for subsistence living in urban areas to formal employment and the parasitic or anti-social occupations like theft, prostitution and destitution. It is a buffer against instability and insecurity of work and income opportunities among the urban poor. This view is a pro informal economic activities since it supports its existence by taking cognizance the critical role it plays in the wellbeing of society – where it can contribute to poverty alleviation through provision of employment. Therefore the reformist school of thought is in support of the objectives of this study

which ultimately intends to solve the problem of street space contest by accommodating all street users. To the Marxist discourses, the informal sector is a 'marginal' sector involving 'petty commodity production'. The Marxist theorists argue that the informal sector is just a distinct 'marginal pole' which by acting as a reserve army of labour and producing or offering cheap, poor quality, subsistence goods and services. They add that the participants in the informal sector make little contribution to national gross domestic product (GDP), meaning that there would be very little loss to the economy, as a whole, if the informal traders are taken off their occupation. Therefore, the Marxist school of thought goes contrary to the objectives set out since it tends to delegitimize the existence of informal sector by referring to it as; a distinct marginal pole activity that is subordinate to the formal economy, and therefore encourages those traders in the informal sector to be taken off their occupation. Such a view that cannot be pursued in the study area since doing so will be running away from current urban realities.

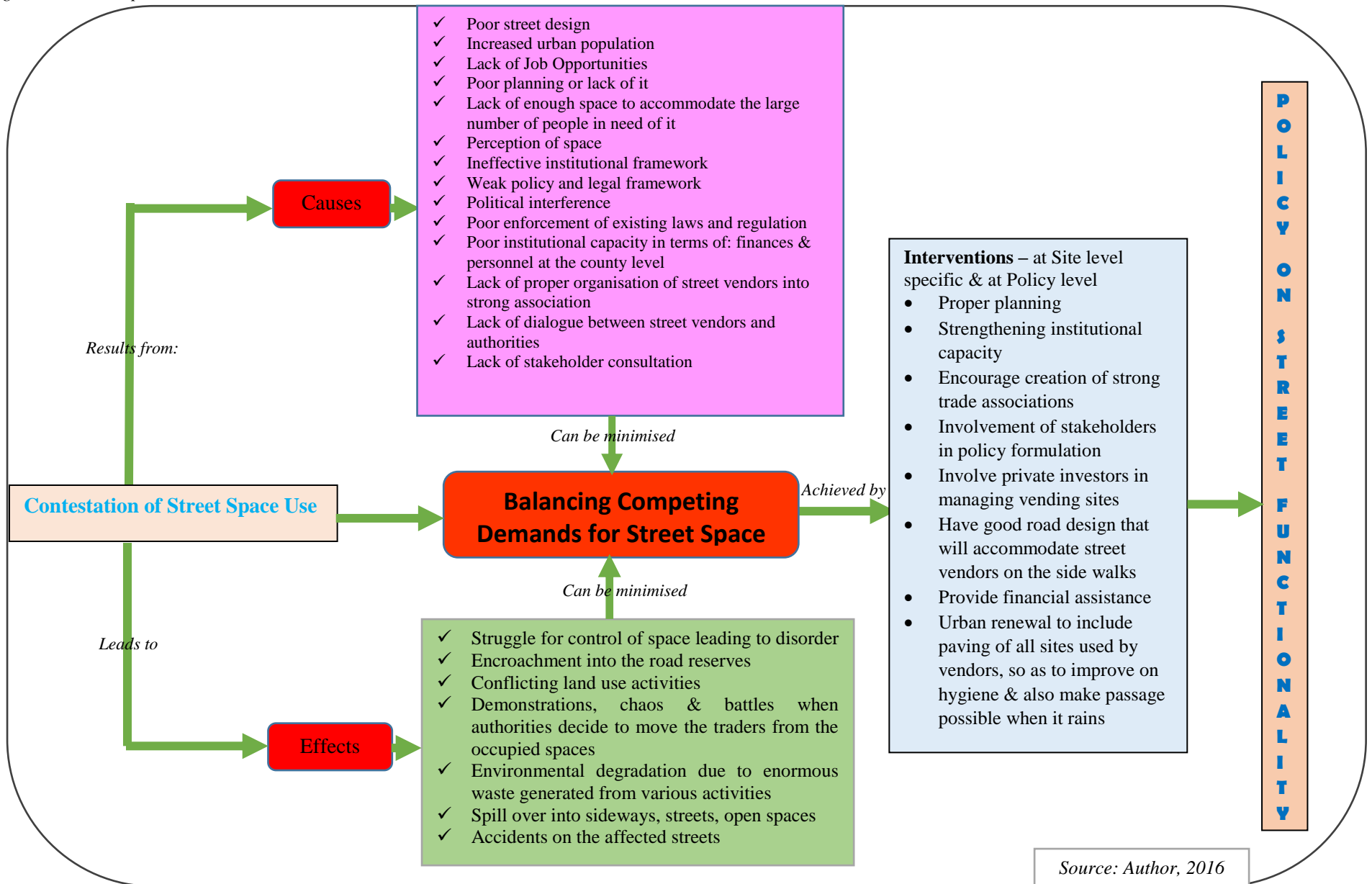
Some researchers have argued that Street vendors sometimes take-over sidewalks and force crowds out into the street creating serious traffic snarl-up. Street food vendors are noted for generating excess litter, which stretches the capacity of sanitation departments to keep the urban area clean and therefore affecting the environment. Others have argued that street vending sometimes takes a Gender Perspective, where they say that majority of those contesting for space use on urban streets are women given the fact that they are financially disadvantaged compared to their male counterparts, who can easily acquire spaces to operate from or use their mightly to occupy more vantage point as compared to their female counterparts.

Literature review has shown that some countries have adopted innovative planning in order to ensure that streets function well. India exemplifies this with a National policy that support street vending. This policy was accomplished with greater involvement and input of street vendors, and has streamlined the vending activities within urban centres. Some countries support the involvement of Private Sector in the provision of space for street vendors. This was evidenced from case studies in Thailand, and Rotterdam Market Hall in Netherlands. This is a route that can be pursued in our urban systems since most of land is in private hands. Another approach adopted is the one by Durban municipality in South Africa which took an integrated approach to create space for informal traders. An integrated approach requires a continuous, consultative process with commitment and competence on the sides of both the authorities and trade associations.

In other countries like Colombia, the right to public space and to work is protected in the constitution. The courts ruled that expulsions are permitted only when they have been ordered through a proper judicial process, and when there are guarantees that the evicted traders will not be neglected. According to the Court, training for vendors and improved access to credit are permissible alternatives to relocation. This is a good guarantee for informal traders that can be replicated in Kenya, which has a large number of people involved in the informal sector. Dar es Salaam in Tanzania, has adopted a Licensing and Infrastructural Support, where street vendors have been issued licenses and are allowed to operate since the early 1990s. Shelves and tables have been standardized and guidelines have been adopted setting up a framework for managing street vending. The city council has been persuaded to adopt a consultative approach which greatly helped in the implementation of the plan and resolved many issues such as crime and street cleanliness.

2-8 Conceptual Framework

Figure 2. 3: Conceptual Framework



The Conceptual Framework in figure 2.3, shows that Space contestation in the study area has both causes and effects that needs to be balanced in order to bring harmony to all street users. This can be achieved through certain interventions that should be at both site level and at policy level. The main sources of street space use contestation in the study area include: Street vendors; adjacent formal enterprises; other informal activities like - Matatus, cyclists, wheel barrow & cart pushers, butcheries, barbershops; and Pedestrians who may be passengers or shoppers. The possible causes for space use Contestation in the study area include: Increased urban population; Lack of Job Opportunities; Poor planning or lack of it; Lack of enough space to accommodate the large number of people in need of it; Perception of space by different individuals; Ineffective institutional framework; Weak policy and legal framework; Political interference where those involved are considered voters; Poor enforcement of existing laws and regulation; Poor institutional capacity in terms of finances & personnel at the county level; Lack of proper organisation of street vendors into strong association that can push for their rights; Lack of dialogue between street vendors and authorities; and lastly, Lack of stakeholder consultation when making decisions on land use. Some of the effects of space Contestation include: Struggle for control of space leading to disorder; Encroachment into the road reserves; Conflicting land use activities; Demonstrations, chaos & battles when authorities decide to move the traders from the occupied spaces; Environmental degradation due to enormous waste generated from various activities; Spill over into sideways, streets, open spaces; and increased accidents on the affected streets.

All the above can be controlled by balancing demands for street space use which can be done through intervention measures that may be required to contain space use contestation like: Proper planning; Strengthening institutional capacity; Encourage creation of strong trade associations; Involvement of stakeholders in policy formulation; Involve private investors in managing vending sites; Have good road design that will accommodate street vendors on the sidewalks; Provide financial assistance; Urban renewal to include paving of all sites used by vendors so as to improve on hygiene & also make passage possible when it rains. Lastly, advocate the national government to come up with laws that support informal sector, and also have flexible laws that will allow private developers to convert their properties to indoor markets that can accommodate traders. A challenge can also be directed to architects to come up with innovative building structures like the Rotterdam Market Hall in Netherlands, so as to provide space for informal activities.

CHAPTER 3: RESEARCH METHODOLOGY

3-1 Introduction

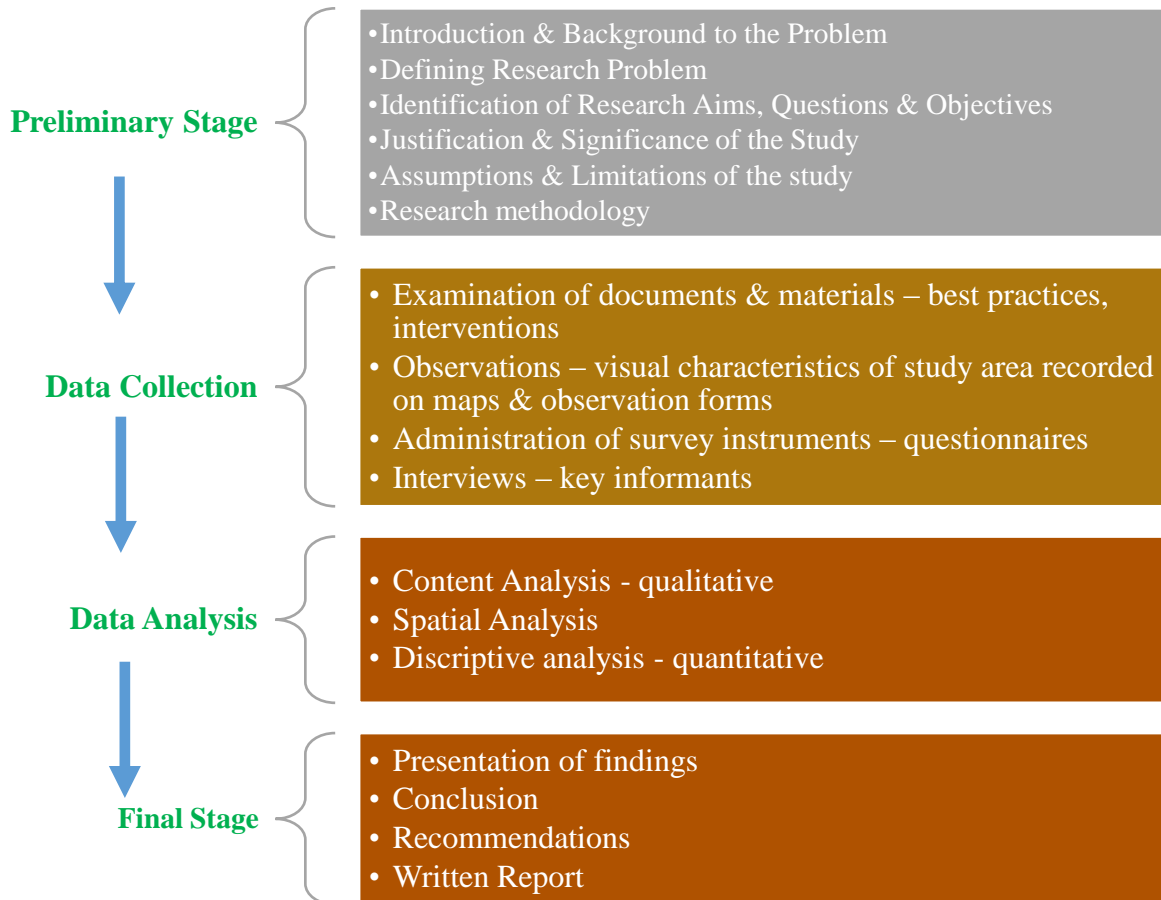
This section presents the methodology used in the research project. The research methodology is geared towards realizing the objectives of the study. This section therefore, outlines the procedures used to achieve the objectives of the study i.e.: research design, research population & sampling plan. It also explains the various data needs and sources of data for the project as summarized in the data needs matrix. It also outlines data collection methods, and finally, it outlines sampling methods, methods of data analysis and presentation used in the research project.

3-2 Research Design

Research design provides a framework for collecting and analysing data. The study employed a non-experimental research method that used both qualitative and quantitative approaches. Figure 3.1 outlines a summary of the study Methodology Flow. **The first stage** entailed coming up with a data need matrix that then guided the whole study in terms of data required & possible sources of such data. This helped in deciding on the best method to be used for collecting the required data. The method of data collection gave an indication on the kind of analysis that should be expected, and also determined the data presentation techniques that was to be used. The data presentation techniques helped to determine the expected results from the whole process. This was then followed by preliminary study on the research project that included: Introduction & Background to the Problem; Defining Research Problem; Identification of Research Aims, Questions & Objectives; Justification & Significance of the Study; Assumptions & Limitations of the study; and Research methodology. **The second stage** entailed collection of secondary data guided by data needs and data sources that had been identified in the first stage. Data sources was from both primary and secondary sources. Secondary data sources included review of Literature of past studies on street space use contestation. The literature was obtained from books, journals, government documents, Conference papers, unpublished research projects, internet publication, and relevant documents relating to the study topic. The purpose of this was to familiarize and synthesize arguments and ideas on street space use contestation. The literature review focused on: Concepts, Theories and debates on street space use contestation, and policies on street functionality & informality on urban streets (mostly in places of Commons), and planning approaches that have been used to mitigate the problem. This aided in the formulation of a conceptual framework that

guided the inquiry of the research, and provided a tentative theory (explanation) of their interactions.

Figure 3. 1: Research Methodology Flow chart



Source: Author, 2016

The third stage involved collection of necessary primary data for the project from field surveys. This was guided by the data needs and data sources, as had been identified. The data collection was done through field surveys where administration of pre-survey questionnaires was done, with the aim of testing their suitability in the field. This enabled amendments to be made to the questionnaires in order to make them workable. Later the administration of data collection instrument was conducted with the aim of collecting the desired data. The data collection instrument that were used include: questionnaires, interview schedule for the key informants, camera, maps, tape measure, tally sheet and note book. The other work that was done at this stage include: content analysis, spatial analysis, qualitative analysis, and quantitative analysis - using appropriate techniques like; SPSS, Microsoft Excel and GIS. It involved analysis of the collected

data from both secondary and primary sources. **The fourth stage** involved compilation of research findings and presentation of the findings in terms of: written report, maps, google images, inventories, sketches, drawings, plans, pie charts, graphs, tables, and photographs, which was then followed by conclusion, and formulation of recommendations - done to address the situation on the ground.

3-3 Research Population & Sampling Procedures

The study population was selected based on the data needs of the project. The population was divided into strata for ease of data collection and analysis. A complete enumeration in many cases is impracticable, and hence sample surveys. Sampling saves on labour, in that a small staff is required both for fieldwork and for tabulation and processing data. And therefore, Sampling was used to arrive at the desired target population due to its ability to: reduce cost of research; reduce time of study; cover wider scope; and it gives greater accuracy. The study population consisted of people who in one way or another have some interest on Mwihoko Street.

3-3.1 Sampling Frame

A sampling frame was developed by visiting the study area and identifying groups of people involved in activities contesting for space use, and they included: traders (street vendors); pedestrians (potential customers); Vehicular (vehicle, passengers) - Bus, Tut-tut, & Matatu operators; motor cyclists (Boda bodas); adjacent land owners; and key informants; who all formed, the target population for the study from which samples were taken. The sample distribution of the strata were based on facts gathered from the study area indicating that street vendors are the majority, and so more weight was assigned to them. The rest of the strata, due to their homogeneity, were given nearly equal weights.

3-3.2 Sample Size

For populations that are large, Glenn D. Israel (1992) cites an equation developed by Cochran (1963:75) that yields a representative sample for proportions. See below;

$$n_0 = \frac{Z^2 pq}{e^2}$$

This equation is valid where n_0 is the sample size, Z^2 is the abscissa of the normal curve that cuts off an area α at the tails ($1 - \alpha$ equals the desired confidence level, e.g., 95%), e is the desired

level of precision, **p** is the estimated proportion of an attribute that is present in the population, and **q** is = **1-p**. The value for **Z** is found in statistical tables which contain the area under the normal curve e.g. **Z = 1.96** for 95 % level of confidence.

Mugenda (1999 & 2003) quotes the same formula:

$$n = \frac{Z^2 pq}{d^2} \text{ (Formula used if the Target population is more than 10,000)}$$

Where:

- n = the desired sample size (if the target population is greater than 10,000)
- Z = the standard normal deviation at the required confidence level
- p = the proportion in the target population estimated to have characteristics being measured
- q = 1 - p
- d = the level of statistical significance set

Glenn D. Israel, (1992), notes that if the **population is small** then the sample size can be reduced slightly. This is because a given sample size provides proportionately more information for a small population than for a large population. The sample size (n_0) can be adjusted using the equation below;

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where **n** is the sample size and **N** is the population size.

Glenn D. Israel, (1992), notes that the sample size formulas provide the number of responses that need to be obtained. Many researchers commonly add 10 % to the sample size to compensate for persons that the researcher is unable to contact. The sample size is also often increased by 30 % to compensate for non-response (e.g. self-administered questionnaires). Using the first formula;

$$n_0 = \frac{Z^2 pq}{e^2}$$

$$n = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = 384.16$$

$$n = 384$$

According to Kiambu county news of February 2016 (<http://www.hivisasa.com/kiambu>), there are around 2, 000 traders and hawkers operating around Githurai stage. But during reconnaissance survey, counting of street vendors operating along Mwihoko Street found 585 street vendors on

that particular day. From the above formula, a sample size for this population can be computed using the second formula;

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

$$n = \frac{384}{1 + \frac{(384 - 1)}{585}}$$

$$n = 232 \text{ (approx.)}$$

Thus with the population figure of 585, this formula gives a sample size of 232. However, it was difficult for the researcher to work with this sample size, as it is excessively large and may require more time, and financial resources. In view of this, the researcher settled for a sample size of 60, being about 10% of the target population. This sample size was neither too small, nor too large. The decision to reduce the sample size is supported by Kothari (2004), who argues that the size of a sample should neither be excessively large, nor too small, but should be optimum. He further states that an optimum sample size is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility. Furthermore, Makworo (2010), citing Kerlinger (1973), brings out a theory that a sample size of 10% of the target population is enough as long as it allows for reliable data analysis, provides desired levels of accuracy in estimates of the large population and allows for testing for significance of differences between estimates. Moreover, Mugenda O. and A. Mugenda, (2003), asserts that a sample size of 30 is good enough for a scientific research.

Thus, using Proportional sampling, the rest of the groups were sampled as highlighted below: There are about 150 boda boda riders (motor cyclist) (source: Githurai boda boda association), and about 100 Psv vehicles that operate through the study area. Using the previous argument, of a sample size of 10% of the target population, the respective sample sizes were as follows: 15 for boda boda riders, and 10 for vehicles. These figures provided a good feedback given the fact that there was homogeneity in these groups. Also since all pedestrians experience the same kind of challenges within the study area, a sample of 15 was taken. The table below shows the population sample frame with figures for various strata.

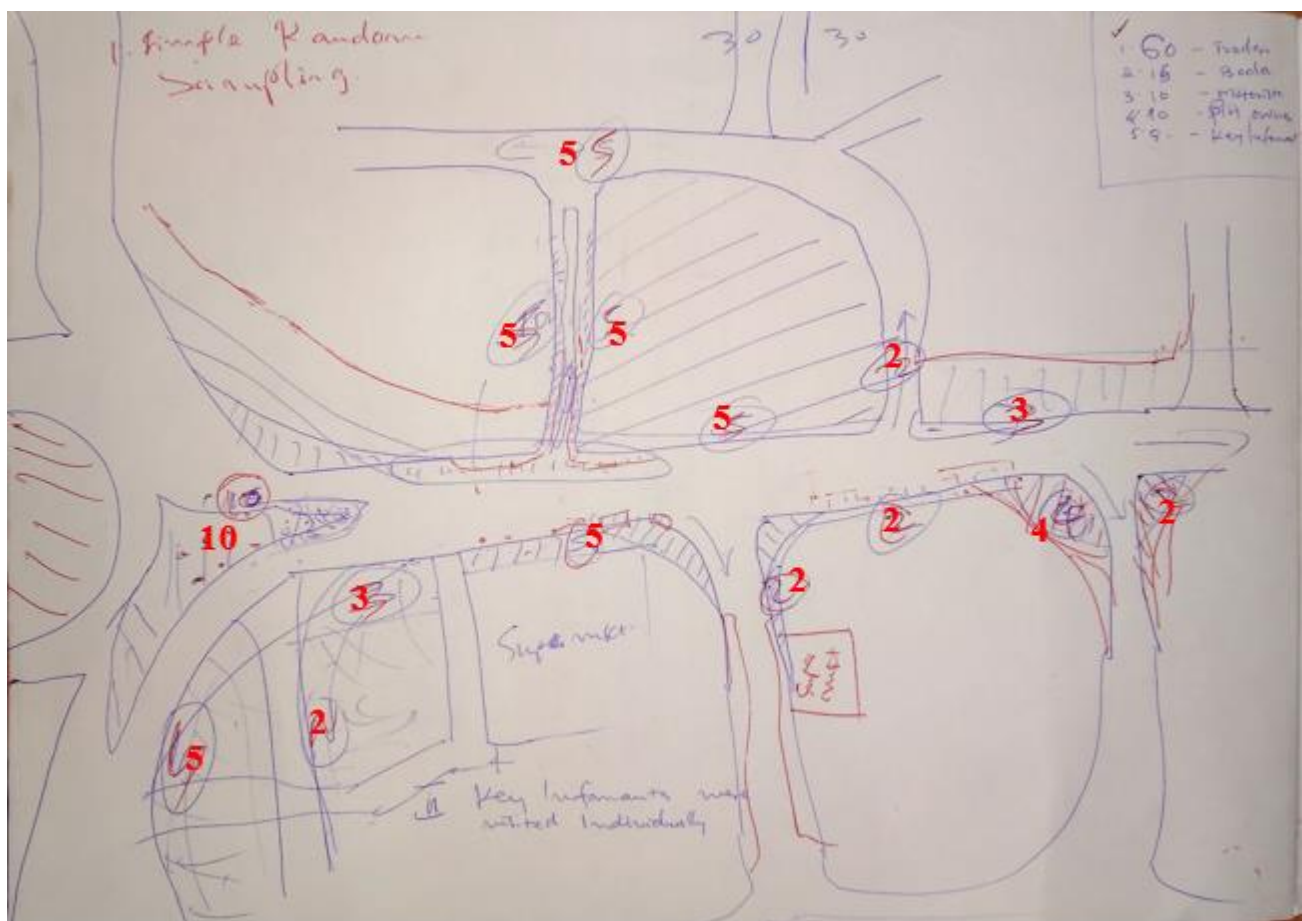
Table 3. 1: Sample frame table

Questionnaire Strata	Target population	Sample size	Number of respondents
Street Vendors	585	60	60
Pedestrians	150	15	15
Motor Cyclists (Boda Bodas)	150	15	15
Vehicular (vehicle, passengers)	100	10	10
Adjacent Shop Owners	20	10	10
Key Informants: - 4 CBOs, Planner; Traffic Police; KURA, MCA of the area	8	one from each	8

Source: Author 2016

3-3.3 Sampling Procedure

Sampling of participants was done as follows: The researcher and his two assistants mapped out spots occupied, and those frequented by street vendors (*see sketch below*).



Source: Field work, 2016

The mapping of hot spots was carried out during reconnaissance. The hot spots were picked on both sides of the street, and a decision arrived at, as to the number of street vendors that were to be presented with questionnaires. The sketch above outlines this: - the numbers shown represents the respondents proportionally selected to fill questionnaires at a given hot spot. Hence, proportional sampling was used to identify the specific persons to answer the questionnaire. At a given hot spot, simple random sampling was used for the fact that some vendors were non-responsive as they were busy, and because of time constraints, the interviewer would go to the next available vendor. This procedure was repeated till all the questionnaires were administered in all selected areas. Simple random sampling was used to interview: pedestrians, motor cyclists, adjacent shop owners, and vehicular drivers. For pedestrians, the research assistants took strategic positions along the street from where willing pedestrians could be interviewed. For boda bodas, the research assistants visited various spots identified as occupied by boda bodas, and interviewed the cyclists. For shop owners, simple random sampling was used to interview them in their shops. For drivers, simple random sampling was used to get their views about the challenges facing them as street users. This took place when there was a jam, and so the interviewer would move with the vehicle, while putting across questions. For key informants, purposive sampling was used to identify key informants who were interviewed during field survey. The key informants involved stakeholders who had been identified during reconnaissance as those involved in one way or another, with activities undertaken in the study area. They included: representatives of Matatu Sacco's, representatives of motor cyclists, representatives of street vendors, representatives of adjacent land owners, County Physical Planner, KURA, Traffic Police, and MCA of the area. Each of them was visited and interviews conducted separately, except the MCA of the area who was not available for the interview.

3-4 Data Needs, Sources and Methods of Data Collection

Data Collection was done using the following methods: Examination of documents & materials – best practices, interventions; Observations – visual characteristics of study area that was recorded on maps & observation forms; Administration of survey instruments – questionnaires; & Interviews – for key informants. The data was from both secondary and primary sources:

3-4.1 Secondary Data Collection

The secondary data sources included: books, journals, government documents, Conference papers, unpublished research projects, internet publication, and other relevant documents relating to urban street space, and informal sector, in Kenya and from other parts of the world. Data collection entailed content analysis of the relevant literature and case studies, with the aim of gaining a deep insight on the area, the problem, and on the enhancement of conceptualization. It involved desktop research on street design, street functionality, informal sector activities, urban street space use contestation and activities that contest for space use on urban streets. Other areas looked at include: historical background of the study area, geographical location, development trends of the area, demographic figures of the area - sourced from KNBS, situational analysis data (climate, geology, soils, physical infrastructure, socio- infrastructure, current trends from other countries faced with the same problems, governments response to the sector, legal and policies frame work put in place to guide the sector. All these were recorded and enabled in coming up with the project proposal that then guided the whole study.

3-4.2 Primary Data Collection

Primary data was gathered through observations, field survey, and key informant interviews.

a) Reconnaissance

This stage involved visiting the study area and the neighbourhood so as to understand it better. This helped in identifying the scope of the study area, the extent to be covered, and the nature of respondents available. The interviews were first preceded by a reconnaissance survey to have an overview of the nature of space contestation along Mwihoko Street and other adjoining streets. In so doing, basic characteristics of street vending were recorded. These included the location, type of goods sold, type of structure used in vending and whether the vendors operated in a particular locations or moved from one location to the other. A questionnaire was then prepared and tested along the street to check its effectiveness. Based on the responses, a final questionnaire was produced for the survey.

b) Observation

This technique was used to collect data on the kind of structures existing along the study area and their condition. It also involved making observation on the street design to find out if it was designed to serve the principal functions of an urban street, street signage, road bumps, and

pedestrian crossing signage. Building form and line, material used in their construction were also observed. Observations were also made on the siting of businesses in relation to the street, the condition of the street and the adjoining ones within the study area, the various activities the street vendors are involved in, peak and off-peak period during the day for vending activities, any other activity (motor bikes, tuk tuks, bus terminus) that was thought to be interfering with the smooth flow of traffic along Mwhoko street, and any other data that was considered important for project.

Photography

This basically entailed taking pictures of various phenomena for illustration purposes. Photographs were taken to help in the collection of data on land use patterns and activities taking place within the study area. It also helped gather data on the condition of Mwhoko Street and the structures / buildings along the study area.

Sketching

This was used to sketch various features for the purpose of illustration which included the building elevations and lines along the street, cross-sections of the street at various points of interest and sites most affected by contestation.

Mapping

Maps and satellite images were used to gather data on the spatial organization of the study area and the surrounding areas. Mapping was also used to analyse street organization and the neighbouring land use morphology in the study area.

c) Administration of Survey Instruments - Questionnaire

Questionnaires were prepared and administered to sampled respondents of the targeted population, depending on the information sought. They were both open ended and closed. In this study, questionnaires targeted street vendors in the study area, Pedestrians, Motor Cyclists (Boda Bodas), Motorist and Shop keepers.

d) Interviews

This entailed interviewing stakeholders and key informants. Interview schedules were prepared and used to guide in interviewing the respondent. The respondents were: Representatives of Matatu Sacco's, Representatives of Motor Cyclists, Representatives of Street Vendors, Representatives of Adjacent Land Owners, County Physical Planner, KURA, Traffic Police, and the MCA of the area.

3-5 Techniques of Data Analysis and Presentation

In order to gain insight from the data collected, data was organized and analysed using the most appropriate methods. These methods and procedures of data analysis include: Quantitative Data Analysis that was used for parameters measured quantitatively. E.g. demographic figures; physical, economic and social status of street vendors; challenges, constraints, and the possible solutions. The data was then coded and keyed into the computer for analysis, using (SPSS) and Microsoft excel. The output include: frequency distribution tables, graphs and charts.

Qualitative Data Analysis was applied to information that could not be analysed statistically. Research aspects such as, physical conditions of various variables in Githurai, economic and social factors based on the researcher's observation and from other people's opinions such as the street vendors and key informants information, were analysed qualitatively through content analysis and comparison of different views. Geographical Information System (G.I.S) was used in the analysis of the spatial aspects such as spatial organization of the area, the distribution of the neighbouring business and the street morphology that direct people within the study area.

For effective communication of the findings, conclusions, and recommendations; appropriate formats were used which included: maps, google images, inventories, sketches, drawings, plans, pie charts, graphs, tables, and photographs; that were all combined to produce the final written report. The data matrix below summarizes the data needs, sources, method of data collection, analysis, Data Presentation Techniques and Expected Results.

Table 3. 2: Data needs matrix

Objective	Data Needs	Sources	Data Collection Methods	Analysis	Data Presentation Techniques	Expected Results
To investigate why there is street space use contestation by informal activities in urban areas	<ul style="list-style-type: none"> Activity types Building form & line Place of Contestation Nature of Contestation Street design Land use map Satellite imagery Survey maps 	<ul style="list-style-type: none"> Journals Books, periodicals, thesis, Survey of Kenya Google Earth Primary data sources Internet 	<ul style="list-style-type: none"> Literature review Questionnaire Interviews Observation Field sketching Transect survey Photography Mapping 	<ul style="list-style-type: none"> Mapping techniques Trend analysis SPSS Descriptive analysis Street Profile 	Maps, Spatial models, Photographs, images, Tables, charts, Sketches & illustration, descriptive texts, graphics, sketches	<ul style="list-style-type: none"> Map of land use activities Illustration of interaction between land uses
To examine the factors influencing Space Use Contestation along Mwhoko Street	<ul style="list-style-type: none"> Pull factors Push factors from other sites 	<ul style="list-style-type: none"> Traders Street vendors Investors Books & journals 	<ul style="list-style-type: none"> Literature review Questionnaire Interviews 	<ul style="list-style-type: none"> SPSS descriptive analysis content analysis 	Spatial models, descriptive texts, Charts, maps, photographs, descriptive texts, graphics, sketches, Tables	<ul style="list-style-type: none"> Report with spatial models, charts, tables
To examine the planning and development implications of Street Space Use Contestation along Mwhoko street	<ul style="list-style-type: none"> Road widths Land uses along the study area List of activities contesting for space Sources of contestation user needs & behaviour towards space 	<ul style="list-style-type: none"> Planning handbook Primary data sources County offices business owners along this road Open market operators 	<ul style="list-style-type: none"> Literature review Questionnaire Interviews Field sketching Transect survey Photography Mapping 	<ul style="list-style-type: none"> GIS mapping and analysis Descriptive analysis 	Maps, spatial models, photographs, tables, charts, sketches, illustrations	<ul style="list-style-type: none"> Maps and model of existing & potential areas of conflict A list of activities along the study area & their space needs
To propose better planning approaches for mitigating and mediating space use contestation along Mwhoko Street	<ul style="list-style-type: none"> Case study Data from the other objectives Opinion of respondent & stakeholders 	<ul style="list-style-type: none"> Books Key informants County government Study findings Spatial models 	<ul style="list-style-type: none"> Literature review Questionnaire Interviews Field sketching 	GIS mapping and analysis, descriptive texts	<ul style="list-style-type: none"> Reports Charts plan 	Proposed Planning intervention - strategies and approaches that will solve the problem of street space use contestation

Source: Author, 2016

CHAPTER 4: SITUATIONAL ANALYSIS OF MWIHOKO STREET

4-1 Introduction

This chapter outlines the situational analysis of Mwihoko Street. The situational analysis comprises of the historical background, development trends, the geographical location, demographic characteristics, socio-economic characteristics, socio infrastructure (schools, health facilities, and recreational facilities), physical infrastructure (roads, railways, airports, power supply, water supply, sewer systems, and solid waste collection system), natural physical and geological features, and climatic characteristics.

4-1.1 Historical Background of Githurai Market Centre: Pre – 1963 to 2000

The larger Githurai was originally a farm owned by a colonial farmer known as John Voice who practiced dairy farming on the land. After Kenya got independence in 1963, John Voice advised his workers to form self-help groups and raise money to buy portions of land from his farm in the form of shares. Some of the groups were: Mwana Mukia, Tingang'a, Mwihoko, Mukinyi, Mwiki group which had the most shares and others. The land ownership terms remained on leasehold terms of 99 years. He sold the land leaving the current Githurai market earmarked for the open market, under Kiambu County Council management.

Over time, many of these groups have subdivided their land and even sold to third parties. The appetite for land has been intensified by rapid urbanization within the city. Thus the rate of urban sprawl along Thika road led to sub division of land along this road to small portions for residential and commercial uses. This change from one land use to the other in many instances did not follow the laid down procedures. As such, the road sizes that were set aside, were not of the stipulated standard, for a potential market Centre. The Ruiru municipal zoning plan had zoned Githurai as purely a residential hub but the scenario on the ground is quite different, in that other land uses have come up without proper development plan for guidance.

4-1.2 Development Trends of Githurai market Centre: From 200 to the Present

As the market Centre continued to evolve, much of the land was assigned to private land use, and none was set aside for open spaces. The actual market land was excised and converted to private use. Thus the current land for the open air market is quite small for the number of traders interested in having stalls there.

Githurai market Centre has been developing rapidly especially from the year 2004. This is the time around which the construction of Thika super highway was mooted. The market is said to be, directly or indirectly, a source of livelihood of up to twelve neighbouring constituencies: Gatundu North, Thika town, Juja, Ruiru, Kiambu, Westlands, Parklands, Roysambu, Kasarani, Ruaraka, Kariobangi, and Mathare. Indicators of transformation of Githurai include population increase; increased built environment; increased population density; increased service providers like banks, presence of major supermarkets, and increase of large commuter buses and Matatus. In the built environment sector, there are many new high rise commercial and residential buildings that have come up within the centre, and even in the surrounding areas that initially had single dwelling in a ¼ acre plots, have accommodated apartments for residential use to be a source of income to the owners.

Githurai market centre has only one tarmacked road (Mwihoko Street), which is the main feeder road to the Thika superhighway. It is the main artery road for Githurai urban centre and surrounding estates like: Kwa Mumbi, Mwihoko, Kizito, Kwa Jeshi, Mwiki, and Kimbo; meaning that all the traffic is usually directed to this road. The road got its first tarmac after the completion of Thika superhighway. It is a two way road with dilapidated sections due to the poor standards used in its construction. From survey maps, the width of this road is 25 metres wide.

The Physical Planning (Building and Development Control) Rules, 1998, provides for a building line of 9m for roads above 18m wide and 6m for roads between 6m and 18m. However, if the road is less than 6m., the building line should be the width of that road plus the difference between 6m and the road. It goes further to state that no buildings should be constructed on the open space, in front of the building, created by the building line, except for a fence or wall which should not exceed 1.4m (4.6 Ft) in height, or a portico, porch step. According to the planning and building regulation (2009), where any building is to be erected on a site abutting a constructed street, the owner of such a building shall erect such building in accordance with the levels of such street. These guidelines have not been followed, since most of the buildings have encroached the road reserve, with their balcony where they display their wares further interfering with the smooth flow of traffic. Furthermore, there are many structures for commercial activities that have been constructed in front of most of the buildings contrary to what development control rules stipulate. Therefore the remaining width of the road is quite small, and when it was tarmacked, it seems the vision was - not to interfere with the commercial activities taking place along it. As a result, no

NMT was provided. There are so many informal economical activities along the road sides. On a typical day, the road is full of traffic jams from many vehicles, 'boda bodas' (picking and dropping passengers on the road), pedestrians, tuk-tuk (auto rickshaw), bus terminus (on some sections of the road), street vendors, carpentry works, garages, bicycle repairs, eateries etc. On certain days, the area where this road joins Thika superhighway, usually holds religious crusades. All these interfere with the smooth flow of traffic on this road.

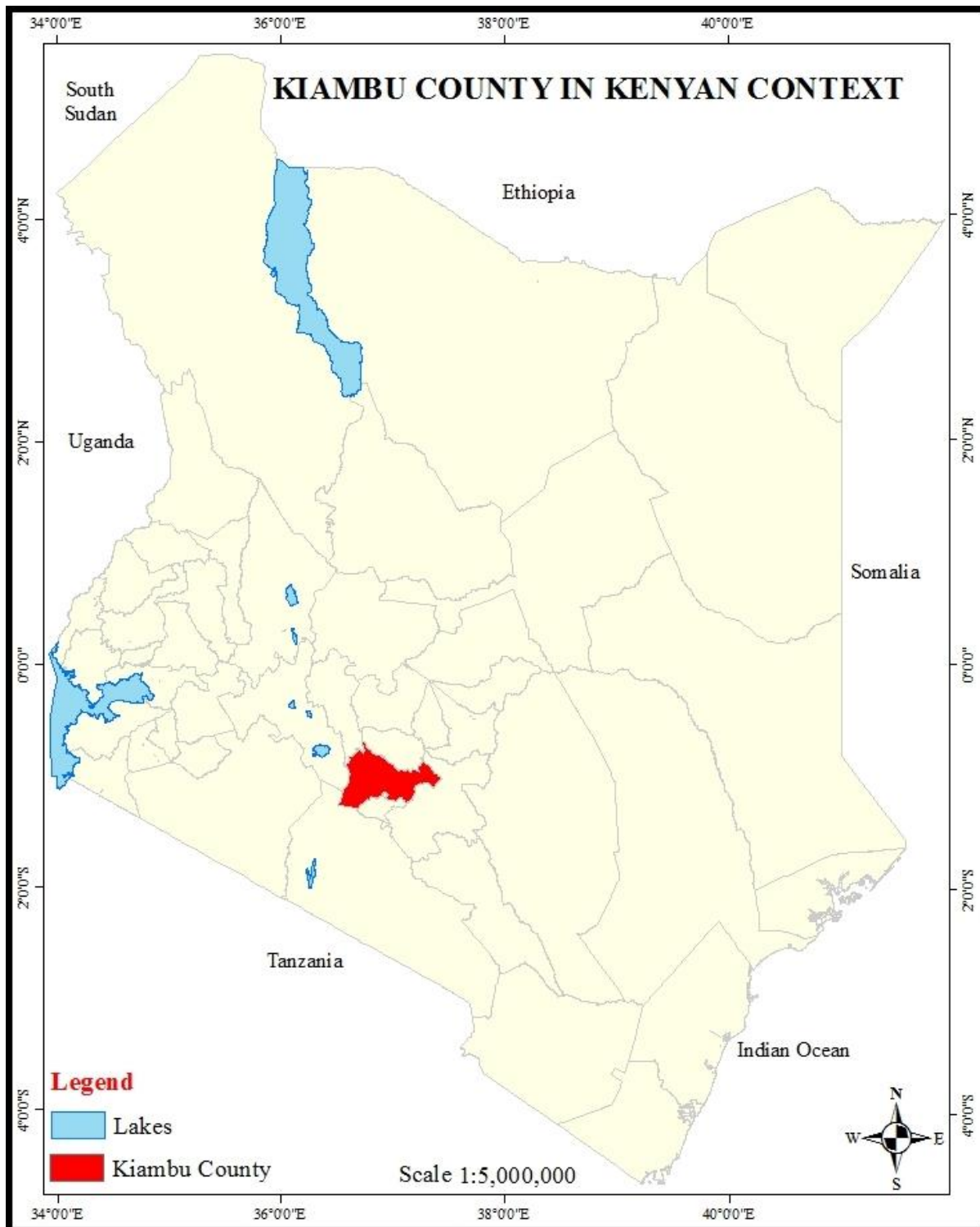
The worst jam period along Mwhoko road is mainly experienced in the morning and evenings on a daily basis. This can be attributed to a number of reasons: in the morning is the time people are rushing to their places of work, while in the evening is when everybody is coming back from work. Another reason is that most transactions in the open air market which operates daily, take place in the morning as merchants sell farm produce to retailers. In the evening street vendors align themselves along the street to sell their wares to pedestrians coming back from their work places and who are in need of household food stuffs. Therefore, the large number of pedestrian along this road is a pull factor to the street vendors who come out of the open air market to align themselves with their wheelbarrows along the road. As a result, they narrow the street hence increasing traffic problems. There are no pedestrian walk ways, neither are there speed bumps or zebra crossing to reduce the high speed of motorists. As a result, pedestrians like crossing from one side to the other in search of goods and services. This has led to congestion on the carriageway and frequent fatal accidents on this street.

4-2 Geographical Location

Githurai market Centre is one of the Suburbs in Nairobi, Kenya. It is in the North-Eastern part of Nairobi, about 12 km from the city centre. Its catchment population exceeds 800,000 persons. The round-about on Thika Superhighway is the central point of the place called Githurai. About half of Githurai is in Roysambu Constituency of Nairobi County (Githurai 44), while the other half is in Ruiru Constituency of Kiambu County (Githurai 45). Githurai 45 covers a very vast area, almost like a small town. Githurai is served by the Thika Super Highway and a branch of the Kenya-Uganda Railway, from Nairobi to Thika via Ruiru.

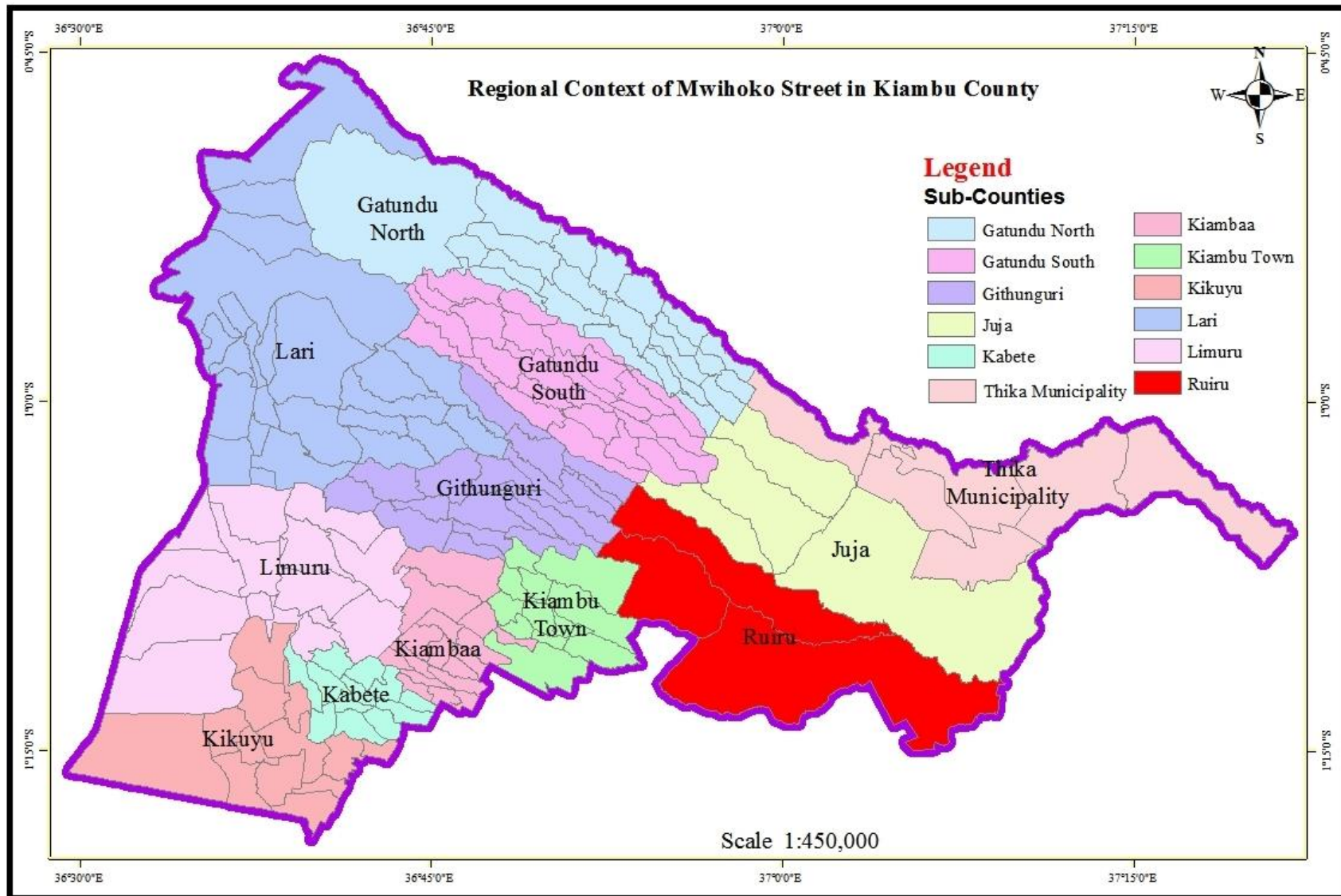
Geographically, the study area is found at longitude E 36° 55'4.8'' and S 1° 12'18''. In national context, it is within Kiambu County in the former Central Province of Kenya. In regional context, it is in Ruiru sub-county within the larger Kiambu County, in the outskirts of Nairobi. Maps 4.1, 4.2, 4.3 & 4.4; illustrates the study area from a national, regional and local perspective.

Map 4. 1: National Context of Kiambu County



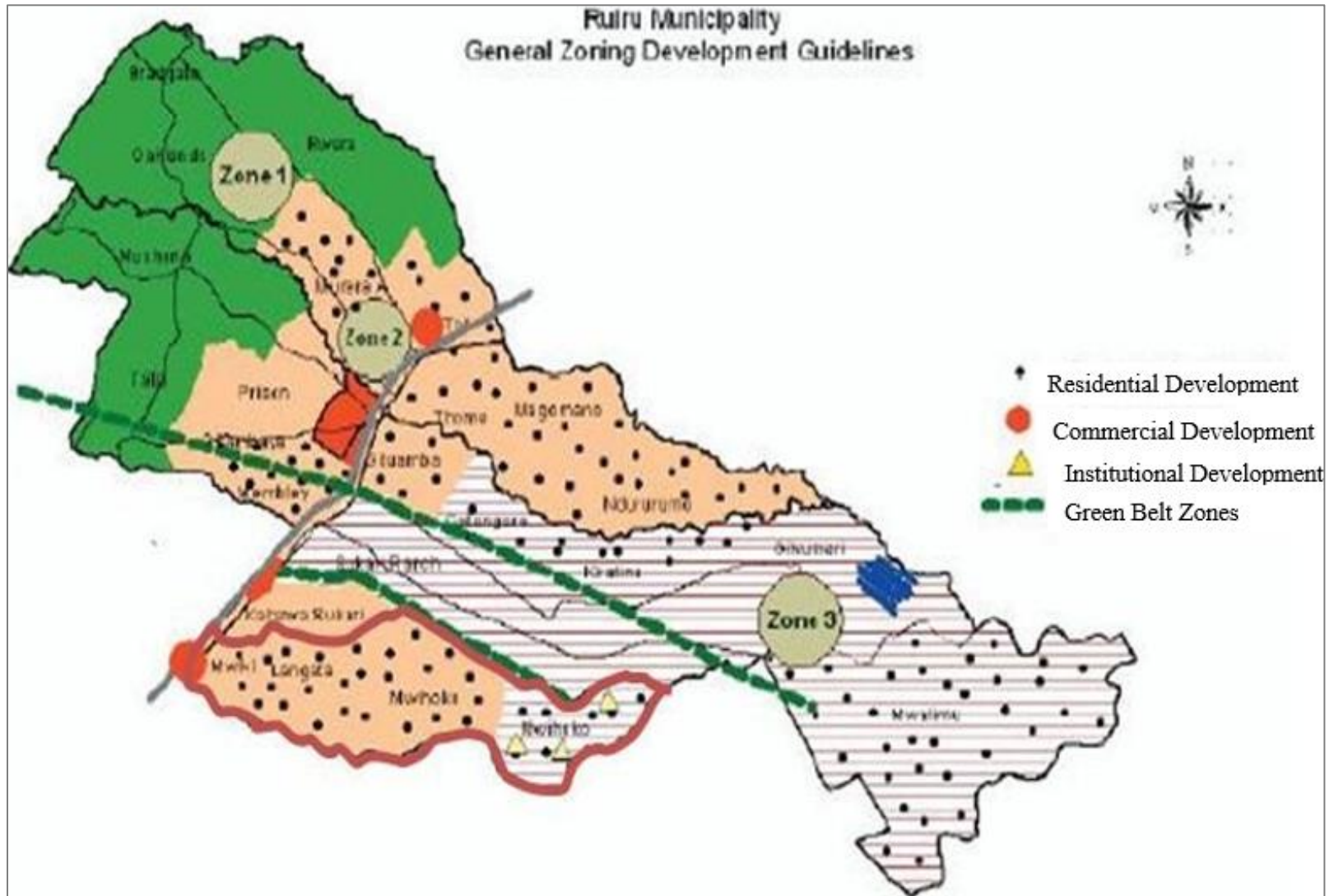
Source: Author, 2017

Map 4. 2: Regional Context of Mwhiko Street in Kiambu County



Source: Author, 2017

Map 4. 3: Urban Context of Mwhoko Street in Ruiru Sub-County



Source: Author, 2017

Map 4. 4: Detailed Neighbourhood Context of Mwihoko Street



Source: Author, 2017

4-3 Physical and Geological features

4-3.1 Topography

Topographic features have not only affected climatic conditions of Githurai urban centre and the entire Kiambu County, but also economic development of the area. The topography of the county makes it viable for agricultural activities which require a ready market. The highlands to the West form water catchments areas' and watersheds of most of the rivers, which flow towards the lowlands of the Southeast parts of the County. The general slope of the project area, is North-West to South-East. (GK - Nairobi Thika superhighway Report, Environmental and Social Impact Assessment Study, Final Report, June 2007), and has an average elevation of 1,550 m above sea level. Drainage is a problem in some sections of the market centre, more so areas that are next to the banks of Kiu River. Also along Mwioko street and within the centre itself, the drainage system has not been put in place to drain away rain floods.

4-3.2 Geology and Soils

Geology and soils of a place influences the building structures that can be put up in an area. The soils can influence the depth of the building foundation and therefore, the cost. The geology of the study area comprise of Phonolites of middle Pliocene rocks which cover the extent between the Nairobi national park and Kiambu, and resting directly on the Athi river. They are found 2-3 feet below the ground. Within the study area, black cotton soils with calcareous and non-calcareous variants are dominant of approximately 2-3 feet deep, and surface water is abundant.

4-3.3 Hydrology

It is important to understand the hydrology of a place since one will be able learn about available water sources that can sustain the place. In the study area, the highlands to the West form water catchments areas' and watersheds of most of the rivers, which flow towards the lowlands of the South-East parts of the larger Githurai. The natural drainage within the project area is dictated by the Kiu River which flow from the Kikuyu slopes, that is, to the North-West of the study area, and flow South-East wards, forming a tributary of Athi River, which eventually flows into the Indian Ocean. Its waters are polluted, and the source of pollution is thought to come from human settlements along it, and urban centres, Githurai being the main one, and all these pollution is drained through the Athi River system. Therefore, residents depend on water supplied by NWSC – which is unreliable. They therefore depend on water from shallow wells, and from water vendors.

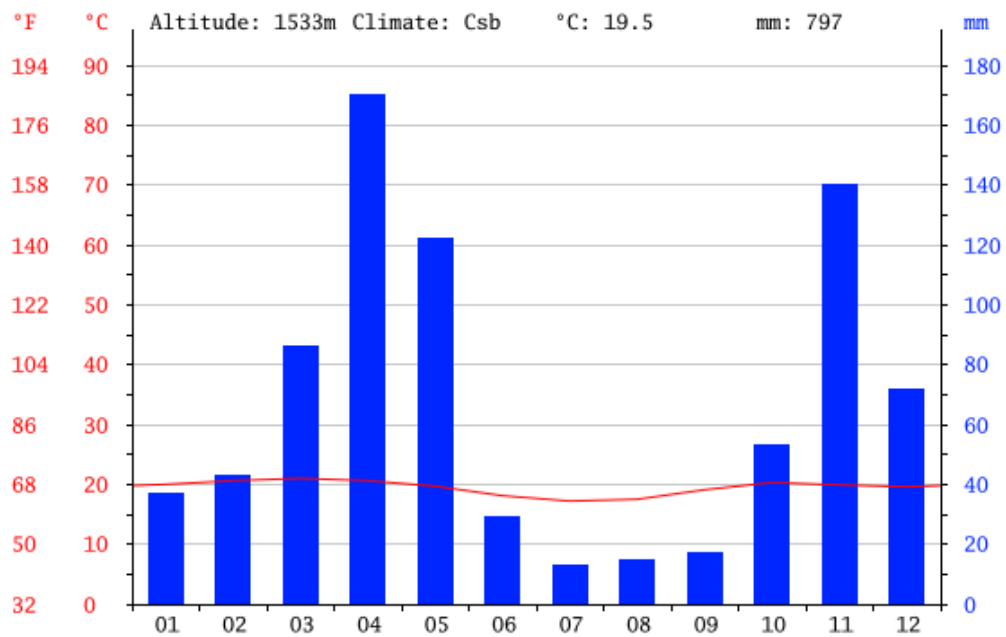
4-3.4 Vegetation

Vegetation of a place influences the climate and therefore, in the case the study area, determines the condition under which traders work. Vegetation of the study area, generally comprises of grassland characteristic of savannah and scattered tree species. Human activities have affected the natural vegetation in this area, the only ones found, are the ones in the outskirts of the main market centre along the nearby rivers and those planted by plot owners to mark plot boundaries.

4-4 Climatic Characteristics

Rainfall

Figure 4. 1: Rainfall Graph



Source: <http://en.climate-data.org>

Rainfall is bimodal with long rains occurring in the months of March – May, while the short rainy period occur in the months of October – December. The mean annual rainfall is like that of Nairobi, which range between 800 mm and 1,300 mm per annum. Precipitation is the lowest in July, with an average of 13 mm. In April, the precipitation reaches its peak, with an average of 170 mm. Between the driest and wettest months, the difference in precipitation is 157 mm.

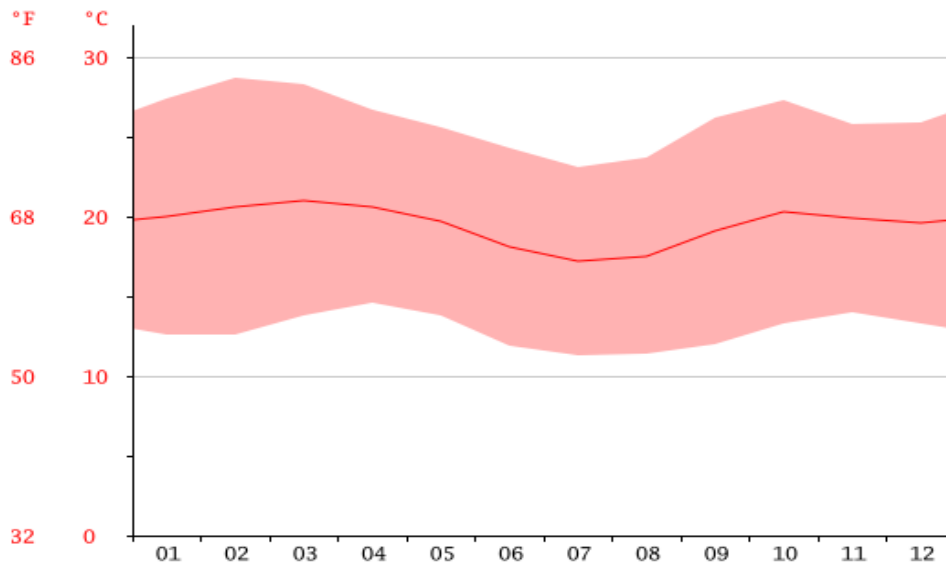
Temperatures

Table 4. 1: Temperature

month	1	2	3	4	5	6	7	8	9	10	11	12
mm	37	43	86	170	122	29	13	15	17	53	140	72
°C	20.0	20.6	21.0	20.6	19.7	18.1	17.2	17.5	19.1	20.3	19.9	19.6
°C (min)	12.6	12.6	13.8	14.6	13.8	11.9	11.3	11.4	12.0	13.3	14.0	13.3
°C (max)	27.4	28.7	28.3	26.7	25.6	24.3	23.1	23.7	26.2	27.3	25.8	25.9
°F	68.0	69.1	69.8	69.1	67.5	64.6	63.0	63.5	66.4	68.5	67.8	67.3
°F (min)	54.7	54.7	56.8	58.3	56.8	53.4	52.3	52.5	53.6	55.9	57.2	55.9
°F (max)	81.3	83.7	82.9	80.1	78.1	75.7	73.6	74.7	79.2	81.1	78.4	78.6

Source: <http://en.climate-data.org>

Figure 4. 2: Temperature Graph



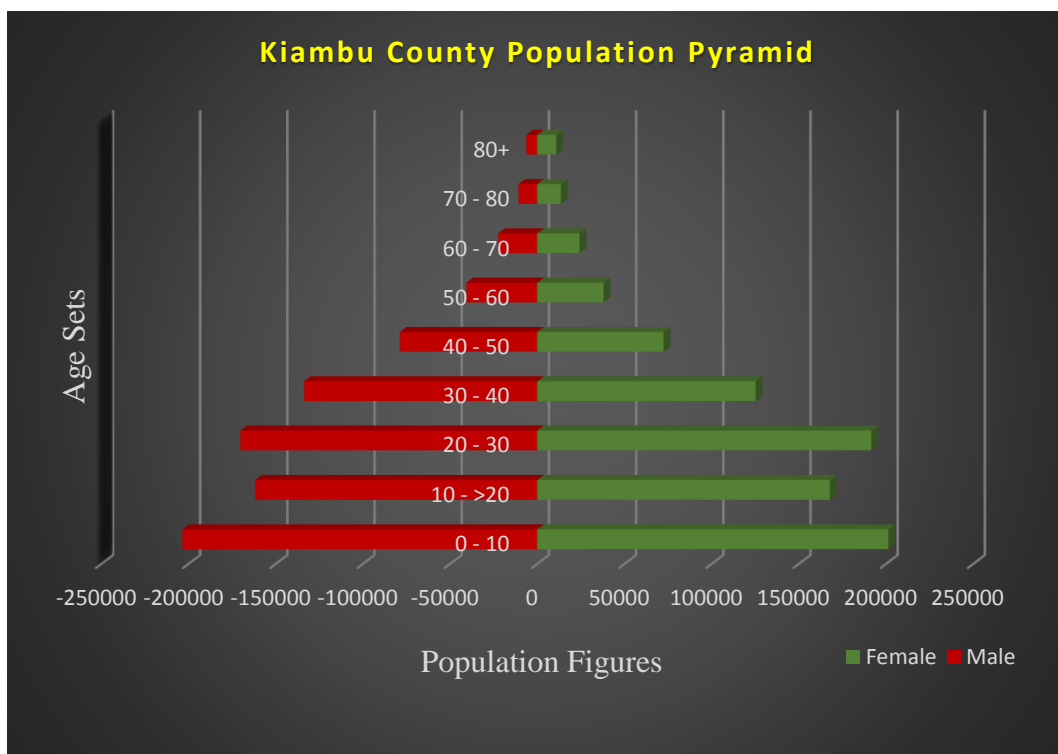
Source: <http://en.climate-data.org>

The graph shows that the study area experiences temperatures which vary with seasons. The coldest months are between June - August, while hottest temperatures are recorded in the months of January - March. Githurai has a mean temperature of 25°C. During the year, Temperatures vary with a mean minimum of 20°C and a mean maximum of 30°C recorded in the area. At an average temperature of 21.0 °C, March is the hottest month of the year. At 17.2 °C on average, July is the coldest month of the year. The variation in annual temperature is around 3.8 °C. The analysis of the rain & temperature figures, point to a region with a good climate for agricultural activities. These conditions shows that Kiambu County in general, has two planting seasons under which a variety of crops are planted. The various farm produce have a ready market in Githurai market centre which happens to be a dormitory for people working in Nairobi city.

4-5 Demographic Characteristics

The population of Mwhoko Street is derived from that of Kiambu county and Githurai location in particular. Thus it can be construed to be the population of Githurai location, which as at 2009, had 103,045 persons and 33,185 households with an average household size of 3 people. The population density is 3,206 people per sq. kilometre on average. According to the 2009 population census, over 67% of this population was between 18 to 65 years. Githurai covers an area of 32.2 square Kilometres which is 11% of the Ruiru sub-county, and hosts a population equivalent to 43% of the Sub-County. (GoK, 2009).

Figure 4. 3: Kiambu County Population Pyramid



Source: KNBS and SID, 2013

As a result of declining fertility rates among women as shown by the highest percentage household size of 0-3 members at 54%, Kiambu County has a transitional population structure where the number of 0-14 year olds, currently constitutes 35% of the total population, is declining. The youthful population (15-34 year olds), currently constituting of 40% of the total population, is increasing. This factor has contributed to the high working age population of 62% in the county which is also as a result of migration from rural areas and the high residency of people working in the city of Nairobi, its environs and the industrial town of Thika (KNBS & SID, 2013).

Table 4. 2: Population of Githurai location

Sub-Loc	Male	Female	Total	Households	Area in Km ²	Density
Kiuu	23,169	23,182	46,351	14,835	4.9	9,459
Mwihoko	5,909	6,025	11,934	3,238	25.8	463
Mwiki	21,609	23,151	44,760	15,112	1.5	29,840

Source: KNBS 2009

Mwiki and Kiu are the abutting neighbouring sub-locations to Githurai market centre, and are approximately 0-1.5km from Githurai turn off towards Mwihoko estate - the furthest end in Githurai location. From the table above it can be seen that Mwiki and Kiu sub-locations have the highest population, households, and density. This population depends on Mwihoko Street to access Githurai market centre for various services, as well as connecting to the city through Githurai bus terminus, hence leading to a big number of Pedestrians seen in Githurai. It is anticipated that the population of Githurai and its environs will continue to increase over the years to come. This future population growth can be projected using the formula below:

$$P_t = P_0 (1+r)^t$$

- Where:
- P_0 = Starting population
 - P_t = Total Population after time t (years)
 - r = Annual rate of growth
 - t = time in years

Table 4. 3: Population projection per sub location in Githurai location

Sub-Location	2,009	2,015	2,020	2,025	2,030	2,040
Kiu	46,351	53,753	60,817	68,809	77,851	88,081
Mwihoko	11,934	13,840	15,659	17,716	20,044	22,678
Mwiki	44,760	51,908	58,729	66,447	75,178	85,057

Source: Author 2016

This population projection indicates that there is an expected increase on road users of Mwihoko Street. This will give the traffic conflicts room for further manifestation along this Street and necessitates spatial interventions.

The day time population is about 50% higher than the night population due to the high number of people who reside in the nearby estates but work in Githurai. With the upgrading of Thika Super Highway that has reduced travel time from Nairobi City to Githurai from approximately 1 and ½ hours to only 30 minutes, most commercial activities have set base in Githurai, resulting to increased population. Thus, there is an additional group of people who visit the market centre during the day time to shop and visit various offices or banks.

4-6 Socio-Economic Characteristics

Mwihoko Street is supported by various economic activities that have flourished in the area, and has seen many new buildings come up. Major economic activities within the study area include: the Open air market which majorly deals with agricultural produce from small scale farmers in Kiambu County and the larger Central Kenya region. Some of the farm produce sold here include: kale, milk, poultry products like eggs, chicken and many more. Also some farm produce come from places as far as Tanzania, where onions and fruits originate from.

Once these produce are brought to the market, they are then sold to small retailers who hawk them within Githurai and neighbouring estates. Other economic activities include: supermarkets (Kassmatt, G-Matt, Stanmatt, Nairobi matt); those dealing with apparels - second hand clothe (mitumba), second hand shoes sellers; and green groceries - all operating within the road reserve; several meat butcheries operating from the semi-permanent structures which have encroached the road reserve. The construction industry is another sector that is supporting the economy of Githurai in that many residents are earning their living through this industry and its linkages. Several banking institutions have also set foot within Githurai and include: Cooperative, Family, equity and Post bank. The growth of the greater Nairobi region and improved infrastructure and services has led to new residential estates and significant retail trading operations.

4-7 Social Infrastructure

4-7.1 Education Facilities

There are a number of educational facilities within the larger Githurai centre whose pupils depend on Mwihoko Street in one way or another. Some pass there as pedestrians on their way to and from school. Others pass there as passengers while using their school buses. Therefore, they are directly affected by what happens along Mwihoko Street. Some of these schools include: Mwiki

primary which is approximately 1km from the study. This is the only public primary school in Githurai 45 area. As such, it has a high pupil population and this factor has made many parents to look for schools in the neighbouring estates like Kahawa Garrison which has a public school. Most of the other schools within the study area, are privately owned and are very expensive. Such include: Lilly Academy, Excel Academy, Brainstone Academy, Juter Academy, Mary Mother Queen primary school, Fountain Junior Academy and many others.

Generally, there is no secondary school within Githurai centre, although there are a number of driving schools. These driving schools have offices but do not have parking space for their vehicles, and thus end up parking in undesignated areas. There are also a few upstarting computer training schools in Githurai that are cashing in on the many school leavers in need of computer skills. Such students are usually inconvenienced by the disorder experienced along Mwhoko Street.

4-7.2 Health Facilities

There are no public health facilities within Githurai area. Those in need of public health services, have to travel to Ruiru, Thika, Kiambu or even Nairobi city. The only alternative for those who cannot endure the distance, are the many private hospitals, clinics and chemists that serve those who can afford to pay the exorbitant fees charged. Many of them are situated in buildings that front Mwhoko Street and they operate from single rooms, which are squeezed, and unworthy to offer health services. Therefore, the lack of an affordable health facility may prove to be a challenge to those exposed to the environmental challenges such as filthy environment of dirty drain water and uncollected garbage that is the norm.

4-7.3 Recreation Facilities

There are no public open spaces within Githurai that may be used for recreational purposes. This may be attributed to the haphazard development that has taken place, whereby such facilities were not considered. Due to such absence, children staying along Mwhoko Street play on the carriageway, with accidents becoming a normal occurrence. Githurai has a bustling nightlife and modern recreation centres for grownups, with many drinking joints where they pass their leisure time. Most of these joints are located within residential areas and do not have parking space for their patrons, who then end up parking along Mwhoko street thus interfering with the smooth flow of traffic and pedestrians.

4-8 Physical Infrastructure

4-8.1 Road and Railway Transport

Githurai market Centre is served by two major transport corridors: Thika super highway and the railway line connecting Nairobi and Nanyuki, plus other feeder roads which link the market to other estates. The major artery is Mwhoko Street which is a single carriageway. Mwhoko road is the one that is used by matatus, motorcycles, and tuk tuks to ferry residents from neighbouring places to Githurai bus stage, en-route to other destinations. Private vehicle owners from surrounding estates also use Mwhoko Street to access Thika super highway. The modernization of Thika super highway has attracted many residents who own vehicles and this has led to congestion along this main artery.

The railway line is used by a commuter train that provides both passenger and goods services on a daily basis from Nairobi city through Umoja – Dandora - Githurai and ends up in Ruiru town. There are two passenger trains in the morning and in the evening. In morning hours, the first one passes at 6 AM and the second one at 7 AM. In the evening, the first one arrives at 6 PM and the second one at 7 PM. This line basically links Githurai with industrial area, and city Centre where majority of its commuters work. Since it provides a direct link to work places, many people prefer this mode than road in that it saves both time and money. Thus it serves commuters from as far as Githurai 44, who work in the direction of industrial area. These passengers usually use Mwhoko street to access the railway termini and there are inconvenienced by the problem of disorder.

4-8.2 Water and Sewerage

Rapid unplanned growth and informal settlement fuelled by Nairobi's urban sprawl, have put high pressures on the capacity of Githurai's water infrastructure to provide water services. While piped water is still a major source of water supply in Githurai, residents access multiple sources to collect water for household use. The major water suppliers in Githurai are the Athi Water Services Board (AWSB), the Nairobi Water and Sewerage Company (NWSC) and private borehole operators, which supply both through piped connections and water kiosks. Rainwater harvesting, door-to-door vending, private wells and the rivers are also used. Generally, it can be said that approximately 75% of water consumers in Githurai are well supplied. Githurai 45 is usually faced with water pipe breakage and as a result water vendors cash in on the water scarcity by buying water from Githurai 44 side and then sell to residents of Githurai 45.

Githurai's lack of sanitation facilities creates a public health threat. There is no sewer system to meet the needs of the growing population. Septic tanks and wells have been dug in the absence of government oversight and without consideration for public health outcomes. Pit latrines or septic tanks are often too closely spaced to shallow wells, and therefore a risk to contaminating the water supply. In most cases septic tanks once full overflow into open storm drains that ends up polluting the open drains that empty to Kiuu River. There were plans of constructing a sewer line, and the tender given to a Chinese company, but due to non-involvement of residents in planning, they petitioned their Member of Parliament (Hon. Alice Gathogo) for the project to be stopped since it was going to dislocate some of them. The sewer line was intended to connect with Kiu - Dandora sewer line, which serves Kahawa Sukari area. Therefore, the filthy open drains may have healthy consequences through the infection of farm produce that are hawked along Mwihoko Street.

4-8.3 Solid Waste System

Poor solid waste disposal and collection is a major problem in Githurai. Kiambu County provides collection service that are not adequate. The workers do their work in the morning, but since there are few collection trucks, much of the waste is thrown into storm drains where they end up blocking the smooth flow of dirty water forcing it to drain onto the walkways. Also the county workers are usually overwhelmed by the amount of waste produced by the large number of traders within the study area. The traders treat their area of operation as a space for commons, and so do not mind where the waste they produce ends up.

4-9 Legal Framework Guiding Street Functionality

4-9.1 Kenya Constitution, 2010

The constitution under Article 43 - Economic and social rights; outlines various rights that the citizens are entitled to, despite their social status as well as their physical challenges. Section (b) outlines the right to accessible and adequate housing, and to reasonable Standards of sanitation; while 43(c) refers to the right to be free from hunger, and to have adequate food of acceptable quality. These two sections basically mean that the government should directly provide the fore mentioned rights, or it should provide an enabling environment under which the citizens can work comfortably to earn an honest living that will enable them to achieve those rights. Thus, provision of a proper functioning street makes the movement of goods and services easier and cheaper to the residents. Therefore, for a street corridor to adhere to this provision, it should provide for all the

road users, thus achieve economic rights to the informal sector entrepreneurs and hence right to the urban economy.

The Constitution under various articles {e.g. 69(d), 118(b), 196(b)} provides for public participation in the development process and decision making. Therefore at all stages of designing a proper street that can accommodate various informal activities, public participation should be adhered to.

4-9.2 Traffic Act, 2012

The Traffic Act, 2012 outlines penalties to any road user who violates the law. The violations includes causing death through reckless or dangerous driving, Unauthorized driving of a public service, Overlapping, driving on pavements and pedestrian walkways or using petrol stations to avoid traffic, and over speeding. Also it takes care of motor cycle operator whereby he should ferry one passenger only and the passenger and rider must be in reflective vests and helmets. The above offences contribute to street space use contestation that may lead to accidents as well as loss of lives. If the road users observe them then minimal occurrences of space use contestation will be witnessed.

4-9.3 Urban Areas and Cities Act, 2011

The Urban Areas and Cities Act, 2011 gives effect to Article 184 of the Constitution of Kenya, 2010. The Act provides for: the classification, governance and management of urban areas and cities; the criteria for establishing urban areas and; the principle of governance and participation of residents in the governance of urban areas and cities.

The Urban Areas and Cities Act, 2011 under Part V, proposes preparation of an Integrated Development Plan for proper management of urban centres. More specifically, in section 36(1) it states that, every city and municipality established under this Act shall operate within the framework of integrated development planning which shall - (e) Nurture and promote development of informal commercial activities in an orderly and sustainable manner. Thus, any plan to be prepared for Githurai market centre, will have to be in line with what the Act states.

4-9.4 County Government Act, 2012

The Distribution of Functions between the National Government and the County Governments are outlined in the 2010 Kenya Constitution under the Fourth Schedule (*Article 185 (2), 186 (1) and 187 (2)*). Some of the functions and powers of the county Governments include:

- County transport: (a) County roads (class D and below), (b) Street lighting, (c) Traffic and parking, (d) Public road transport, and (e) Ferries and harbours, excluding the regulation of international and national shipping and matters related thereto.
- County planning and development, including; (a) statistics, (b) land survey and mapping, (c) boundaries and fencing, (d) housing; and (e) electricity and gas reticulation and energy regulation.
- Trade development and regulation, including; (a) Markets, (b) Trade licences (excluding regulation of professions), (c) Fair trading practices, (d) Local tourism, and (e) Cooperative societies which imply that county system will be instrumental in resource allocation and planning for the development of SMEs in Kenya..

The current state of affair in Githurai centre shows a state of neglect on the part of the County government whereby it seems to be detached from the activities taking place there. The county government has started implementing what is outlined in the 2010 Kenya Constitution. Therefore, in coming up with a well-designed plan that will integrate all activities in the study area, reference will be made to the above functions. The county government will come in handy during the implementation and development control stage.

4-9.5 Way -Leave Act (Cap 292)

Conferring to Section 3 of the Act, the Government may carry out any works through; over or under any land whatsoever, provided it shall not interfere with any existing building or structure of an ongoing activity. Notice, however, should be given one month before carrying out any such works (Section 4). This Notice shall additionally be accompanied by full description of the intended works and targeted place for inspection. Any damages caused by the works would then be compensated for to the owner.

Section 8 of the Act states that any person whom without consent causes any building to be nearly erected on a Way-Leave, or cause hindrance along the Way-Leave shall be guilty of an offence and any alternations will be done at his/her costs. Along Mwihoko street various structures have encroached on the road reserve which might be impacted upon during expansion stage. For those who have obstructed the right of way, prior notice should be served on the intention to demolish them, while those who will be required to ease their land, compensation will be provided.

4-9.6 Environmental Management and Coordination Act, 1999

The EIA (Environmental Impact Assessment) Regulations are meant to operate under Section 58 of EMCA. It makes it illegal for anyone to undertake developments without an EIA license. All development projects ought to be economically viable, socially acceptable and environmentally sound. It is a condition to conduct Environmental Impact Assessment on development Projects. EIA assesses the impacts of a proposed project before commencement of implementation. In addition to helping formulate proper development policy, EIA provides for public participation in the decision making process in respect of a given proposed project. EIA serves the following purposes: Integration of environmental issues into planning and decision making processes; Anticipation, minimization and mitigation of environmental damage and recommendation of alternatives; and Public participation in decision making and environmental conservation.

The Act has identified several projects which require an EIA to be done before they are started. Some of these projects are of the built environment category including construction of: - all buildings; all major roads; all roads in scenic, wooded or mountainous areas and wetlands; Railway lines; Airports and airfields; Oil and gas pipelines; and Water transport. Also in case of creating a new settlement, EIA is required to find out the negative impacts that may result from bringing people to such an area. Settlement here, may refer to setting aside land within an urban area to locate informal sector activities. Sometimes such an area may be ecologically sensitive and so may not be suitable to hold such activities. Thus, even Mvihoko street in the process of it being upgraded should undergo an EIA to find whether proper drainage is provided for, and that sites selected to accommodate informal activities are conducive and not ecologically sensitive.

4-9.7 National Transport and Safety Authority Act (NTSA), 2012

National Transport and Safety Authority Act, 2012, touches on various areas that are relevant to informal sector activities as outlined below:

- The NTSA (Operation of motorcycles) Regulations, 2014; outlines some of the responsibilities of a Rider as being: Have a valid driving license issued by the Authority; Not carry more than one person at a time; Ensure that loads and passengers are not carried at the same time; Not park in undesignated areas.
- In the case of Operation of Three Wheeled Motorcycles: Every rider of a three wheeled motorcycle shall: Not ride a motorcycle unless that person has a valid driving licence issued

by the Authority; To overtake on the right hand side and not to overtake in the same lane occupied by vehicle being overtaken; Not to ride or operate a motorcycle between lanes of traffic or between adjacent lines or rows of vehicles; To observe all traffic rules.

But it seems the NTSA regulations are being flouted along Mwhiko street given the fact that the mentioned operators are not following them. This is exacerbated by the fact that there are no traffic officers manning this street.

4-10 Policy Framework Guiding Street Functionality

4-10.1 Vision 2030, Kenya

In the Kenya Vision 2030, six priority sectors have been identified as having the highest potential for economic growth. These sectors are: tourism, agriculture, manufacturing, wholesale and retail trade, business processing outsourcing and financial services. However, to exploit the growth potential from these sectors, it is necessary to improve the infrastructure in areas that best support these growth engines, in addition to implementing key reforms in the public sector. Vision 2030 envisages a country firmly interconnected through a network of roads, railways, ports, airports, waterways and telecommunications. The 2030 vision for infrastructure is; *“To deploy and employ cost-effective world-class infrastructure facilities and services in support of socio-economic development”* On Poverty reduction, and reduced income disparities, the objective under this thrust is to reduce inequality in access to public services and income opportunities across gender, social status and regions. The specific goal is to reduce the national poverty ratio from the current 46 per cent to a range of between 30 and 35 per cent by 2012. A key strategy towards attaining this goal is to target more income-earning opportunities for disadvantaged groups and regions in the six growth sectors of tourism, agriculture, wholesale and retail trade, manufacturing, Business Process Out-sourcing / Offshoring (BPO) and financial services. There will also be increased infrastructure spending in the sub-sectors of roads, water, sewerage, communications, electricity and lighting targeting poor communities and regions. These measures will be aimed at creating an enabling environment for poor communities to take part in wealth creation for themselves and their country.

Specifically the informal sector is dealt with under the Economic Pillar in the subsection of *Wholesale and retail trade*. The 2030 vision for wholesale and retail trade, is to raise earnings by giving our large *informal sector* opportunities to transform itself into a part of the formal sector that is efficient, multi-tiered, diversified in product range and innovative. This will be realised

through: (i) training and credit (ii) improving efficiency by reducing the number of players between the producer and the consumer; (iii) creating formal market outlets for small scale operators who will then graduate from the informal sector; (iv) encouraging more investment in retail trade; (iv) developing an outreach programme to expand retail trade; and (v) developing training programmes to improve retail skills.

From the specific goal of the vision (reducing national poverty) and key strategy towards attaining this goal (targeting more income-earning opportunities for disadvantaged groups), it can be seen that the vision augurs well for those involved in the informal sector along Mwihoko street. This is true given that the informal activities they are involved in, is a self-venture that is a source of income since white-collar jobs have become scarce. Therefore the vision needs to be implemented so as to streamline the activities along Mwihoko street. This can be implemented through the provision of training opportunities and credit facilities to those in the informal sector operating along Mwihoko street, and also provision of planned vending sites.

4-10.2 Integrated National Transport Policy (2012)

The aim of this document is to provide a policy that is conducive to the stimulation of rapid development and efficient management of a safe, widely accessible transport system that responds to modern technological advancement in a rapidly changing and globalized environment (INTP 2009 page, 20). It points out that the road transport sector's main aim is to provide an integrated, efficient, reliable and sustainable road transport infrastructure that meets national and regional passenger and freight transport goals and supports the government's socio-economic development strategies to promote accessibility to services and the safe movement of people and goods, while being environmentally and economically sustainable. But in its institutional framework it does not provide for people in charge of planning for the infrastructure in relation to the accompanying land uses. Still it has no clear measures to coordinate its institutions with the national and county planning departments.

The aim of this policy is noble in that it intends to respond to modernity, where infrastructure is supposed to serve multiple users rather than a single user. Given the challenges experienced along Mwihoko street, the County government of Kiambu can work in conjunction with the National government to come up with a street design that will satisfy all users, with those in the informal sector included.

4-10.3 The National Urban Development Policy (2012)

The National Urban Development Policy is part of the Government's efforts to implement the provisions on urban development contained in the Constitution, particularly in Article 176 and 184 dealing with devolution, classification and management of urban areas, including popular participation. This policy recognizes that Kenya has cities and towns. It is the one that gave birth to the enactment of Urban Areas and Cities Act, 2011.

This policy was prepared due to the expected demographic, social and economic changes that will be brought about by urbanization. It aims to strengthen development planning, urban governance and management, urban investments and delivery of social and physical infrastructure in urban areas throughout the country. The long-term goal of the Policy is to accelerate economic growth, reduce poverty, promote equity and help the nation realize *Vision 2030*, which aims to make Kenya a middle-income country within two decades. The Policy also responds to the Constitution of Kenya 2010 that calls for devolved governance at the county level and to the Urban Areas and Cities Act 2011, which was enacted to comply with this requirement.

According to Nabutola (2012), Social infrastructure and services are critical to the development of sustainable urban communities. However, urban areas in Kenya have in the past failed to provide the requisite social infrastructure and services. The Policy creates a framework for the planning, development and management of education and health facilities, and public open spaces, parks and recreational facilities, including but not limited to sports amenities. Cities and urban areas are also characterized by poor physical infrastructure and services, making it difficult to deliver competitive and liveable cities. The Policy has prioritized planning and development of the much-needed physical infrastructure and services for sustainable urbanization. In addition, in the face of rapid urbanization, informal settlements have come to epitomize housing in urban areas cities. On average, informal settlements cater for 60% of the total urban population. In response to fast growing demand for appropriate urban housing the Policy recommends mechanisms to deliver affordable housing of acceptable quality.

Cities and urban areas have witnessed a rising incidence of insecurity. Yet urban safety is critical for the realization of sustainable urban communities. In order to better manage urban insecurity this Policy creates a framework for the engagement of various stakeholders in urban safety management. Moreover, in view of the increasing exposure of urban areas and cities to the threat

of disaster, with the potential to cause massive loss of life and property, the Policy creates structures for mainstreaming disaster risk management in urban planning and development. In compliance with the constitutional provision on marginalized and vulnerable groups, the Policy requires urban authorities to take necessary measures to mainstream the needs and concerns of these groups in planning and development. The policy also addresses cross-cutting issues and the key elements of an implementation framework.

On poverty and economic empowerment, the policy recognizes that the marginalised and vulnerable groups in urban areas face high unemployment levels. They have inadequate opportunities in education and the urban economy, in addition to having poor access to health and sanitation facilities. To address these disadvantages, it proposes that the National and County governments will: Promote poverty reduction strategies; Promote incentives to encourage employment of the marginalised and vulnerable groups in urban areas and cities; promote programmes that encourage marginalised and vulnerable groups to engage in productive economic activity; and lastly, promote awareness of existing urban policies to empower the marginalised groups.

This policy expects the county government of Kiambu to create an enabling environment along Mwihoko street for the informal sector to thrive, while at the same taking care of other street users competing for space. They may do this by implementing the Urban Areas and Cities Act, 2011 that requires management of urban areas to be under town management committees for easier response to local needs that require quick decisions.

4-10.4 Physical Planning Handbook

Under the Physical Planning Order, 1998 Part II; the handbook proposes that: No development shall be carried out which creates an obstruction to the view of persons using any road used by vehicular traffic at or near any bend corner, junction or intersection of any roads so as to be likely to cause danger to such persons. It also proposes that no part of any building shall project beyond any building line laid down for the holding or plot.

The Physical Planning Handbook (2007) section 13.1.3, states that: Urban road reserves require more generous space provision because of additional street furniture and infrastructural facilities that have to be provided. It goes further to state that in most instances, the road has to accommodate multiple functions that have to be independently provided in design. Way-leaves for trunk services

such as water and sewerage, underground telephone cables and high voltage power lines, when provided along road reserves require additional provision. It continues to state that, *the role of the informal sector in job creation* in urban areas has now been recognized. Most of the informal activities are footloose and heavily dependent on passing trade. They therefore require specific provision when located within road reserves. As such, the handbook is a good reference when ordering activities along Mwioko street.

PPH takes cognisance of the fact that the informal sector is a critical part of the economy which absorbs a big number of people, and since these activities take place at crossroads that are synonymous with big traffic, they therefore require to be planned for. The PPH aspires that any road improvement should take cognisance of the users. Thus in the case of Mwioko street, the improvement should be done in such a way that the design accommodates all the street users with informal activities included.

4-11 Conclusion

In conclusion, literature on site analysis has shown that Githurai urban centre is uniquely located. Its location at the periphery of Nairobi city, and the fact that rents are cheaper, has attracted many people working in Nairobi who have converted the centre into a dormitory. The presence of this large population has in turn attracted many informal traders who have found a ready market. The study has further shown that the good climatic conditions within Kiambu County and other surrounding areas, are favourable for agriculture activities and residents have taken full advantage of this. And Githurai urban centre with its large population has turned out to be a resourceful market for their farm produce. From the fact that land set aside for an open air market has continued to shrink over the years with the over expanding number of informal traders, there has been an overflow of these traders to other spaces resulting to inconveniencing many residents. Therefore this calls for proper urban planning and design to re-organise and integrate this sector into the urban system.

CHAPTER 5: SPACE USE CONTESTATION ON MWIHOKO STREET

5-1 Introduction

The study's main aim was to assess the implications of urban street space use contestation by informal activities, while a subsidiary aim of the research was to propose better planning approaches that can mitigate/mediate the space contestation. This chapter examines the study's objectives 1, 2 and 3. Data collection during field survey was done using: observations – visual characteristics of study area recorded on maps & observation forms, administration of survey instruments – questionnaires & interviews for key informants. Descriptive statistics has been presented using table, bar chart and pie charts as Mugenda (1999) states; - they are good for descriptive variable. Interpretive analysis follows each descriptive statistics.

5-2 Major Activities Located Along Mwihoko Street

This section intends to assess and map major activities located along Mwihoko Street in Githurai, and also note the areas that have been affected by space use contestation.

5-2.1 Activity Types

The study found that Mwihoko Street is home to a number of land uses that are located along its sides. The buildings go up four -to- five floors, meaning that they are of high density and therefore serve many people. Unfortunately, they are served by septic tanks for sewer disposal, given that there is no sewer line in the area. The residents of this area rely on Mwihoko Street as the main artery to access Thika superhighway. These buildings comprise of a mixture of business cum residential usage consisting of 4-5 floor (see Plate 4.1). Some buildings are purely commercial in terms of the activities being undertaken there. Such activities include; supermarkets, night clubs and bars; restaurants, banks and SACCOs.

Plate 5. 1: Commercial building



Source: Author, 2016

The above building (Plate 5.1) situated near the junction of Mwhoko Street and Thika superhighway, houses Balcon housing Co. Ltd, Post Bank and other business premises. Next to the above building is another one that houses Family Bank, which together have taken part of the road reserve and converted it into a large parking space that serves customers and their employees. Another building across the street, houses Co-op bank and Kassmatt supermarket, and the two combined attract many customers. They have created a parking for their customers on land meant for the road reserve. This has brought interference on other street users.

The study also found that Informal traders whose businesses is characterized by temporary structures, have occupied much of the space along the study area. These traders deal with various commodities; from apparels to agricultural produce. The most prominent sites are: tomato wholesale site (see Plate 4.3), the bus terminus, and open air market. The Tomato wholesale site is located at the intersection of Mwhoko Street and one of its feeder road. It takes much of the road reserve, leaving pedestrians and other road users to compete for the small space remaining. The wholesale activities takes place in the morning hours up to 11.00 AM. During this time, the site attracts many wholesalers and retailers who converge to transact. The retailers transport the tomatoes to other estates, but the majority are vendors within Githurai. After the wholesale activity is over, other activities take over the space, and include: small tomato retailers, second hand shoe

sellers, chicken sellers, mama mbogas, fruit sellers, and furniture dealers. The following plates illustrate this:

Plate 5. 3: Tomato wholesale site



Plate 5. 2: Small scale retailers along the street



Plate 5. 5: Users contesting for space



Plate 5. 4: Pedestrians using the carriageway



Source: Author, 2016

The study area is dotted with wooden temporary structures from where street vendors operate. They deal mostly in agriculture produce like; fruits vegetables, and apparels. There are others, involved in manicure and pedicure activities along the street sides. There are also street vendors

who hawk their wares from one point to another depending on the flow of potential customers who are usually pedestrians. The study area contains Githurai open air market which attract and generate a lot of traffic in terms of motorized (Lorries, motorcycles, private cars) and NMT (pedestrians, cyclists, wheelbarrows and handcarts pushers) as they ferry goods to and from the market. Much of the open air market land has been encroached upon through illegal acquisition. The areas that were illegally acquired are currently occupied by business cum residential buildings. These buildings house some of the banking, health and education facilities, as well as bars and night clubs. Thus, the remaining land left for the open air market cannot serve the many traders who need space for their businesses. Furthermore, the traders who got spaces within the market, have built wooden structures, meaning new entrants cannot find space within the market. As a result, most of the access roads around the market have been taken over by the traders/vendors who have spilt over onto Mwihoko Street.

5-2.2 Building Form and Line in the Study Area

A building line is a line on an allotment of land parallel to the boundary of that lot with a public place, normally a road, park or reserve. It is important to provide some guidance to people developing their properties so as to assist them in positioning buildings.

Plate 5. 6: Building Form in the study area



Source: Author, 2016

The building line also provides some certainty to existing owners as to where they can expect new buildings to be located, and thus contribute to an attractive streetscape, and preserve and promote visual amenity. It also provides areas for landscaping. The buildings along the Street go up four - to- five floors, and have been constructed beacon to beacon such that no service lanes exist between them. Those fronting the street, have their balcony protruding towards the road reserve, thereby encroaching on the area reserved for public utilities. As such, the structures have not followed any building line.

The ground floor of most of these buildings, more so, the section facing the street, have been subdivided into rooms of approximately 10 feet by 10 feet. Such rooms have been sublet to serve as chemists, butcheries, beauty shops, apparels, cereal shops, hardwares, cafes and hotels, bookshops, and electronic shops. Some of these activities like cereal shops, hardware, and apparel shops tend to display their wares onto the space in front of the shops, and in so doing, interfere with other street uses. In most of the buildings, only the front room facing the street are used for commercial activities. The other rooms are let out for residential usage.

5-2.3 Places and Nature of Contestation

Problems of space use Contestation along Mwhoko Street vary depending on the time, site, and type of activity being carried out. Movement of various users is mostly affected in the morning and evening hours. This happens because, this is the time many people are travelling to work or coming from work. During this time, most of the road users who include: pedestrians, boda bodas, tuk tuks, Matatus, cart pushers, cyclists, and street vendors; struggle to reach their destination by using Mwhoko street. Plate 5.7 illustrates a typical morning hours in the study area.

Plate 5. 7: Un-designated Bus Terminus

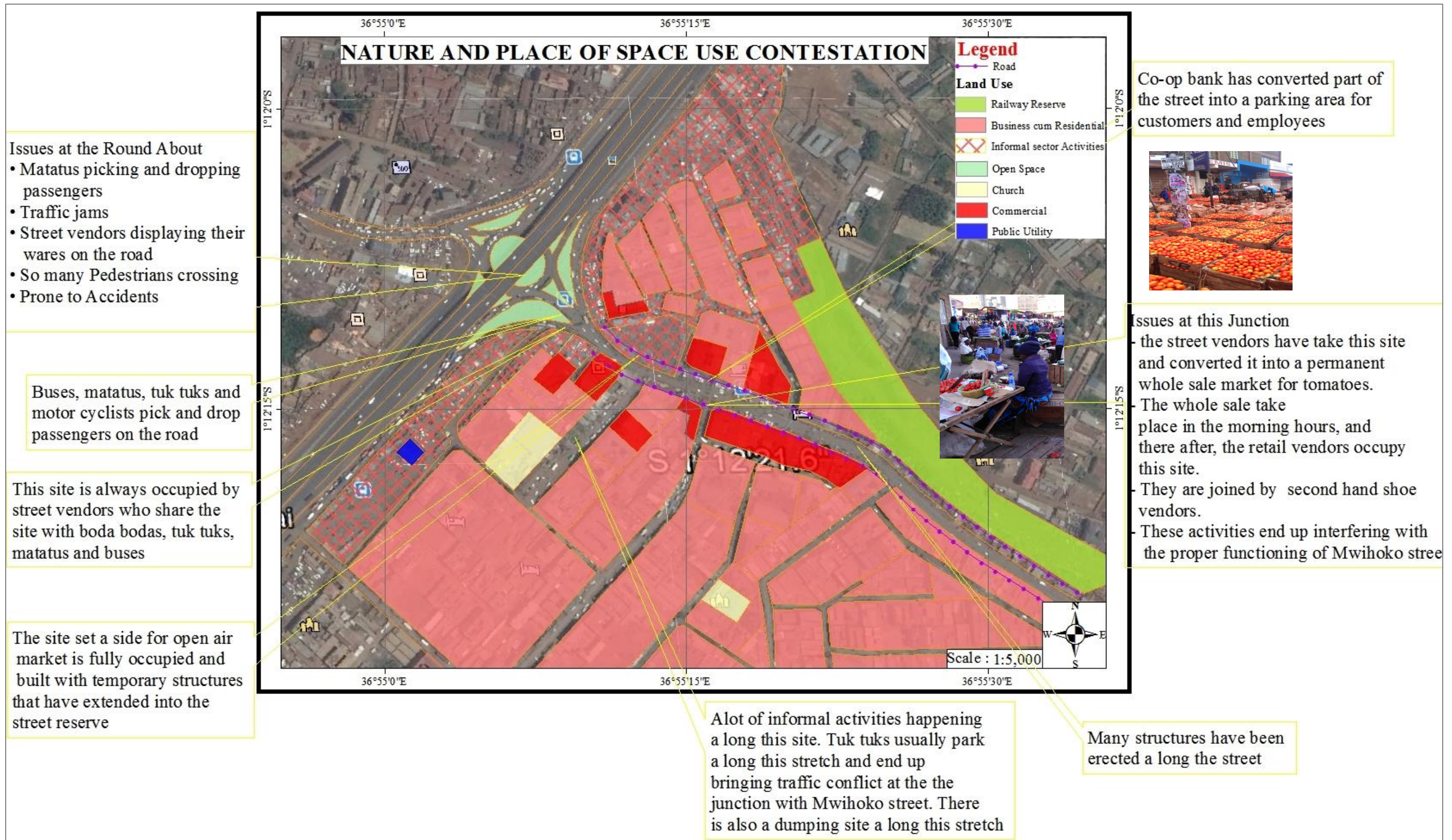


Source: Author, 2016

Most of the street users contest for space on the carriageway, since the sidewalks have been taken over by informal activities. The situation becomes worse if a vehicle stalls on the road, or a cart pusher decides to rest his cart on the road. This view was supported by 15% of the respondents who said that the poor conditioned vehicles often break down on the carriageway obstructing other users thus creating traffic jams.

Map 5.1 illustrates the sites where space use contestation is experienced. Some of these sites include: the roundabout where the following issues are experienced; Matatus picking and dropping passengers thus leading to Traffic jams, Street vendors displaying their wares on the road, Pedestrians crossing from Githurai 45 to Githurai 44, and generally, the site is prone to accidents.

Map 5. 1: Nature and Places of Space Contestation

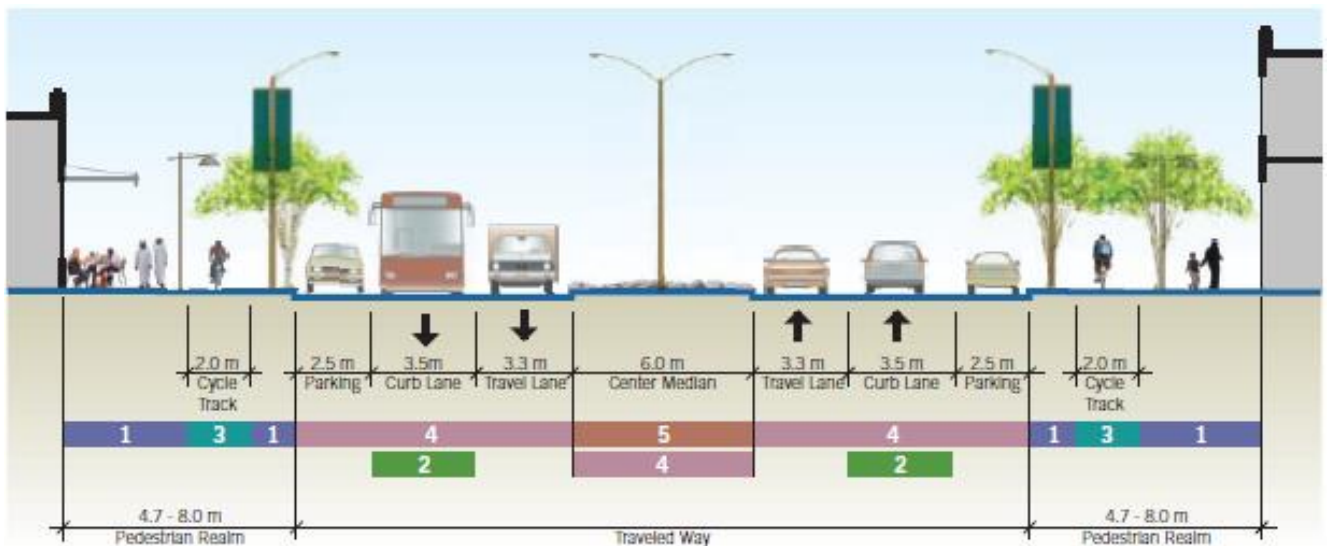


Source: Field Work, 2016

5-2.4 Mwihoko Street Design

Street exist not just for movement, but as a space that everyone shares. This means that they should be designed in a way that serve multiple functions. The multiple functions of streets in urban areas can be summarized as: a channel of movement, a communication space, a public space, a place of social and commercial encounter and exchange, a place to do business, a political space and also a symbolic and ceremonial space in the city. Thus a good street design should be one that divides the street into various zones. These zones include; roadway zone, curb side zone, amenity zone, and walking zones as illustrated in figure 5.1.

Figure 5. 1: Sample design street cross section



Source: Street and Site Plan Design Standards - Chicago Department of Transportation, 2007 - accessed 2016

Mwihoko street was initially planned to be 25 metres in width, but over time much of this reserve has been encroached. The design for this street has not taken into consideration the various functions that a well-designed street should serve. The street is a single narrow carriageway that serves many street users, and has no separate walkways or cycle paths subjecting every mode to use the carriageway for movement (see plates 5.4 & 5.5). The shoulders of the street have been taken over by informal sector activities, and therefore pedestrians are forced to walk on the roadway zone (see plate 5.4). 20% of the respondents attributed space use contest to the inappropriate road design in the study area. This was evidenced by vehicles using part of the street to pick and drop passengers since there is no designated stage along the street. There are also many T junctions along Mwihoko Street whereby traffic from those feeder roads joining Mwihoko street,

usually obstruct traffic along Mwihoko Street. There are no traffic lights, and when there are no police officers to direct vehicles, the movement becomes a quagmire.

5-2.5 Traffic Experience in the Study Area

Mwihoko Street is characterized by several T-junctions that feed it with traffic from residential estates, and other land uses like educational, religious or recreational. These junctions have witnessed an influx of informal traders who have taken over much of the streets joining Mwihoko Street. As a result, these junctions are so narrow thus impairing corner negotiation of vehicles joining or leaving Mwihoko Street at these points. This situation is worsened by the fact that there are no traffic control mechanisms (traffic lights, speed pumps or traffic police officers) in place within the study area. This impediment affects the traffic flow along Mwihoko Street since the through traffic has to wait for the vehicles joining or leaving the street.

At the Thika superhighway- Mwihoko Street intersection, buses and Matatus have converted sections of Mwihoko Street for un-designated bus terminus. This site is not only used by vehicles plying Githurai route, but also by vehicles serving people of Mount Kenya region and beyond who drop and pick passengers at this intersection. This has eased transportation services to residents of Githurai, but has also contributed to the traffic problems, for it creates massive traffic congestion at this intersection; leading to traffic snarl-ups along Mwihoko street to as far as 1 km away. This congestion is felt along Thika superhighway more so, on the service lane where massive traffic jam is experienced due to the high traffic volume on this road. Customers of farm produce and those who come for other services in Githurai, are affected negatively.

The next junction is that heading to the open air market, where traffic ferrying goods to and from the market pass, involving trailers, canters, handcarts, people, and wheelbarrows. This turn-off is narrow since its sides are occupied by informal traders and thus cannot allow vehicles to access the market easily. This usually leads to in-coming traffic piling up on Mwihoko Street to give way to outgoing vehicles first before they can get their turn of offloading goods in the market. By parking along Mwihoko Street, these vehicles obstruct the through traffic along Mwihoko Street hence increasing competition for space use. The market operates on a daily basis and therefore this is a daily occurrence along this street that is more pronounced in morning and evening hours when goods are brought to the market.

The third T-junction, is the one heading to Naivas supermarket, which has been converted into a parking lot by tuk tuks lining up to wait for their turn to pick passengers from an un-designated bus terminus. The tuk tuks use this junction as an entry and exit to Mwihoko Street, causing massive jams along Mwihoko Street. With the fact that sides of this adjoining street are occupied by street vendors, the space left is so narrow and therefore tuk tuks' activities at this site have become an impediment to the smooth movement of other street user and pedestrians included.

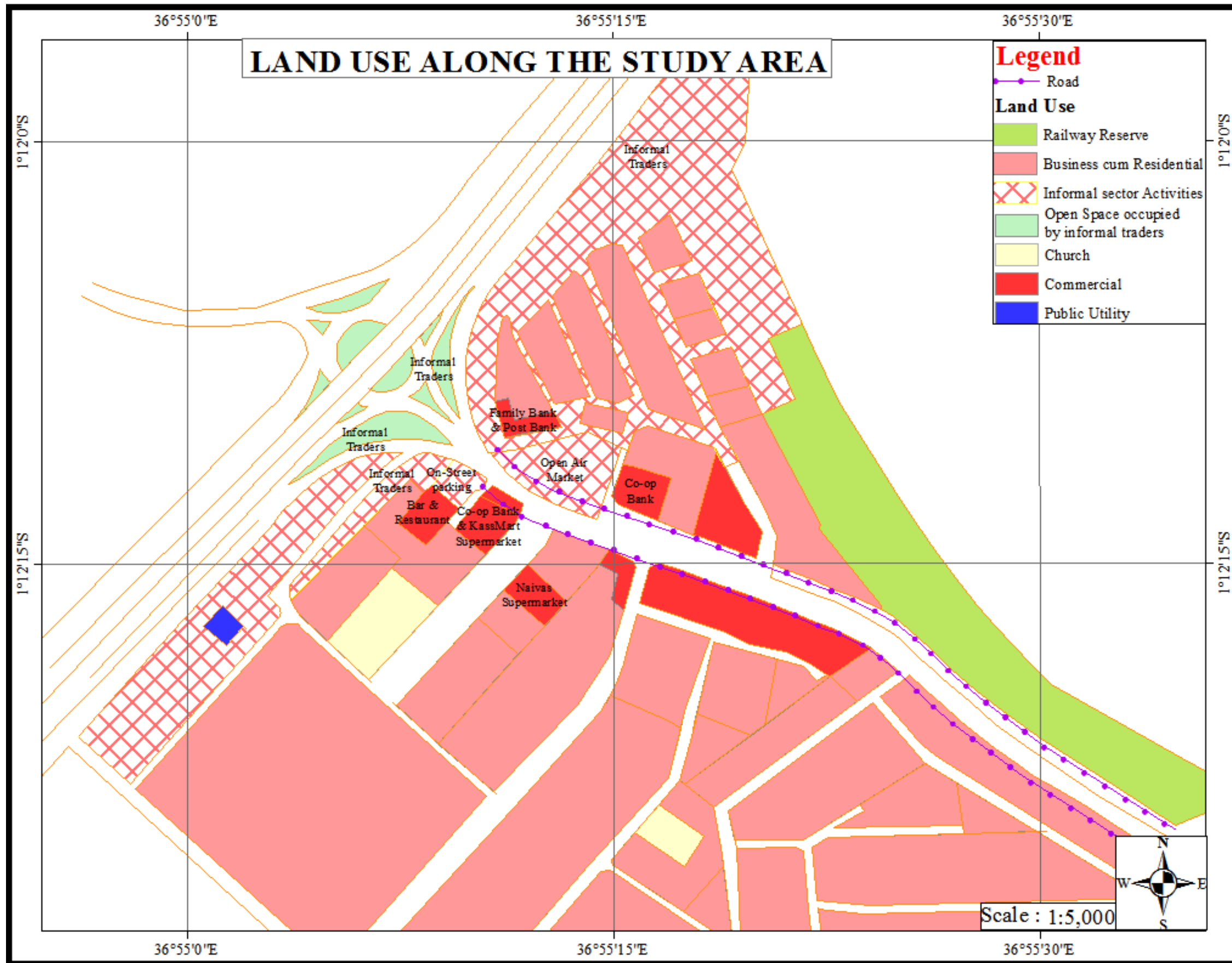
The last major T-junction along the study area, is the one used as a tomato wholesale market. The market has taken both sides of this street leaving a very narrow strip to be used by other street users. The wholesale of tomatoes takes place in the morning hours, but can go on until afternoon depending on demand. Afterwards, the site is then occupied by small tomato retailers, apparel dealers, chicken sellers, furniture dealers etc. all these activities impede other street users from enjoying the use of Mwihoko Street.

5-2.6 Land Uses along Mwihoko street

Various land uses exist along Mwihoko street, namely; commercial, business-cum-residential, public utility, light industrial (Jua kali activities), recreational, educational and many others. Business cum residential buildings of 4-5 floors, are the majority in the study area. Commercial land uses comprise of buildings which house formal licensed businesses, and areas with informal small businesses characterized by temporary wooden structures.

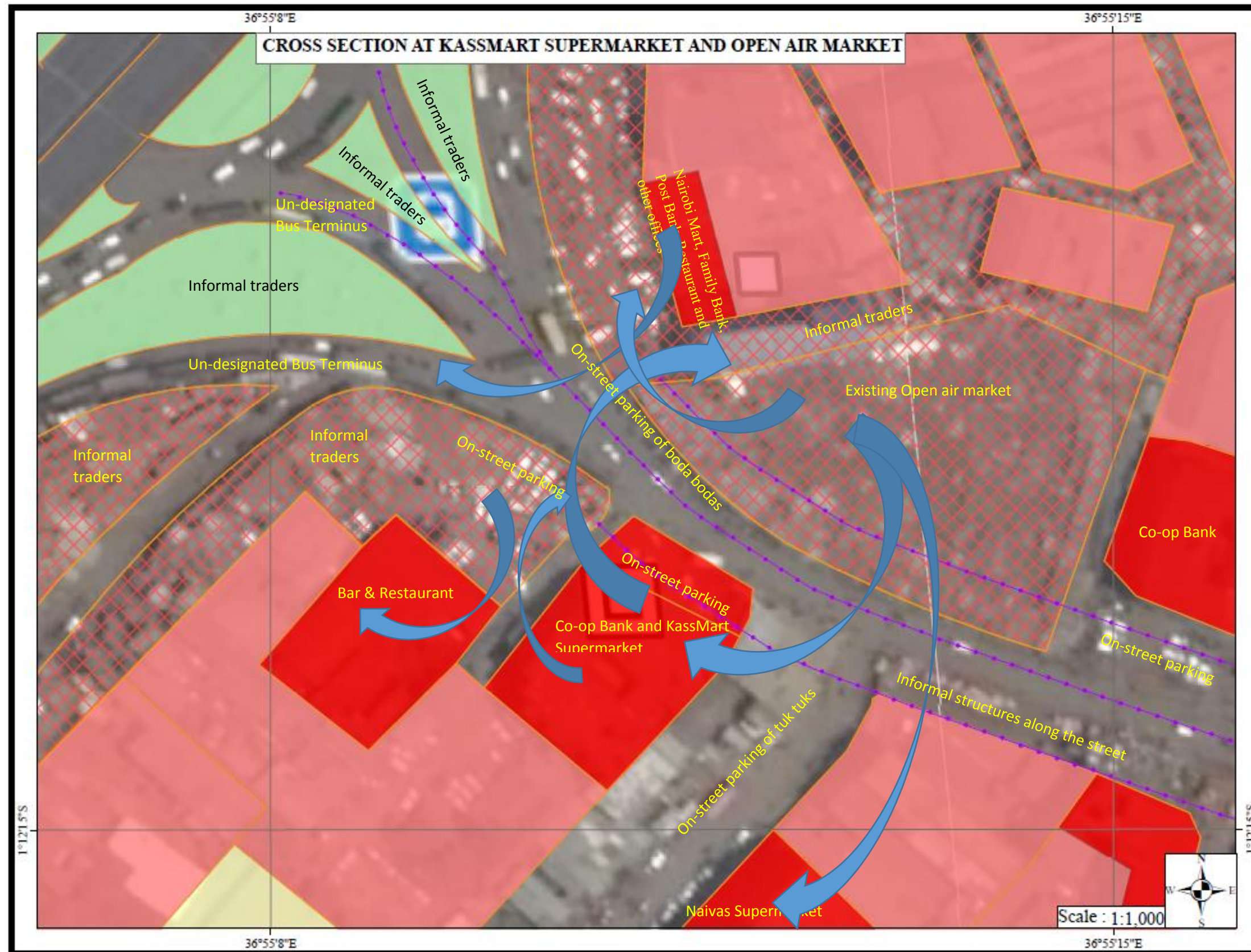
Mwihoko street is abutted on one side by Githurai open air market which attract and generate volumes of traffic either motorized - lorries, motorcycles, private cars; or NMT - people, wheelbarrows, handcarts and bicycles; as they ferry goods to and from the market. Much of the land set out for the open air market has been grabbed and business-cum-residential buildings constructed thus encroaching on the market space, and limiting operations within it. Some of these buildings house; driving schools, health and education facilities, as well as the bars and night clubs. Other major facilities located along Mwihoko Street include; Kassmatt supermarket, Market club, Co-op bank, Post bank and Family Bank - which attract and generate traffic due the nature of services they offer while providing minimal or no parking for their customers. The surrounding estates also generate traffic that is directed towards Mwihoko Street en-route to other destinations. Map 5.2 illustrates Land Uses in the study area, while Map 5.3 illustrates a Cross Section interdependency that exist between various land uses as observed at a spot next to KassMart Supermarket and the Open air market.

Map 5. 2: Land Use along the study area



Source: Author, 2016

Map 5.3: Inter-Dependency that Exist between Various Land Use Sites



The blue arrows indicate the inter-dependency that exist between various land use sites along the study area.

Various users' criss-cross Mwhoko Street in the cause of looking for goods and services.

The banks depend on traders to bank their daily earnings. Banks also serve residents from surrounding catchment estates.

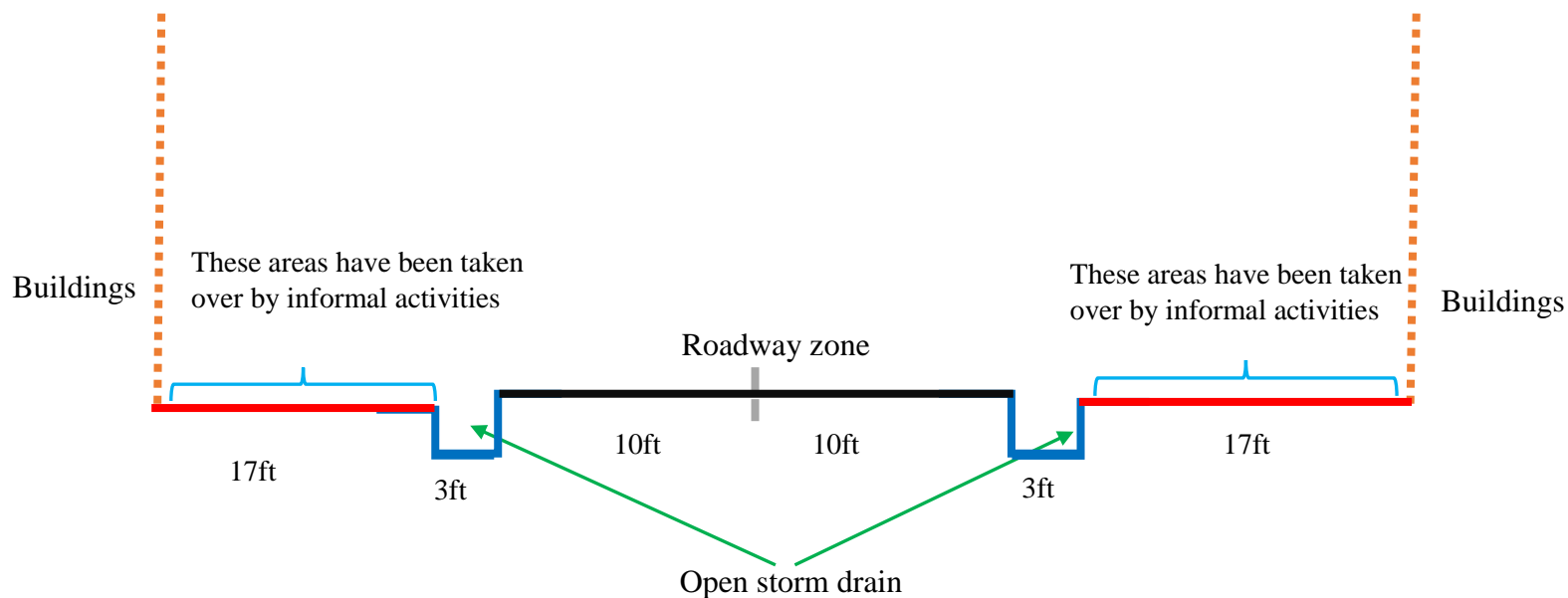
The traders rely on the banks to keep their daily earnings safe. The traders also rely on the existing supermarkets to supply them with household goods.

Bars and restaurants provide leisure to residents after a days' work.

All these inter-dependency leads to space contest that is being experienced in the study.

Source: Author, 2016

Figure 5. 2: Street Cross Section



Source: Author, 2016

Figure 5.2 above illustrates a cross-section of a site, along the Mwihoko Street. As shown, the carriageway measure around 20 feet at this point. The storm water drain measure around 3 feet, even though much of it is blocked. Much of the remainder of 17 feet has been encroached by various informal activities. The street on the original subdivision plans is indicated to measure 25 metre in width, but evidence from the field indicate that the street doesn't have a uniform width. Much of the street though measure approximately 18 metres, the 7 metre difference has been encroached on by permanent buildings and other wooden structures.

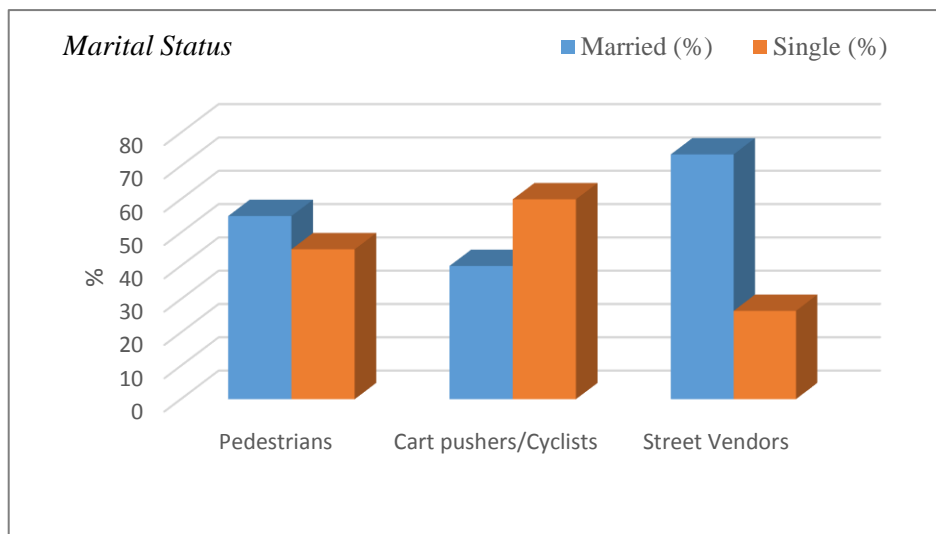
5-3 Factors that Influence Space use Contestation a long Mwihoko Street

In order to understand the factors influencing space use in the study area, the views of the respondents were analysed and categorized in terms of pull and push factors that make users prefer using space along Mwihoko Street. But first, the respondents' social- economic characteristics are highlighted;

5-3.1 Respondents' Social- Economic Characteristics

Marital Status

Figure 5. 3: Marital Status

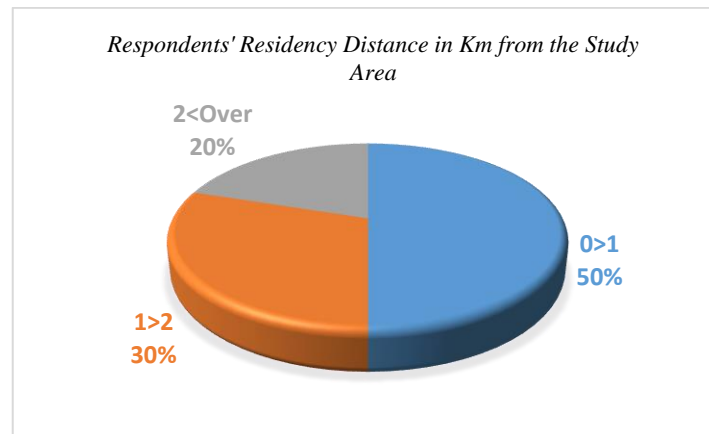


Source: Field Survey, 2016

On figure 5.3, numbers on the vertical axis represent the percentages in terms of marital status, while the horizontal axis represents different categories of respondents. The figure indicates marital status among respondents where, 57% of the pedestrians are married with 43% being single, while there were no cases of divorces nor widowed pedestrians. 41% of the hand carts, tuk tuks drivers and cyclists interviewed were married with a bigger percentage of 59% being single. Among street vendors' 73.5% were married, and 26.5% single, with no reported cases of divorce or widowed marital status. Figure 5.3 illustrates this. These figures brings out a certain character within the populace. First on pedestrians, majority are married, while a good number are single. On the part of cart pushers/cyclists, the high number of singles indicates that this sector is dominated by the youth who cannot find other formal employment. On street vendors, the figures indicate that the sector is dominated by people who are married and are able to earn a living to support their own families. The ones in the single category are few, meaning that those who join this sector are able to stabilize quickly and therefore leave the singlehood club.

Residency Distance

Figure 5. 4: Respondents' Residency Distance in Km from the Study Area

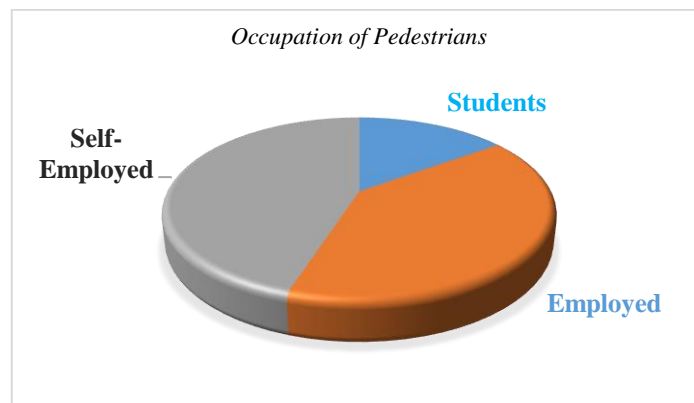


Source: Field Survey, 2016

The study shows that those respondents who reside within a given distance from the study area is as follows; 0-1 km 50%, 1-2 km 30%, and beyond 2 km 20%. And all of them rely on Mwhiko Street for their daily movement, either to or from their places of work or school. Figure 5.4 illustrates this. This means that majority of the populace reside around Githurai and therefore depend on Mwhiko street in one way or another and therefore, are affected by the challenges found along Mwhiko street.

Occupation of Pedestrians

Figure 5. 5: Occupation of Pedestrians

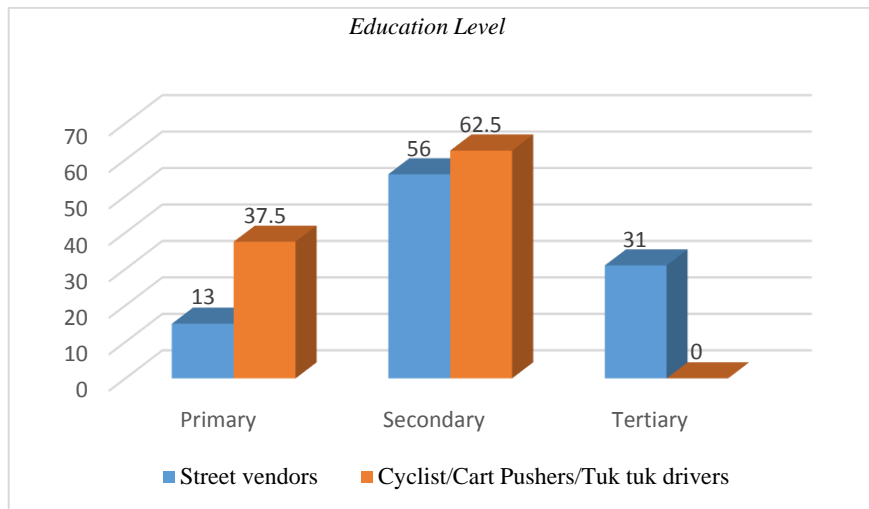


Source: Field Survey, 2016

On the type of occupation among the pedestrians, the study shows that 17% are students in tertiary institutions; 39% are employed; while 44% are self-employed. Figure 5.5 illustrates this. As indicated from above, majority of pedestrians are married, while a good number are single. The single category include students attending various tertiary colleges but residing within Githurai due to cheaper rents. This category also include newly employed, and self-employed but not yet married.

Education Level

Figure 5. 6: Education Level

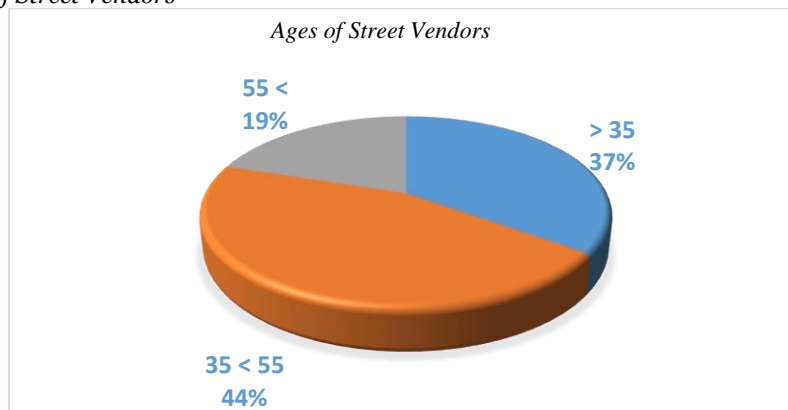


Source: Field Survey, 2016

On figure 5.6, the vertical axis indicates the number of respondents in terms of percentages who have attained a given level of education, while the horizontal axis indicates the different levels of education. The figure indicates that 37.5% of cyclists, tuk tuks drivers and handcart pushers have received at least basic education. And 62.5% of those groups have had access to secondary education. Among street vendors the result shows that 13% have had primary education, 56% have had secondary education, while 31% have had tertiary education. This indicates that majority of street vendors are well educated since 87% of them have had secondary education and above. Given that employment opportunities have become scarce, they have resorted to join the informal sector in order to earn a living through informal sector. Such a group if well supported with financial assistance and training, can easily convert their small business into profitable ventures.

Ages of Street Vendors

Figure 5. 7: Ages of Street Vendors



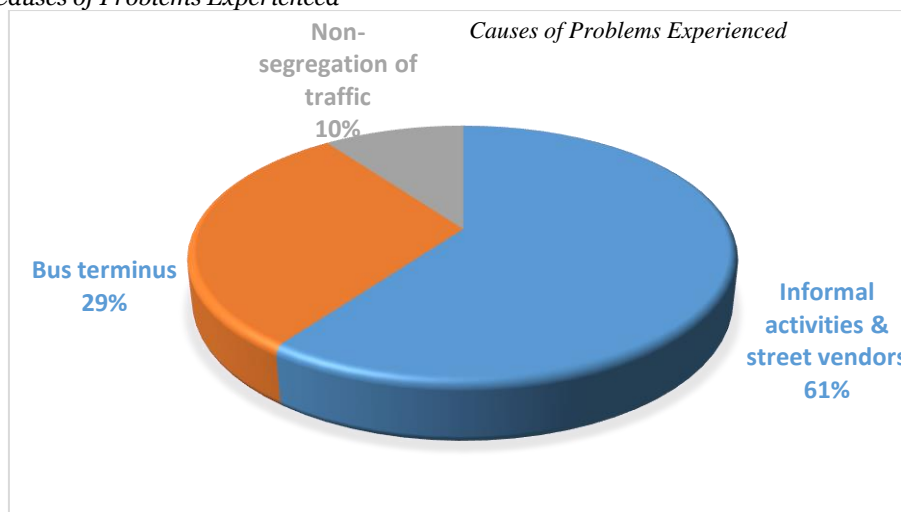
Source: Field Survey, 2016

Figure 5.7 indicates that 44% of street vendors are in the age bracket of 35 -to- 55, 37% are below 35 years, while the remainder of 19% is composed of the aged. This indicates that majority of those involved in street vending fall within the working ages. This group has embraced the doctrine of “right to the city” and since, they have to survive in that city, they have innovatively joined the informal sector to vend for their survival. Given that the city has its owners, the only available space for commons are the streets.

5-3.2 Contest for Space between Motorized & NMT

Nearly all respondents concurred that some of the glaring problems in the study area include: traffic jams, narrow streets, unregulated on-street parking of vehicles & boda bodas, pedestrians walking on the carriageway, and street vendors/hawkers on the street - where they contest space with other users. Sometimes the street vendors occupy a whole section of the street near the junction with Thika superhighway at the un-designated bus terminus and displace buses that usually utilize that section of the street. This usually pushes the buses to the service lane of Thika superhighway causing a snarl-up along Thika road and Mwihoko Street. When asked about the problems they encounter when passing through the study area, the respondents listed traffic jams, non-segregation of traffic, influx of street vendors, encroachment of sidewalks by informal activities, and unplanned for bus terminus at the junction as being the major obstacles of their smooth passage. 61% of the respondents singled out, encroachment of sidewalks by informal activities and influx of street vendors as being the number one problem. While 29% blamed the unplanned bus terminus at the junction to be the major problem; the rest blamed non-segregation of traffic to be the cause of problem they encounter in the study area. See figure 5.8

Figure 5. 8: Causes of Problems Experienced

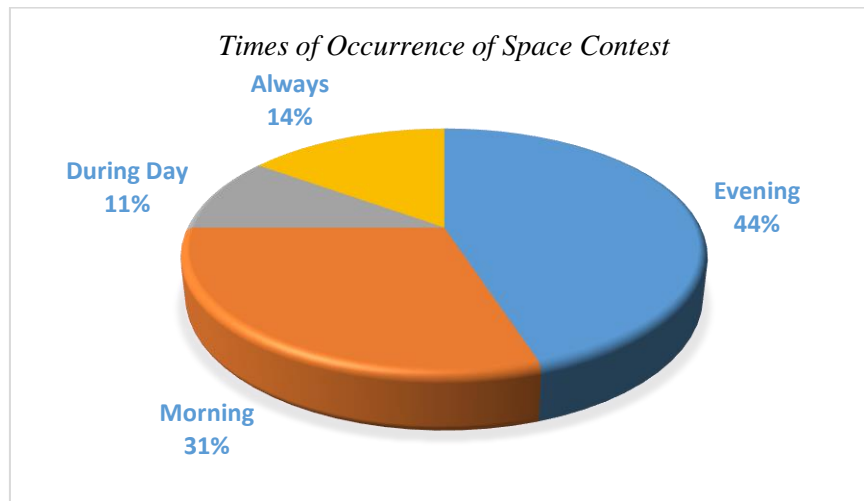


Source: Field Survey, 2016

Figure 5.8 show that most of the problems experienced along Mwihoko street are emanate from activities of street vendors & the presence of the un-designated bus terminus. The two interfere with the smooth flow of traffic and therefore creating space contest.

Times of occurrence of Space Contest

Figure 5. 9: Times of Occurrence of Space Contest



Source: Field Survey, 2016

44% of the respondents said that space contest occur in the evening, while 31% were of the opinion it occurs in the morning. 11% of the respondents said space contest occur during the day, while 14% said these contest is always there. The morning and evening occurrences can be attributed to the fact that these are the peak hours of the day when many people are going to and coming from work. See Figure 5.9

5-3.3 Serves as the Main Artery – Contest for Space by Many Modes of Transport

Mwihoko Street influences space contestation in that it serves as the main artery connecting surrounding estates and Githurai market centre to Thika superhighway. The residents of Githurai and surrounding estates use different modes of transport to access Thika superhighway. The common ones include; personal vehicles, PSVs, boda bodas, tuk tuks, and bicycles, while others pass there on foot. Of the respondents interviewed, 90% said that they prefer using Mwihoko Street since it's the main artery that directs traffic from various estates to Thika superhighway. Among the streets serving Githurai centre, Mwihoko Street is the only one that has been tarmacked. This means that it is an all-weather road used during rainy and dry seasons. The study shows that this street has many vehicles both private and public, and that there is no any other bypass route that vehicles can use, other than Mwihoko Street. Other users of this street include Matatus, tuk tuks, boda bodas, and cyclists, who transport passengers from estates in the interior to the bus terminus. The study also show that the buses have been

attracted to the study area due to the large population residing within Githurai area, and are in need of transport to Nairobi city where majority eke out a living. Another class of users include; wheelbarrow pushers and cart pushers who carry goods to and from the market. At the same time, this street is used by many pedestrians who walk towards the bus stage en-route to and from places of work. All of them contest for space on the carriageway. The pedestrians have been forced to walk on the carriageway; which unfortunately is shared by buses, Matatus, tuk tuks, boda bodas (motor cyclist), cart pushers, and wheelbarrow pushers. This has seen the upsurge of accidents caused mostly by boda bodas who prefer using the wrong side of the street, and in so doing, harass pedestrians who in most cases are not aware of the boda boda following them from behind. The respondents also said that informal traders have taken part of the street reserve leaving very little space between their business structures and the carriageway. This has forced the other street vendors to take over sections of the carriageway and in so doing, slow down every other street user.

5-3.4 Context of Space between Economic & Transportation Land Use

Mwihoko Street attracts a lot of traffic as evidenced from the fact that it is the main artery serving many users. This traffic is viewed as potential customers by street vendors who then get attracted towards the street from the back lanes and of particular target, is the large number of pedestrians who usually walk along Mwihoko Street. When asked on what makes them to display their wares on the sidewalks of the street, 45% of the street vendors singled out the large number of pedestrians who commute to and from work. These pedestrians don't pass through the back lanes, and so the vendors are forced to be strategically stationed where potential customers pass. Furthermore, a greater percentage of the vendors view the street as a no man's land where they don't require any permission for use. Because of this perception, a large number of vendors have occupied some sections of the street where they have put up temporary structures from where they operate from. Some vendors compete for space with other street users by occupying the carriageway using wheelbarrows and handcarts on which they carry their wares (see plate 5.8). This action inhibits the movement of pedestrians and vehicles within the study area. The buses that usually use the site near the roundabout, are pushed to the service lane of Thika superhighway, thus end up affecting the traffic flow along the superhighway. Businesses from adjacent buildings responded that they have to beat competition from street vendors, by displaying their wares outside their shops in order for potential customers to see them. Thus they have taken part of the sidewalk where they exhibit their goods and wares. 90% of boda boda riders regard the site they occupy to be so strategic

to them, since it is next to the bus terminus near the roundabout where they ferry their customer to and fro. Therefore, all these competitions points to the existence of a contest for space between commercial and transportation land use

Plate 5. 8: Vendors on the carriageway



Source: Field Survey, 2016

5-3.5 Invasion by Informal Economic Entrepreneurs

The study shows that 30% of the respondent singled out the small size of the open air market to be the main reason for using the street sidewalks for displaying their wares. The initial land set aside for the open air market was encroached. The remaining land is occupied by informal traders who have built temporary structures, and therefore, the site cannot accommodate any more traders. All adjacent lanes have been taken over by informal traders, who have also built temporary wooden structures from where they sell their wares. Generally, the market area appears congested and these factors act as push factors to some traders who have chosen to relocate to the sidewalks of Mwihoko Street.

Majority of respondents said that in the evening hours, the open air market and back lanes, become so dark and unsafe, given the fact that there are no security lights. This factor deters potential customers from visiting their stalls, and as such, the traders troop to Mwihoko Street which is better lit and usually active with activities up to 10.00 PM.

5-3.6 Degraded Working Environment

25% of the respondents singled out a filthy working environment as being a factor that has contributed to them preferring to operate from the sidewalks of Mwihoko Street. The

respondents complained of the state of the open air market and the adjacent lanes that are in a pathetic state. They noted that cleaning of the place is rarely done, and when done at all, the rubbish is heaped together at certain corners of the lanes that take a long time to move to dumping sites. The problem is more pronounced during rainy seasons when the footpaths become muddy and therefore making the place unattractive to customers who stay away. Respondents also pointed out to the littering that takes place, which pile in the drains blocking it. The blocked tunnels retain storm water which stagnates, releasing foul smell to the environment. The respondents said that when faced with such challenges of making losses, most of them migrate to safe grounds which happens to be sidewalks of Mwihoko Street. Thus, the filthy working environment becomes a push factor that makes traders move from their sites of operation to areas with customers.

5-3.7 Context of Space between Formal and Informal Traders

Traders from adjacent commercial buildings complained of the stiff competition they faced from street vendors who occupy spaces in front of their shops blocking access to their premises and therefore denying them potential customers. The street vendors also block loading vehicles from accessing business premises, and this usually forces business owners to hire security to chase away the vendors, who in turn complain that shop premises are not supposed to extend to the street reserve. Therefore, the study shows that there is space context between formal traders housed in commercial buildings along the street, and the informal traders who occupy spaces in front of their shops.

In summary, this section has highlighted some of the factors as noted by respondents that have contributed to space contestation along Mwihoko street and are as follows: that there is space contest between motorized & NMT; that Mwihoko street serves as the main artery and therefore there is space context by different modes of transport; that there is space context between economic & transportation land use; invasion by informal economic entrepreneurs has contributed to space contest along Mwihoko street; and lastly, that degraded working environment has contributed immensely to space contest in that such conditions do not provide a good environment for both traders and customers.

5-4 Planning and Development Implications of Street Space Contestation

The research reveals that space use Contestation in the study area has had various planning and development implications. This section highlights respondents' views as follows:-

5-4.1 Traffic Jams

Many respondents singled out traffic jams as being the most glaring implication of Street Space Contestation along Mwihoko Street. They stated that contest for space between motorized and NMT has increased traffic jams as there is no clear segregation of different modes. Therefore, with the narrowing of the street, most of these modes contest for space on the carriageway and in so doing, curtail movement. Respondents said that in some days, when there are no police officers to direct traffic, the jam can go up to Progressive Estate, which is 2 km away from the study area. 30% of the respondents said that there are very few traffic officers who get assigned to the study area to direct traffic. Those who come, usually concentrate on the roundabout at the underpass, and rarely visit the T-junctions along the study area that cause a lot of interference on the through traffic.

5-4.2 Experiences a lot of Traffic

The study shows that Mwihoko street experiences a lot of traffic, and this the respondents attributed it to the fact that it is an artery of many estates which connects them to Thika superhighway. All the traffic is directed to this one street since it is the only one that is tarmacked and all weather. And fact that it is the only one that joins Githurai 45 to 44 through the underpass, it is therefore preferred by both motorists and pedestrians who cross over from Githurai 45 to Githurai 44.

5-4.3 Reduced Street Size - unclear demarcation of economic & transportation land uses

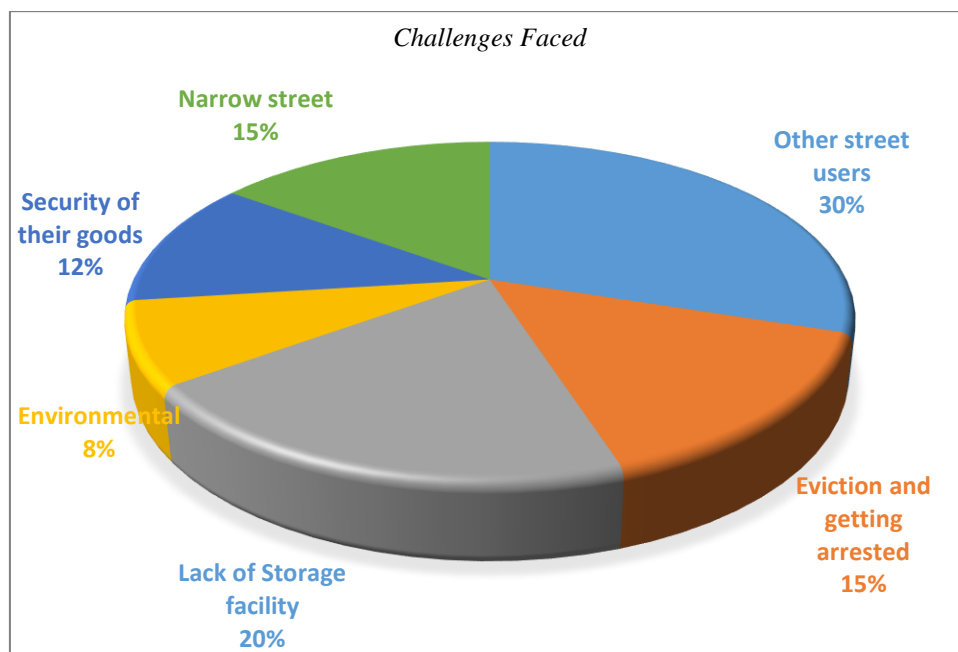
Respondents said that Space use Contestation along Mwihoko Street has led to Reduced Street Size, and therefore there is unclear demarcation of economic & transportation land uses. Survey maps show the street to being 25 metres wide, but on the ground, it is less than 25 metres. The width is not uniform, but varies depending on the kind of encroachment at a given place or site. This has resulted from the actions of some actors who view street space as a no mans' land that any person can access and utilize as they wish. This view is what has continued to pull many people who are unemployed to join the sector.

Majority of the respondents of street vendors prefer the situation along Mwihoko Street since they are able to access many customers thus increased sales and profits. But they are faced with a number of challenges. 65% of street vendors do not belong to any organisation. Those who do, are structure owners only. Some of the benefits they get from their organisation include; allocation of sites, and security arrangement for goods in their stalls. On rate payment, the traders with structures said they pay rates of Kshs. 30 to Kiambu County officers on a daily basis, but complained that they don't know what their taxes are used for, since essential services are missing from the area.

The vendors highlighted some of the challenges they face in the course of their work as illustrated in the figure 4.10. 30% of respondents chose competition from other street users; 15% of respondents chose being evicted and getting arrested; 20% of respondents chose absence of storage facility for their perishable goods; 8% of respondents chose environmental challenges; 12% of respondents chose security of their goods; and 15% of respondents chose Narrow Street.

Those investors who have put up buildings along the street, have not observed building code so as not to interfere with the street reserve. These buildings have their balcony protruding towards the street and therefore taking part of the street. A walk along the street, shows that the balconies of buildings are so close to power lines - meaning that the balconies have encroached the space for public utilities. Furthermore, the verandas of many of these buildings have been extended to the street reserve, and are usually blocked to display goods and wares sold in the various retail shops.

Figure 5. 10: Challenges faced by Street Vendors



Source: Field Survey, 2016

5-4.4 Encroachment of the Street Reserve and the Carriageway

The respondents were of the view that informal traders have invaded sections of the street reserve leaving very little space between their business structures and the carriageway. This has forced the other street vendors to take over sections of the carriageway and in so doing, slow down every other street user. This invasion has led to congestion of the street, whereby the traders have taken up all available spaces. The encroachment onto the carriageway has led to curtailing the movement of traffic leading to snarl-ups. Given the fact that Mwihoko Street

is the main artery connecting to Thika superhighway, other street users have no option but to endure their suffering and stress. 25% of respondents said there has been increased fuel consumption that has led to high transport cost for vehicles passing through the study area. 16% of the respondents said the space use contest has resulted in delayed trips and low daily income to Matatus and buses, serving the area.

5-4.5 Blocked Storm Drains

From the field survey, and views of respondents, the study shows that space use contest has had some other planning and development implications. More specifically, the re-location of traders from the open Air market, & those from the inner lanes due to degraded working environment, has pushed many of these traders to sites along Mwihoko street where most of them have elected structures over storm water drains. Garbage from the informal activities carried from those structures ends up being thrown into the drains. This has led to blockage of the drains making them to retain filthy water that endangers the health of the residents as can be seen on plate 5.9.

Plate 5. 9: Blocked Storm Drains



Source: Field Survey, 2016

According to 40% of the respondents said that clearing of these drains takes a long time, and blamed the county officials in charge of environment of posting very few cleaning personnel that get overwhelmed by the enormous garbage produced in the study area. This situation has forced traders within the affected sites to clear respective sections they occupy, but unfortunately, they have no enforcement mechanism on those who fail to clean their sections.

5-4.6 Loss of Business on the Part of Formal Enterprises

From views of traders from adjacent commercial buildings, the contest for space with informal traders has had a negative impact on their businesses since many street vendors hawk goods and items that are nearly the same as those sold in adjacent shops. This has left the adjacent businesses to count losses. The formal traders have taken some mitigation measures including: hiring security officers to chase away the vendors, who in turn complain that shop premises are not supposed to extend to the street reserve. Another mitigation measure has been for them taking over part of the spaces outside their shops to display whatever they sell in their shops, and by so doing, they have ended up affecting traffic along the street. See plate 5.10.

Plate 5. 10: Activities along the Street



Source: Field Survey, 2016

Display from adjacent shops to beat competition

Street vendors blocking access to shops

5-5 Proposed Policy, Spatial Planning and Design Interventions

For planners to come up with a development plan that can intervene to remedy the prevailing situation, they have to take views of stakeholders who will be affected by the plan. Through analysis and synthesizing those views, the planner is then able to come up with interventions that are acceptable to all, and the affected will own the plan. Thus, this section highlights intervention measures as suggested by respondents and key informants, as follows:-

5-5.1 Upgrade the Street to Dual Carriage

60% of motorists had the view that the problems experienced along Mwihoko Street are made worse by: reckless driving of some motorists, tuk tuks, boda bodas; cyclists, and cart pushers who are fond of overtaking on the wrong side of the road and thereby blocking oncoming traffic and therefore, worsening the problem. They proposed a barrier to be erected to separate traffic going on opposed sides so as to avoid the current interference being experienced. They also suggested that if the upgrading can be done to make the street a dual carriage, that it will be a much better improvement.

5-5.2 Provision of Non-Motorized Transport (NMT)

Most pedestrians were of the view that problems experienced along Mwihoko street resulted from; poor street design that does not recognize different users, and also problems of encroachments from various informal activities. To remedy this, 90% of pedestrians were of the view that Mwihoko Street should be improved to accommodate segregation of users that should include provision of NMT.

Majority of pedestrians also complained of non-provision of zebra crossing and road bumps along the street. This challenge has led most pedestrians and customers to cross from one side of the street to the other, at undesignated places. Sometimes this has led to accidents more so caused by motor cyclists who like speeding.

5-5.3 Construction of a Bus Terminus

Githurai market Centre serves as a transit point for many residents from surrounding estates and towns, who work in Nairobi. They are usually ferried to Githurai by use of Matatus that terminate journeys in Githurai and then connect their journey to Nairobi by using Githurai buses. Unfortunately, there is no designated bus terminus, rather they have converted sections of Mwihoko Street to be the terminus. 85% of respondents were of the view that this undesignated terminus is the major cause of the traffic snarl-up experienced in the study area. It attracts all kinds of traffic; from pedestrians, boda bodas, tuk tuks, street vendors, and all kinds of informalities. They proposed a terminus be constructed on the land along the service lane of Thika superhighway, which had been set aside for its construction.

5-5.4 Removal of Street Vendors

15% of motorists were of the view that street vendors should be removed from the street to ease the congestion experienced in the study area. They blamed the vendors for conducting their trade on the carriageway and in so doing, curtailing movement of other road users. They blame them also, for taking much of the space set aside for pedestrian passage, and thus,

pushing pedestrians onto the carriageway, where they contest for space with vehicle, boda bodas, tuk tuks, cyclists and cart pushers. 20% of pedestrians were of view that the vendors should be given alternative sites to conduct their business. 30% of adjacent business owners, were of the view that the street vendors should be removed from the streets accusing them of blocking their business premises and bring unfair competition outside formal businesses.

5-5.5 Improve Working Environment

Many street vendors were of the view that poor working environment is a push factor that has contributed to them relocating from back lanes to Mwihoko Street. They complained of the poor drainage that leads to muddy lanes which discourages customers from venturing to those lanes to buy goods. The street vendors were of the opinion that their working environment should be improved so that potential customers can follow them to the back lanes, which are filthy and unattractive at the moment. They proposed the back lanes to be paved with provision of culverts for proper drainage. Plate 5.11 illustrates a well paved back lane.

Plate 5. 11: Image of a well paved back lane used by vendors



Source: Research by SEWA, 2012

5-5.6 Provision of Traffic Police Officers

Majority of respondents were of view that the study area is not provided with Traffic Police Officers to control traffic when there is a snarl-up. They said that those Traffic Officers who operate in the area, concentrate on controlling traffic at the roundabout, and rarely venture towards Mwihoko Street. The respondents were of the view that more officers should be assigned to the study area to direct traffic given the fact that Mwihoko Street has many T-junctions, and is a major artery connecting many estates with Thika superhighway.

5-5.7 Response from Key Informants

Planner

The Planner in-charge of Ruiru Sub-County, gave the history of the Centre which according to him came up as a result of a subdivision scheme. Most of the plots here measure 0.02 ha. The interview showed that there is no local physical development plan (LPDP) that can guide development in Githurai urban Centre. The structures built here are controlled by council by-laws which have outlined the building heights that structures should not go beyond due the fragility of the soils in the area. In absence of a land use plan; a lot of unauthorized land uses, inadequate infrastructure and uncontrolled land subdivision have taken place in Githurai.

Some buildings have not observed the building line nor done any setbacks, but instead have encroached on the road reserve. The absence of a development plan has contributed to influx of informal activities within Githurai which is nearly getting out of hand. The planner singled out space provision and attitude of road users as being the leading challenges facing Mwihoko Street. Another setback noted by the planner is that the Centre lies on the boundary of two counties of Nairobi and that of Kiambu. As such, there has always been a problem as to who should initiate planning, and how development control should be carried out. The two sides have tended to concentrate on their side of town in terms of cleaning, but due to the free movement of people from one side to the other, they always get overwhelmed. The planner also noted that plans are underway for the preparation of a **UIDP** for Githurai through funding from World Bank. This may go a long way to solve many of the problems being experienced currently, given the fact that the project will involve diverse stakeholders, the two counties included.

Traffic Department

Interview with head of traffic Kasarani, revealed that they are the ones in-charge of controlling traffic in Githurai, but they are overstretched since they cover a wide area. Normally, Githurai is manned by two officers who are supposed to control the large number of vehicles that use that intersection. The officer noted that the bus terminus has not been built yet, but in the meantime, the buses are using part of Mwihoko Street as the terminus for picking and dropping passengers. The traffic officer, also observed that the main causes of space contest and accidents along this street, is the negative behaviour of street users; and the influx of: street vendors, boda bodas, tuk tuks and taxi drivers. He went further to note that the licensing and registering institution for motorcycles is not observing the optimal number that can operate efficiently without overcrowding the place.

Pedestrians suffer the most when it comes to road accidents, for they use the carriageway for their movement. There are no traffic control signs which makes it difficult for officers to control traffic. The officer proposed the construction of a bus terminus from where all vehicles can operate from and therefore easy congestion in the study area.

Matatu Owners Sacco

The Matatu owners Sacco noted that the number of traffic Police operating in the study area are few, thus unable to control the traffic. They chose influx of boda bodas, tuk tuks, and taxis; influx of street vendors; space provision for road users and behaviour of road user; to be the main challenges facing their operation in the study area. They also singled out institutional regulation as not being pro-active in bringing order within the study area. They requested the bus terminus to be constructed so that contest for space use in the study area may be reduced.

The general view held by many respondents was that Githurai market Centre is growing at very high rate and therefore, authorities needs to upgrade it to a full town so that necessary facilities and services can be availed. The respondents also highlighted challenges facing the area to be: perennial water scarcity, drainage challenges, traffic jams, challenges of waste disposal, lack of sewer line, lack of bus terminus, and the filthy environment under which the traders operate in. They therefore recommended the county government of Kiambu to look into those grievances so as to make Githurai the future they want. They were also of the view that the central government should handle street expansion, while the county government handles service provision through town management committee.

CHAPTER 6: MEDIATING STREET SPACE USE CONTESTATION

This chapter highlights proposals that may be pursued so that the current situation can be contained. From literature review and various case studies, the current situation along Mwihoko street can be mediated by using different fronts as proposed in this chapter:

6-1 Nil Intervention

Nil intervention is a situation where the status quo along Mwihoko street may be allowed to continue without any interference. There are many people who will like that to happen so as they may continue to benefit from the status quo. But if this is allowed to happen, the situation is likely to deteriorate since the population of Githurai and surrounding estates, is anticipated to increase, and therefore, informal activities are also likely to increase. Thus, the nil intervention cannot be proposed as a solution for the current situation.

6-2 Upgrading and Rehabilitation option

Upgrading and Rehabilitation is an approach that may be pursued so as to bring order along Mwihoko street. Since the degraded working environment and congestion were cited as some of the reasons making informal traders to relocate from the open air market and back lanes, as a proposal, the study proposes the modernisation of the market through utilising vertical space by building a storey structure that will accommodate more traders. Such market will then be divided into individual stalls that can be allocated to traders. The storey market can take the form of the New Kongowea market in Mombasa built by the National government in conjunction with the county government of Mombasa, in response to many years of neglect of the old Kongowea market. See plates 6.1 and 6.2 for illustration.

The market will be a pull factor, since it will offer many advantages including: security, storage facility, shelter from environmental challenges, and clean environment. There is also more land along the railway reserve where another modern storey market can be built. This is currently used as an open air market. Thus, if the area can have at least two modern storey markets that can absorb most of the vendors, then the problem of encroachment on Mwihoko Street will be contained.

Such market improvement project should be carried out as a marshal plan for the area, which will then include paving most of the back lanes - that at the moment, get muddy when it rains. The paving should be done with provision of culverts for proper drainage. The improvement will also include drainage to get rid of stagnant waste water that is a common occurrence in the study area, plus street lighting that will encourage vending activities to continue beyond 6 pm

in the evening, when most vendors take their wares to strategic points along Mwhiko Street. Once this is done, potential customers will be encouraged to visit vending sites situated along the lanes and the new storey market.

Plate 6. 1: New Kongowea market in Mombasa



Source: <https://www.kenyans.co.ke/news>, accessed on August, 2016

Plate 6. 2: An indoor Market in San Juan de Dios in Guadalajara



Source: <https://commons.wikimedia.org/wiki/File:MercadodeSanJuandedios.jpg>, accessed July, 2016

6-3 Declaration of Githurai as a Special Planning Area and Preparation of a LPDP

Another intervention approach that can be proposed for study area is that of declaring Githurai urban centre as a special planning area that requires special attention. This is due to the fact that the study area falls within Githurai market centre, which unfortunately, does not have a local physical development plan to guide development. This may partly be due to the fact that the centre straddles two counties of Nairobi and that of Kiambu, and therefore none of them feels compelled to initiate a LPDP. Hence, with the fact that the centre does not have an LPDP, the study proposes that Githurai be declared a special planning area to be handled by the National government in conjunction with both county governments of Kiambu and Nairobi, to plan the area. This plan will indicate where various activities should be carried out. The plan should clearly show how certain activities can be integrated, to take care of modern economic reality needs of urban residents.

Also since Githurai urban centre is growing at a very fast rate, it therefore means more services are required. Management of the town is currently being administered from Ruiru town, which is about 10 km away. Given its large population, and activities that take place, the study proposes the setting up of a Githurai town management committee as stipulated under the Urban Areas and Cities Act, 2011. Such a management committee will be closer to the residents who require critical services that need quick decisions. The study further recommends Kiambu County planning department, to devolve planning and development control services to Githurai town, so that development activities can be monitored and controlled in good time, rather than after investors have put up expensive structures that may require a lot of compensation to demolish.

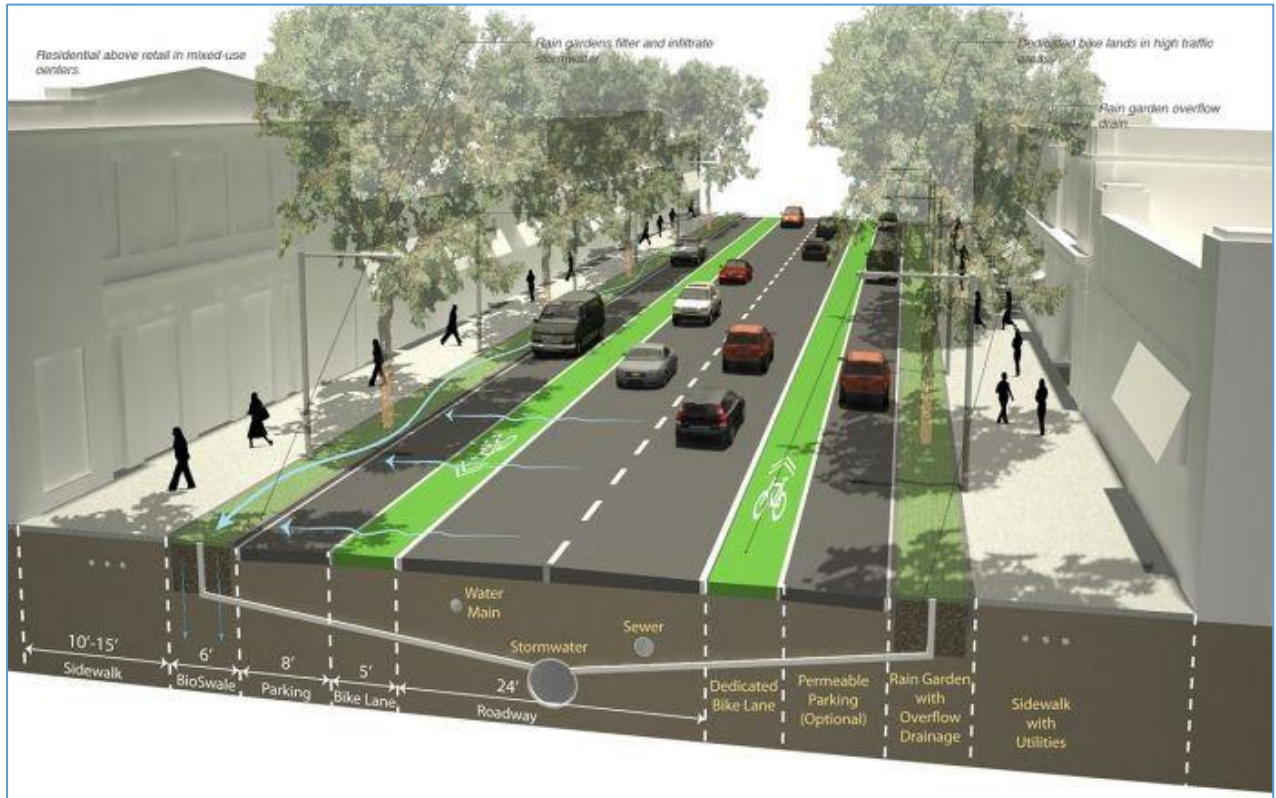
6-4 Sectoral Policy: Preparation of an Integrated Urban Transport Plan

The study has shown that our urban transportation policy is not really geared towards provision of complete streets that segregate users. Therefore, the study proposes that the National government come up with an Integrated Urban Transport Plan policy that will take cognisance of current needs of urban residents. The policy should stress the importance of designing complete streets that can also accommodate informal economic sector activities along urban streets. This will go a long way to solve problems in our urban streets.

At site level, the study proposes a street expansion and modernisation program in Githurai that will ultimately lead to segregation of users, so as to accommodate all within the common public right of way. The street expansion can be realised through acquisition of land on the side of the

open air market, which has not developed much. This side of the street will be cheaper to acquire since compensation may not be as high. As can be seen from figure 6.1, the street can be segregated into various zones that include: roadway zone, curb side zone, amenity zone, walking zone and frontage zone.

Figure 6. 1: Design Example of a modern street



Source: Author, 2017

But because of the uniqueness of this street, the curb side zone should be discouraged, and instead be replaced with a bike lane that will serve both boda bodas and regular cyclists. Such segregation will bring order to the study area, where all residents and passers-by will be winners. There should be a permanent barrier separating the cycling path from the roadway zone, so as to minimise interference of traffic on the roadway. The walkway should also have barriers that will prevent cyclists from passing there. This will enable pedestrians to have an un-interrupted walk along the study area. Plate 6.3, is an example of a well segregated street - running through central London - from Tower Hill to Lancaster Gate.

Plate 6. 3: Barriers used to delineate between pedestrian and vehicle zone

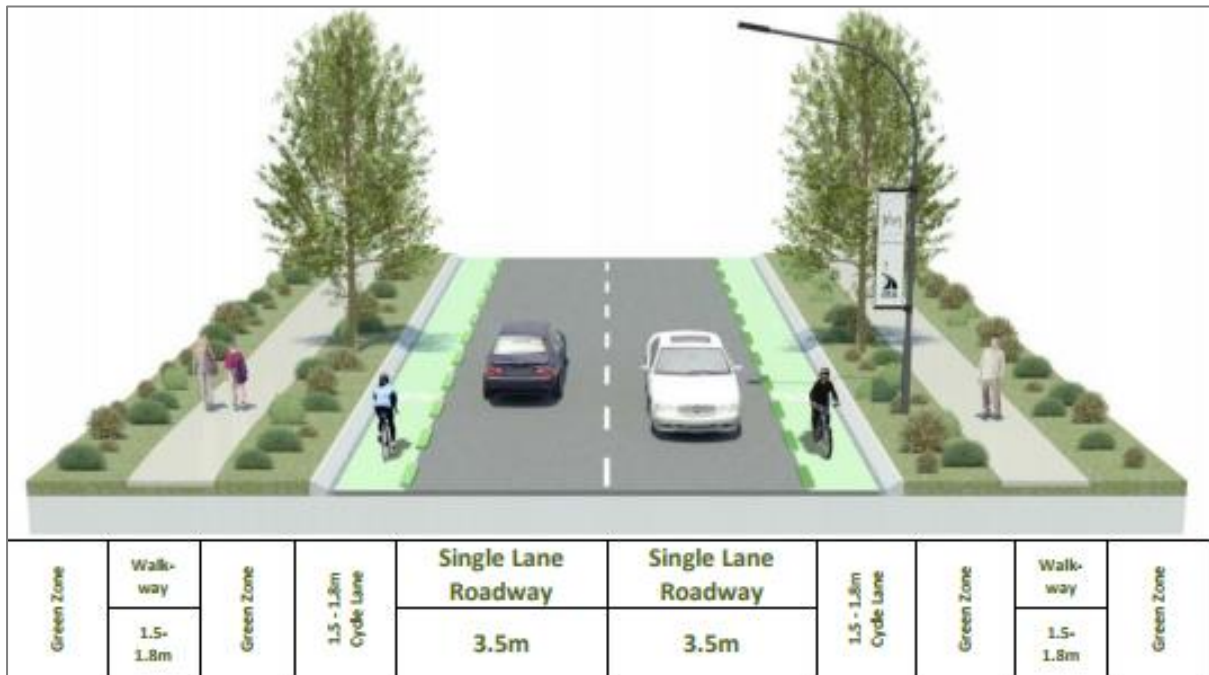


Source: *Urban Street Design Guide*, 2013

The modernised street should have well placed road signage to assist pedestrians when crossing from one side of the street to the other. These should include; zebra crossing markings, traffic lights and foot bridges at designated points along the study area. See figure 6.2 and 6.3. Given the fact that Mwhoko Street is the main artery connecting residents to Thika superhighway, many prefer using it since it has tarmac, and when it rains, its surface condition is relatively good. Its good state has become its undoing, whereby it attracts all kinds of traffic.

There is another street (has no name) that was designed to relief pressure off Mwhoko Street, but has been neglected and thus, is in bad state. Many residents avoid it, preferring to use Mwhoko Street. Thus, as a proposal, this minor street (has no name) should be improved to tarmac level so that it acts as a by-pass through which residents can pass through to avoid the chaos experienced along Mwhoko Street. See map 6.1 for illustrations.

Figure 6. 2: Proposed Typical Modernized street Cross Section



Source: Author, 2017

Figure 6. 3: Proposed Street Modernization



Source: Author, 2017

Map 6. 1: Proposals to relieve pressure from Mwhiko Street



Source: Author, 2017

6-5 Sectoral Policy on Street Vending

Another approach the study proposes so as to bring order along Mwihoko street, is that of pursuing a sectoral policy on street vending. Literature review has shown that the problem of informal traders invading urban streets, is a common phenomenon in many countries. Some of these countries have taken initiatives that guide this sector. They have done this through national policies initiated by those involved in the sector. A classic example, is India where informal sector activities is thriving. The study therefore proposes an initiative be borrowed by the Kenyan government, to create a policy that will guide the informal sector activities - more so, street vending. Such policy should be an initiative of all stakeholders in the sector.

One of the requirement of such a policy, should be that vendors must belong to an association. The reason for this, is to make it easier to control their activities, and take care of their welfare in general. Street vendors are currently an unwanted lot in most urban areas, but vending is the only source of income to many involved in this activity. Thus the policy should come in to address the new reality, that street vending is here to stay for a long time. The policy should advocate for designing urban streets that are wide enough to cater for all users. The number of people involved in informal activities has increased in recent times not only within the study area, but in many urban centres throughout the country. Even though informal sector has been in existence since independence, the sector has attracted many people in the recent times. This sector has proved to be a source of income for many who have not landed an employment opportunity. Thus, this sector cannot be wished away, but rather be harnessed and assisted to develop into SMEs.

Many people have argued against the presence of vendors on streets, saying that they are a menace to the well-functioning of a street. But it has been proved by various researchers that the presence of street vendors in an area, curtails some insecurity issues - i.e. street traders' presence on the streets means that there are many extra eyes to discourage other people from committing crime. This is why criminal activities are high in places that are deserted, and pedestrians always try to avoid passing through such areas, and those who do, fall victims of muggings. Thus, the presence of street vendors along Mwihoko Street will enhance security and therefore, prolong the time of doing business. Hence, the study proposes sites to be set aside along the improved street, where some vendors will be allowed to display their wares. See plate 6.4 and 6.5 for illustration.

Plate 6. 4: Kind of stalls that can be put up along the street



Source: <https://www.google.com/imgres>

Majority of the street vendors will be relocated to the improved sites along the railway reserve. Possible zones to be occupied along the street will be that of amenity since they are usually placed above certain heights or placed underground – thus, there will be no interference from the vendors given that no permanent structures will be allowed on these sites. Such sites will be secured by creating a barrier between the curb side zone and amenity zone. The vendors will operate in such a way that they face the walking zone and frontage zone. By so doing, the vendors will not block entrance to businesses operating from buildings along the street – thus reducing the conflict between business owners and the street vendors since they will be sharing potential customers who will be passing along the walking zone. See plate 6.5 and 6.6.

Plate 6. 5: Vendor stalls facing adjacent shops



Source: <https://www.google.com/imgres>

Plate 6. 6: Good example of curb side cafés providing access to all



Source: Road Encroachment Policy – Melbourne; accessed July, 2016

6-6 Redevelopment Approach: Integrating Market and a Terminal Facility

Another intervention approach that may be pursued is the redevelopment of the area with the dual projects of market improvement and that of developing a terminal facility. A modern bus terminus should be constructed on the land that had been set aside for it but nothing so far has been done. Such facility should be planned to indicate sites for bus terminus, boda boda shades, and tuk tuk stage. Such terminus will relocate the current undesignated termini from Mwihoko street, and thereby easing the through traffic. This land can also accommodate a modern storey market that can serve informal traders. The construction of storey markets should also be extended to other sites that include: the open air market site, railway reserve land, and other undeveloped plots within the market centre. Such an undertaking will take in those traders who are currently displaying their wares along Mwihoko street.

The redevelopment approach of Githurai should be extended to existing and upcoming commercial buildings to innovatively provide space for informal sector activities. Nearly all buildings in the study area serve as commercial cum residential uses. These buildings go up to 4 to 5 floors. Commercial activities are usually carried out at the ground floor more so, in those rooms fronting the streets. In most cases, only two rooms front the street, and thus, are the only ones used for commercial activities. The other back rooms are rented out for residential use. Such is the design of most of the buildings in the study area, that they cannot accommodate many traders. The structure owners can learn from what is happening in the CBD of Nairobi where building floors have be partitioned to allow for stalls that can accommodate many traders. The study proposes this to be possible through the involvement of the county

government of Kiambu and Ministry of Lands, who should formulate flexible change of user laws. Such laws will allow commercial buildings facing the street, to be able to partition ground floors so as to accommodate vendors. Through provision of basic services like: water, sanitary services, and garbage collection; such improved stalls will attract vendors, since their new improved working environment will pull many customers leading to more profits. Further, the county government should waiver tax to such investors who will redevelop their facilities to accommodate street vendors. In exchange, the investors will be expected to charge a small levy on the vendors, so as not to discourage them from taking up the stalls. The Literature review from Thailand, and Rotterdam Market Hall in Netherlands, shows that Private sector can contribute to provision of space to small scale traders. Such a private investment, can solve many problems, like: – parking lots, residential units, clean working environment, and a lively & vibrant surrounding. Map 6.2 illustrates suitable sites for bus terminus and storey markets.

Another place that may be redeveloped for vendors to operate from, is the roundabout under the flyover. Currently, street vendors display their wares on the road at this roundabout, and in so doing end up blocking vehicle movement. The study proposes that space to be redeveloped with platforms as shown in plate 6.7, so as to reduce traffic conflicts, and provide vendors with shelter.

Plate 6. 7: Example of how the underpass can be improved



Source: Research by SEWA, 2012

A proposal is given for the railway land reserve to be developed and therefore create good sites that can accommodate Excess vendors from the streets. Also, the undesigned bus terminus should be moved from its current site which curtail traffic movement in the study area.

Map 6. 2: Suitable sites for Bus terminus and Storey Market



Source: Author, 2017

6-7 Collaborative Approach in Review of Street Designs

Another way the problem in the study area can be contained, is by adopting a collaborative approach in review of street designs. Since streets are supposed to accommodate various users, the government should pass a policy that makes it mandatory for street designers to incorporate street users while designing urban streets that will serve all users. This component of user involvement has been missing in our urban streets designs. As the New Zealand pedestrian planning guide has shown, this can be achieved by use of “*a road user hierarchy*” which outlines the considerations that should be taken into account while planning for various users as outlined in table 2.1.

Again as noted in the design manual for urban roads & streets (UK), street design should embrace collaborative approaches whereby the design has to take a multidisciplinary design processes where the design team has to include a broad range of professionals with varying levels of technical expertise in streets/road design. The final make-up of a design team will depend on the resources available and the scale of the project. Design input should ideally be sought from a range of skill sets to ensure that a holistic design approach is implemented. This process can only work better when the multi-disciplinary professional teams within planning authorities work together as a cohesive unit, than the case is now when they are working in isolation without consultation.

6-8 Integrated Approach

Any of the approaches highlighted above (except nil intervention), can be pursued singly to bring some level of order along Mwihoko street. But, the best result will be achieved by integrating all these approaches into one plan that will order activities in Githurai urban centre, and ultimately, solve the problems being experienced along Mwihoko street. Therefore, the study proposes an integrated approach that will involve: declaration of Githurai as a special planning area and therefore necessitate the preparation of a LPDP, push for a sectoral policy that will lead to the preparation of an integrated urban transport plan that will cover the study area, push for sectoral policy on street vending that will take care of informal traders in our urban areas, adopt a collaborative approach in review of street designs within the study area, adopt a Redevelopment Approach that zone in on constructing a storey Market and a Terminal Facility and at the same time upgrade back streets & lane and also rehabilitate the drainage system in the study area.

CHAPTER 7: SYNTHESIS, CONCLUSION & RECOMMENDATIONS

7-1 Introduction

This Chapter provides synthesis of the findings, conclusion, and recommendations on possible intervention measures that can be undertaken to address the planning issues identified along Mwihoko street. The chapter also provides areas for further research.

7-2 Synthesis of the Findings

This section analyses information from literature review concerning the problems experienced in the study area, and then judgments are made based on the critical reading from various sources and information gathered from the field. From the study, the main planning issues observed include:

7-2.1 Planning for Alternative Streets to Access Thika Superhighway

The literature review has shown that road infrastructure is essential for development of a country. Thus the construction of Thika Superhighway opened the northern sections of Nairobi for development and expansion along the Superhighway. The down side of the construction of Thika Superhighway is that the contractor blocked many of the access roads to the Superhighway leaving a few exits. This has resulted into the challenges experienced in the study area and in many other estates along Thika Superhighway, where residents are constrained to use the few exits provided – which in most cases serve as both exit and entry. This study provides recommendation on how alternative routes can be created to decongest Mwihoko Street.

7-2.2 Planning for Open Air Markets & Terminal facilities

Literature review, more specifically the physical planning handbook (2007), argues that all local centres should have an open air market that can serve a catchment population of 5,000 people, while a designated market centre should serve a catchment population of 15,000 with a resident population of 2,000. Githurai market centre has surpassed these figures whereby the resident population is around 60,000, while the catchment population is at around 500,000. With such population, the site set aside for an open air market has proved to be inadequate. This means the current population is not well served by the existing open air market. The manifestation of inadequate open air market is the overcrowding of the existing site and overflow of traders onto nearby streets and thereby impeding traffic, and also affecting the environment through production of solid waste that ends up blocking drains. With the fact that land space does not increase/expand, this study proposes recommendation on how more market

space can be availed through the utilization of vertical space as demonstrated by case studies from Asia and Kongowea in Mombasa, and also rehabilitation of neglected sites that can serve as vendor sites.

7-2.3 Citizen Participation in the Review of Street Designs, & Proposal for a Pro-Active Street Vendor Associations

Literature review has shown that in Kenya, street designers have not been involving residents of affected areas while coming up with street designs. Furthermore there is no known manual for street design in existence that can guide the design in terms of user design priorities for space use. In the 2010 constitution, Citizen Participation in project implementation is a key pillar. Literature review from Britain and New Zealand; has shown that in developed countries, street designers while coming up with street design proposals, must involve residents who will be affected by that street. The residents are accorded an opportunity to air their views on how their interests can be taken care of while designing the street. The literature review has also shown that the designers of streets are usually guided by *user hierarchy table* as described in the pedestrian planning and design Guide (2008), of New Zealand. This study proposes citizen involvement in street design that will ensure provision of space for different street users and also the incorporation of street vending sites along urban street.

The study also noted that the street vendor association in the study area is not very active in agitating for street vendors' rights to authorities. They are only involved in space allocation and security of the temporary structures. In the case study from India, it was noted that government has recognized the critical role and contribution of street vendors to the economy, and as such, through various advocacy groups, it came up with a national policy on street vending. The policy proposed structures that were necessary for proper functioning of the sector. And since implementation of this policy, structures were put in place and this sector has been working so well in managing the operation of vending activities in many urban centres in India. Such national policy implementation is what is missing in Kenya, and this study recommends ways and means by which advocacy and awareness might be used by street vendors to achieve levels experienced in India.

7-2.4 Designing for Diversity

The design of Mwihoko Street is a big concern in that the design gives preference to vehicles compared to other users who are left to find their way through the study area, causing many to contest for space on the carriageway. Literature review from manual for street (UK), notes that

a well-designed street should be segregated into different user zones that can guide various users to navigate through the street easily. The study makes recommendation on the adoption of designs that takes care of all street users, and therefore, reduce the levels of space use contestation.

7-3 Conclusion

From the study on contestation of street space use by informal activities along Mwihoko Street, one can safely note that: the rate of urbanization in Kenya has continued to increase, meaning that services & employment opportunities in our urban centres can no longer be sufficient for the big number of people moving to these centres. The study has shown that the white collar jobs that used to absorb many people have become fewer and can only take in very few of those joining the employment market. Further, the study has shown that the majority relocating to urban centres have been forced to join the informal sector as their only avenue of employment. This tell us then that the informal sector will continue to play a fall-back role for the excess work force, since it doesn't require much to join. The study has shown that the streets play an important role in the operations of urban centres, but such role may be undermined if the street is not well designed to accommodate the multiple functions it ought to serve. The study has shown that people have different perception about streets e.g. as a place of commons which can be accessible to all for any kind of activity. This view is propagated mostly by people involved in the informal sector activities – majority of whom are street vendors.

The study has also shown that some of the factors contributing to space use contestation in the study area include; inappropriate street design, poor street network within the area, traffic being directed to one street, reduced size of the open air market, filthy working environment in the back lanes and in the open air market, thus discouraging customers from visiting those sites. The study further shows that the most glaring implication of street space use contestation is the struggle for control of space leading to disorder along the affected street, therefore resulting to impediment of street users - thus affecting the street from discharging its functions.

Other planning and development implications of street space use contestation include; Non-compliance of building code resulting from structures being placed on the street reserve, the size of the street getting reduced from its initial width, street users contesting for the carriage way since the sidewalks have been taken over, traffic jams being a common occurrence, water drains have been blocked by litter produced by activities being undertaken, existence of on-

street parking, and loss of business by formal enterprises resulting from unfair competition from those not paying rates and licence fees.

7-4 Recommendations

Recommendations are designed to address and give solutions to the planning issues identified by the study. The recommendations outlined below are based on: options for policy, legal & institutional approaches; and site level options.

At policy, legal & institutional level, the study recommends the following:

- That the national government creates a policy that will guide the informal sector activities. Such policy should be an initiative of all stakeholders in the sector.
- That Kiambu county government in conjunction with the county government of Nairobi, embark on coming up with an urban development plan for the centre
- That the county government of Kiambu and Ministry of Lands work together and formulate flexible change of user laws that will allow owners of commercial buildings facing the street, to be able to partition ground floors so as to provide space that can accommodate vendors.
- That county government of Kiambu should set up of a Githurai town management committee as stipulated under the Urban Areas and Cities Act, 2011. Such a management committee will be closer to the residents who require critical services that needs quick decisions.
- That Kiambu County planning department, should devolve planning and development control services to Githurai town, so that development activities can be monitored and controlled in good time.

At site level the study recommends the following:

- That there should be a modernisation of the market through utilising the vertical space by building a storey structure that will accommodate more traders.
- The county government together with the national government should embark with a street expansion and modernisation program that will ultimately lead to a complete street which will segregate users, so as to accommodate all within the common public right of way.
- That sites should be set aside along the improved street, where some vendors will be allowed to display their wares

- That the national government should support the construction of Wide Non-motorized Flyovers, on either side of the underpass that will serve pedestrians and street vendors.
- That the spaces at the roundabout should be improved with platforms to provide vending sites for those operating at the roundabout so as to reduce traffic conflicts, and give vendors shelter.

7-5 Areas for Further Research

- Further research can start from where this study ends, to critically analyse the recommendations proposed and assess the cost implications of the various projects proposed and potential sources of financing available to both County and National governments.
- Further research can be done to assess the viability of street vendors benefiting from government sponsored funds: Uwezo fund, and youth & women enterprise fund; given the fact that they don't have a permanent site to operate from.

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APPENDICES

Appendix 1: Site Observation Checklist

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

M.A. Planning (Urban and Regional Planning) Project

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwihoko Street, Githurai, Kiambu County

1. How have the buildings been designed?
2. Have the building lines been observed as per the building code?
3. Does the street contain street zones?
4. What is the road width?
5. Are there pedestrian walk ways?
6. Are there cyclist paths along this road?
7. What land uses are adjacent to Mwihoko street? List;
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.....
.....
.....
.....
.....
.....
.....
.....
8. What is the nature of encroachment?
9. Are the following activities planned for: parking, garages, carpentry works, timber yards and eateries along this road?
10. Are there terminal facilities for motorcyclists, tuk tuk, Matatus, and buses?
11. (a) Which road signs exist along the street?
(b) Are they encouraging or discouraging encroachment?
12. (a) Are there road bumps?
(b) And if so, what have been their effect?
13. (a) Are there pavements markings?
(b) If so, are they being followed?
14. What kind of building structures exist on the adjacent land?
.....
.....
.....
.....
.....
.....
15. How are the adjacent formal enterprises? Have they observed the building code or have they encroached on the road reserve by displaying their wares on pavements?
16. What other informalities exist along this road?
17. Are activities sited in structures or in an open place?
18. What structures exist?
19. Are the activities encroaching on the road?
20. Are there street vendors operating along this road?

Appendix 3: Pedestrians Questionnaire

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwihoko Street, Githurai, Kiambu County

Declaration: *The information provided in this questionnaire shall be strictly confidential and it is meant for academic purpose only*

Questionnaire No.

1. Name of the interviewee (Optional)

.....

2. What is your marital status? a) married b) single c) divorced d) widowed

3. What is your occupation

a) Student b) Employed i) Formal (Specify) _____

ii) Informal _____ c) Unemployed d) Retired e) Other (specify)

4. Where do stay, and how far is it from here? -----

5. What is the purpose of your trip? a) work b) education c) leisure d) buy goods

6. How often do you use Mwihoko Street?

Daily	Weekly	Monthly

7. What problems do you encounter while walking along Mwihoko road?

8. In your own opinion what are the main reasons for this? (rank them from the worst to the least 1, 2, 3, ...n)

Agent	Level
Other Pedestrians	
Street Vendors	
Cyclists	
Handcarts	
Wheel barrows	
Motor cyclists	
Buses	
Matatus	
Lorries	

9. At what time are these problems mostly experienced; a) morning, b) day time, c) evening

10. What can be done to solve or minimize these problems?

11. How do you feel about street traders?

a) I don't like street vendors

b) I like street vendors

c) I think street vendors are good for the economy

d) I don't mind street vendors

12. How do you feel about the image that street vendors portray?
 - a) They portray a negative image
 - b) They portray a positive image
 - c) They portray a dirty image
13. Do you purchase items from street vendors?
 - a) Yes
 - b) No
14. How often do you purchase items from street vendors?
 - a) Once a month
 - b) Once a week
 - c) More than once a week
 - d) Never

Appendix 4: Motorist Road Users (Vehicle, Motor Bikes, Passengers)

**UNIVERSITY OF NAIROBI
DEPARTMENT OF URBAN AND REGIONAL PLANNING**

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwihoko Street, Githurai, Kiambu County

Declaration: *The information provided in this questionnaire shall be strictly confidential and it is meant for academic purpose only*

Questionnaire No.

Name of Respondent (Optional).....

Name of Interviewer..... Place of interview.....

Time of interview..... Date.....

1. Category of the interviewer (a) Driver (b) passenger
2. Type of motorized Transport (a) Motorcycle (b) Vehicle
3. Nature of Transport (a) Public (b) Private
4. What is the distance of your residence to the study area?
5. Where are you coming from and what is your destination?
6. How frequent do you use Mwihoko road? (Daily, weekly, monthly)
7. How long does it take you to pass the stretch?
8. How many trips do you make in a normal day?

Daily	weekly	monthly

9. What problems do you encounter along Mwihoko Street?
10. How do you overcome them if they occur during your movement?
11. Who helps to control the traffic along this road?
12. Are they efficient in the controlling the traffic?
13. What do you propose as a solutions to the currents traffic challenges?

THE END (Thank you for your cooperation)

Appendix 5: Motor Cyclist, Cart Pushers, and Cyclists - Questionnaire

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DEPARTMENT OF URBAN AND REGIONAL PLANNING

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwihoko Street, Githurai, Kiambu County

Declaration: *The information provided in this questionnaire shall be strictly confidential and it is meant for academic purpose only*

Questionnaire No.

1. Name of the respondent..... Age.....
2. Sex.....a) male b) female
3. What is your marital status? a) single b) married c) widow/widower d) divorced/separated
4. Education Level a) None b) primary c) secondary d) tertiary e) university.
5. a) Residence.....b) Distance from the study area
6. What is your Household size?
7. Do you carry passengers or goods?
8. a) Do you like this mode of transport?
b) Why?

.....
.....

9. Where do you come from, the origin of your trip?

.....
10. Where are you heading to, the destination of your trip?

.....
11. What is the distance between origin and destination?

.....
12. Are there spatial provisions for the use of this mode of transport? Yes or No

13. If they are there, are they adequate? Yes or No.

14. If no, then how do you move along this Mwihoko road?

.....
.....

15. What problems/ road conflicts do you encounter using this Mwihoko road?

.....
.....

16. How do you overcome them if they occur during your movement?

17. What are the main agents of these problems, ranking them from the most contributing agent?

18. How do you benefit from using this mode of transport?

.....
.....

19. Given the chance which are the possible measures to be put in place to address these problems?

.....
.....

THE END (Thank you for your cooperation)

Appendix 6: Street Vendors Questionnaire

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

M.A. Planning (Urban and Regional Planning) Project

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwhoko Street, Githurai, Kiambu County

Declaration: *The information provided in this questionnaire shall be strictly confidential and it is meant for academic purpose only*

Questionnaire No.

Respondent Details

1. Name of the respondent.....
2. Gender of the respondent
(i) Male (ii) Female
3. Age of the respondent (tick)
(i) 0 - 17 years (ii) 18 – 25 years (iii) 26 - 35 years (iv) 36 – 45 years
(v) 46 – 55 years (vi) 56 – 65 years (vii) Above 65 years
4. Marital status? a) single b) married c) widow/widower d) divorced/separated
5. Education Level? a) None b) primary c) secondary d) tertiary e) university.
6. Location of residence..... Distance from study area.....

Nature of the Business

7. Is your business registered? (a) Yes (b) No.
8. What type of business is being undertaken?
9. Observation of the business location (a) On road reserve, (b) On adjacent parcel (c) in open air market
10. If not (c), why are you not operating from the open air market?
11. What made you choose this location for your business?
12. Is this your permanent site or you sometimes move to other sites?
13. Why did you locate your business in Githurai and not elsewhere in the neighbouring estates?
14. What type of goods do you sale?
.....
.....
.....
15. Where do you get your supplies from?
.....
.....
.....
16. Who are your target customers?
17. How did you finance the startup of your business? (a) own saving (b) borrow from friends (c) lending institutions (d) Chama (e) Sacco (f) Other
18. Are street vendors organized into groups that work for the general good of all vendors?
(a) Yes (b) No {if No, Go to Q24}
19. If yes, do you belong to any of such groups or organization? (Yes) (No)
20. What are the requirements for one to become a member?
21. What are some of the benefits one may expect by becoming a member?
22. Do you hold meetings to discuss vendors' welfare? (Yes) (No)
23. If yes, how often?

- 24. Which local authority covers this area?
- 25. What services do they provide?
- 26. How often do they visit Githurai for the said services?
- 27. Do you pay tax or rates to the local authority? (a) Yes (b) No
- 28. If yes, how much do you pay on daily or monthly basis?
- 29. Do you think the money you pay is affordable or expensive to you, in relation to the kind of business you are undertaking?

Challenges

- 30. Are there challenges that you encounter in the course of carrying out your business? (a) Yes (No)
If yes, explain;
.....
.....
.....
.....
.....

31. What are these challenges?

	Challenges	Rank
i.	Narrow streets	
ii.	Accidents from vehicles, motor cycles	
iii.	Space competition with other road users – pedestrians, matatus, cyclists	
iv.	Complaints from formal businesses	
v.	Threats of eviction	
vi.	Being arrested	
vii.	Absence of storage facilities for goods	
viii.	Security of goods	
ix.	Environmental hazards (specify) – dusty, muddy, flooding, waste disposal, blocked drainage lines,	
x.	Nuisance from adjacent land users (specify)	
xi.	Others (specify)	

Rank the above challenges in order of severity.

- 32. How do you overcome these challenges?
- 33. Do you have a conflict resolution mechanism with your colleagues?
- 34. What possible solutions can you suggest to solve these challenges?
.....
.....
- 35. What should the county and national government do, to make your business formal and free of the above mentioned challenges?
- 36. Any other concern/ issue/ recommendation
.....
.....

THE END (Thank you for your cooperation)

Appendix 7: Key Informant Interview Schedule

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING

Implications of Urban Street Space Use Contestation by Informal Activities: A Case of Mwihoko Street, Githurai, Kiambu County

Declaration: *The information provided in this questionnaire shall be strictly confidential and it is meant for academic purpose only*

Questionnaire No.

(a) Ruiru sub-County Planning Department

Officers' Name

Designation

1. Is there a land use development plan covering Mwihoko road? a) Yes b) No
2. If yes, what are the proposed standards to be followed by developers?
3. If no, are there other by-laws guiding development?
4. Are they being observed?
5. What are some of the planning challenges facing traffic on this road? (Rank them according to their levels 1, 2.....n)

Challenge	Rank
Space provision for road users	
Behaviours / altitude of the road user	
Influx of street vendors into the road	
Influx of Boda bodas, tuk tuks and tax drivers	
Delayed journey	
Institutional regulations.	
Insecurity	
Conditions of the road	
Conditions of the vehicles.	
Speed of the motorists	
Road encroachments	

6. What will you propose as an intervention, for the current state of affair to be brought to manageable levels?

.....

(b) Kasarani Traffic Police

Officers' Name.....

Designation.....

7. Do you have permanent regular officers stationed along Mwihoko road? a) Yes b) No
8. Are there bus terminus provided along this road? a) Yes b) No
9. If yes, how come buses and Matatus pick and offload passengers on undesignated areas along the road without any action being taken?
10. Do boda boda operators have awaiting bay? a) Yes b) No

11. Are there laws governing boda boda sector? a) Yes b) No
12. Who is supposed to enforce it?
13. What are the accident statistics on Mwihoko road?

14. In your own opinion, what are the causes for space contest and accidents on this road?
 (Rank them according to their levels 1, 2.....n)

Challenge	Rank
Space provision for road users	
Behaviours / altitude of the road user	
Influx of street vendors into the road	
Influx of Boda bodas, tuk tuks and tax drivers	
Delayed journey	
Institutional regulations.	
Insecurity	
Conditions of the road	
Conditions of the vehicles.	
Speed of the motorists	
Road encroachments	

15. In your own opinion, what measures should be put in place to restore order within the study area?

(c) Bus / Matatu SACCOs and Operators

16. Is there a bus terminus provided for your vehicles along Mwihoko road? a) Yes b) No
17. What challenges do you encounter in your operation along Mwihoko road? (Rank them according to their levels 1, 2.....n)

Challenge	Rank
Space provision for road users	
Road encroachments	
Behaviours / altitude of the road user	
Influx of street vendors into the road	
Influx of Boda bodas, tuk tuks and tax drivers	
Delayed journey	
Institutional regulations.	
Insecurity	
Conditions of the road	
Conditions of the vehicles.	

Rank the above

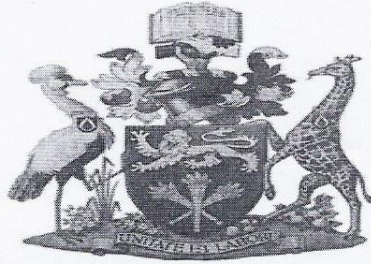
18. How do they affect the Bus/Matatu operations plying this route?

19. In your own opinion, what can you suggest as a solution to the above mentioned challenges? 3

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

(d) Focussed Group Discussion - INTERVIEW SCHEDULE

- 20. Is there a town management committee for Githurai?
- 21. What is the level of involvement of the county government in the management of Githurai town?
- 22. What key facilities are missing in Githurai?
- 23. Are street vendors organized in any way?
- 24. Are there groups providing credit facilities to informal traders within Githurai?
- 25. In your own opinion, what should be done to restore order in the study area?



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UON/CAE/DURP/6

13/5/ 2016

**NATIONAL COUNCIL FOR
SCIENCE AND TECHNOLOGY**

TO WHOM IT MAY CONCERN

RE: ADELBERT MORIANGO - B63/68851/2013

This is to confirm that the above named is a M.A student in the Department of Urban & Regional Planning, University of Nairobi.

As part of the continuous assessment culture in the Masters of Arts in Planning Programme our students are encouraged to acquire some experience through training in the field of Urban and Regional.

Any assistance given to him will be highly appreciated.

DR. KARANJA MWANGI MKIP FKIP
CHAIRMAN
DEPARTMENT OF URBAN & REGIONAL PLANNING

KM/pk

Appendix 9: NASCOTI Research Letter



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

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P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/16/23780/11342**

Date:

15th June, 2016

Adelbert Moriango Pius
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Implications of urban street space use contestation by informal activities: Mwihoko street - Thika road junction area, in Githurai,”* I am pleased to inform you that you have been authorized to undertake research in **Kiambu County** for the period ending **13th June, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Kiambu County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

**BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Kiambu County.

The County Director of Education
Kiambu County.