CHALLENGES IN PROVISION OF BASIC URBAN SERVICES IN RESIDENTIAL NEIGHBORHOODS: A CASE STUDY OF DELALEKUTUK AND ILDAMAT; KAJIADO COUNTY.

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DECLARATION

This study is entirely original to me and hasn't been sent to another university for review.

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DEDICATION

To my father Planner Jasper Ndeke, thank you for your continuous guidance and brilliant insights into my career advancement. My mother Aileen for your support, prayers and faith in me. To my wonderful daughters Aileen and Eliana for pushing me to be a better version of myself and for giving me the lens to view the world from a different and better perspective.

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ABSTRACT

Affordable housing projects heavily rely on essential urban services, which continue to pose a significant challenge in Kenya. The inadequate provision of crucial services like water, electricity, waste management, and accessibility significantly impacts the affordability of housing in both metropolitan and sub-urban areas. Recognizing the need for urban infrastructure in residential areas, this study focused on the settlement areas of Delalekutuk and Ildamat in Kajiado in 2022.

The basic goal of this research was to study the availability of basic metropolitan services for the residents of Delalekutuk and Ildamat. Additionally, it aimed to identify the obstacles hindering the provision of these services, propose policies that could facilitate urban infrastructure development, and suggest appropriate approaches to address the lack of essential urban services. The study targeted households residing in informal settlements that face challenges related to inadequate access to affordable housing. Key informants, officials from the state department of roads and water development in Kajiado, local administration in Kajiado, officials from the Kajiado County government, and landowners in Delalekutuk and Ildamat were also included as part of the study population.

Data collection involved the administration of household questionnaires, conducting focus group discussions, and performing field observations to validate information gathered from households and obtain critical insights. The study revealed glaring deficiencies in urban infrastructure provision, specifically regarding water accessibility, waste management, and electricity connection.

Based on these findings, several conclusions were drawn. Firstly, basic urban services do not play a big part in the housing industry. Secondly, developers and landowners have resorted to alternative measures such as boreholes to compensate for the inadequate services. Lastly, the study highlighted that housing developments often precede the provision of essential urban services.

Consequently, the study recommends that, together with the National Government, the Kajiado County government should adopt various conceptual models outlined within the literature chapter to enhance provision of basic social services. These models include the bottom-up approach, approach-based approach, decentralized approach, bottom-down approach, and collaborative housing. By implementing these models, it is hoped that the challenges in delivering essential

urban services can be effectively addressed and the provision of affordable housing improved in Delalekutuk and Ildamat.

TABLE OF CONTENTS

LIST OF MAPS

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

LIST OF ACRONYMS AND ABBREVIATIONS

ABT	Appropriate Building Technology
AHP	The Affordable Housing Program
CAHF	Centre for Affordable Housing Finance in Africa
ECDE	Early Child Development Education
GHS	Global Housing Strategy
GoK	Government of Kenya
KFS	Kenya Forest Services
NHC	National Housing Corporation
NPS	National Police Service
OSBP	One-Stop Border Post
PLUPA	The Physical and Land Use Planning Act
SDGs	Sustainable Development Goals

1 INTRODUCTION

1.1 STUDY OVERVIEW

The development of urban infrastructure serves as a crucial foundation for modern civil communities, contributing to an improved quality of life. Urban infrastructure systems, which encompass potable water, mobility, housing, energy, sanitation, and communications, form the building blocks and backbone of cities. In contrast, infrastructure facilitates development, as its absence hinders progress (Porter, 1986). For any country to be prosperous, there must be adequate and high-quality infrastructure without which there is little chance for other spatial uses, including residential, commercial, and industrial land uses. Infrastructure significantly influences urban space, determining where individuals reside, work, generate wealth, and how they engage in the exchange and sale of goods. The absence of urban infrastructure functions as an incentive for the formation of squatter settlements and the deterioration of housing conditions in metropolitan areas. In essence, the availability or lack of these essential facilities constitutes a significant distinction between slum dwellers and those residing in non-shanty areas (Otegbulu & Adewunmi, 2009).

Infrastructure has a significant impact in enhancing the well-being of social units and improving their overall living conditions (Kessides, 1993 Sanford Bernhardt & McNeil, 2008). However, in Iran, the process of urban infrastructure provision is divided among multiple organizations, leading to a fragmented distribution of responsibilities and authorities across the planning, financing, and implementation stages. This fragmentation not only creates vertical and horizontal dispersion but also hampers effective inter-sectoral relationships and coordination among the various Urban Infrastructure Authorities (UIAs) (Hejazi, 2003). Similar to other emerging countries, Iran faces the challenge of insufficient cooperation between various UIAs involved in providing infrastructure for newly developed areas. This lack of coordination leads to issues such as redundant and overlapping business ventures (Khan, 1997), difficulty in completing projects by the deadline (Panday & Jamil, 2010), and more. Therefore, it is imperative to establish robust coordination mechanisms between different UIAs as a crucial factor for successfully providing infrastructure.

Despite the interconnectedness of urban infrastructure as highlighted by Hudson et al. (1997), there hasn't been much research on the difficulties in coordination among organizations providing UI.

African officials are acutely aware of the important role that infrastructure contributes in determining the destiny of the continent. The need for more resources has frequently been highlighted by heads of state in their addresses when addressing important areas including electricity, water, sanitation, telecoms, and transportation. Through engagement processes, it is clear that these issues are shared with the lowest sections of society, who also place a high priority on having access to better infrastructure services for a higher standard of living.

The significance of infrastructure was recently reaffirmed in the Commission for Africa report, where it garnered collective endorsement. With a few notable exceptions, most academic and donor literature prior to the 1990s tended to ignore infrastructure. Water received attention primarily due to its critical role in maintaining health, but other aspects such as electricity, telecoms, and transport were largely neglected in resource allocation decisions aimed at addressing poverty and fostering economic growth.

The importance of water, sanitation, and, to some extent, telecoms in Africa's development agenda has been formalized thanks in large part to the Sustainable Development Goals (SDGs). Recognizing their profound impact on the continent, efforts are being made to prioritize these sectors as part of broader poverty alleviation and sustainable growth initiatives.

Access to fundamental urban services, including water, electricity, and transportation infrastructure, plays a critical role in making sure there is cheap housing available, especially in metropolitan and peri-urban regions. Affordable housing refers to residences that cater to individuals or families with incomes below the median household income, as defined by (United Nations, 2017). For housing and general urban growth, it is crucial to provide these basic urban services. Recognizing that infrastructure and essential services act as the basis and enabler of a useful and robust metropolitan environment is crucial. Additionally, these utilities are central to a government's commitment to its citizens and serve as a tangible metric by which communities hold their elected officials accountable.

Currently, the bigger portion of population across the world lives in cities. By 2011, over 53% of the population lived in metropolitan regions, according to the United Nations (2009) and

Henderson (2002). This shift towards urban living can be attributed to the widespread desire for improved opportunities and higher living standards. Urban areas offer advantages such as agglomeration benefits, economies of scale, and network effects, which enhance productivity and lower the cost of delivering services in cities (Rauch, 1993). Nevertheless, rapid urbanization has also contributed to the emergence of squatter communities.

Inadequate provision of urban services and the rising population's needs have given rise to these settlements. Insufficient formal housing, transportation systems, and infrastructure meet the current demand. The challenges faced by urban residents in developing nations include insecure property rights, inadequate social services, poverty, and increased crime exposure. Urban infrastructure and vital services are provided despite major challenges.
The United Nations (2016) estimates that 180,000 individuals in developing urban areas need basic services daily. This rising demand requires a minimum investment of Ksh. Investments in global infrastructure, as recorded by Heathcote (2017), amount to seventy billion dollars between 2016 and 2030. Additionally, an extra Kes. The COP 21 declarations call for $14 billion in infrastructure investments by 2030 to address climate change.
In Kenya, several initiatives have been launched to provide affordable housing options. Take Mombasa's Buxton Point project, which seeks to offer budget-friendly, stylish living environments (Boma Yangu, 2022). With careful consideration of its residents' diverse needs, Buxton Point was designed. This joint effort by the Kitui County administration and Tecnofin Kenya Ltd. serves as a notable example of successful partnership. These initiatives for affordable housing prioritize the accessibility of crucial urban amenities for residents.

The foundation of these initiatives is the delivery of vital urban services like water, power, and transportation, ensuring that those living in cheap homes have access to basic facilities. These services are essential to the growth of each nation's economy, accounting for 10% to 20% of all economic activity and constituting a valuable resource for households (World Bank, 2019). Due to the speed of global urbanization, there is now more need for inexpensive housing. Therefore, addressing the issue of providing sufficient and affordable housing is of utmost importance in numerous countries and cities worldwide (Christine Whitehead, 2019). However, sustainable affordable housing cannot be achieved without the provision of essential urban services, which facilitate further urbanization and improved living conditions within these environments.

1.2 STATEMENT OF PROBLEM

A rise in the need for cheap housing is a result of the extraordinary rate of urbanization in the world. In many nations and towns around the world, the issue of providing decent and cheap housing needs to be addressed as quickly as feasible. (Christine Whitehead, 2019).

In Kenya, the provision of essential urban services continues to be a significant problem as people seek affordable accommodation in neighborhoods and urban places. According to Rakodi (2004), the government's participation in providing essential urban services has also been minimal. Individual families and developers have had to go the extra mile to create these for themselves and their neighborhoods, minimum resources. The role of the government in providing essential urban services is limited to just a few projects and areas thus many urban neighborhoods are left out, especially in the informal settlements and peri-urban areas.

Essential urban services are core drivers of ensuring affordable housing projects. Inadequate provision of these vital services, i.e., water, electricity, waste management and accessibility influence affordable housing in urban and peri-urban settings. Kajiado town, as in similar secondary towns suffers from inadequacy in affordable housing due to the limited infrastructural services. Neighborhoods in the outskirts of the town such as Delalekutuk and Ildamat are faced by challenges such as ;poor infrastructural and basic needs provisional facilities such as adequate water supply systems and poorly accessible road networks which translates into unlivability condition of the neighborhood ,secondly ,the economic challenges faced by the residents within the area combined with the close proximity to Nairobi and Kitengela ,lead to unaffordability of the houses and high costs of living ,thirdly the housing typology does not allow the basic requirements of a home such as privacy and comfort and lastly the topographical orientation of the area makes it difficult to access the homesteads.

This study aims to explore the connection between inexpensive housing in Kajiado and the sufficiency of essential services. The study will pay particular attention to the two wards of Delalekutuk and Ildamat, which are located in the sub-urban areas of Kajiado town. The study anticipates that the recommendations made here will be replicated in other secondary towns or similar peri-urban areas of Kajiado.

1.2.1 Research Questions

The following are the main issues the study aims to address:

1) How well-equipped are Delalekutuk and Ildamat with regard to fundamental urban services?
2) What are the challenges in delivering essential urban services in Delalekutuk and Ildamat?
3) How can planning and policy intervention enhance the provision of essential urban services in residential neighborhoods in Delalekutuk and Ildamat in Kajiado town?

1.2.2 Research Objectives

The study aims to evaluate major difficulties in providing fundamental urban services in urban districts. The research will be guided by the aforementioned goals:

1) To investigate the difficulties of delivering essential urban services in peri-urban residential areas.
2) To study the state of fundamental metropolitan services in Delalekutuk and Ildamat, Kajiado Town, and their levels of availability.
3) To assess the challenges faced while providing of fundamental urban services in Delalekutuk and Ildamat, Kajiado town.
4) To suggest planning and policy changes that are required to advance the availability of essential services in Kajiado Town's residential communities.

1.3 JUSTIFICATION AND SIGNIFICANCE OF THE STUDY

Essential urban services provision faces an inherent and persistent challenge. Both formally planned urban areas and those that have evolved organically present this challenge. Investigating the gap between urban basic service provision and affordable housing, the study delves into the concept. This study is essential due to its potential to expand knowledge on the connection between urban basic services and their impact on affordable housing. The ability of those living in urban settings, especially the poor, to access basic urban needs has become an almost impossible problem to solve and, therefore, should be critically addressed (Olotuah, 2010).

Governments are working to improve social and physical infrastructure; as a result, the knowledge and information obtained in this study can help guide policy on the provision of fundamental urban services for affordable housing.

1.4 SCOPE OF THE STUDY

1.4.1 Geographical Scope.

The research is limited to the peri-urban residential neighborhoods in the two wards which are found in Kajiado Central constituency (Delalekutuk and Ildamat). The two wards cover a total area of 757.80 square kilometers and 474.80 square kilometers respectively.

1.4.2 Theoretical scope

The extent of the theoretical analysis is the investigation of fundamental necessities including water, sanitation, and electricity. The study's scope is restricted to an analysis of the difficulties in providing essential urban services in peri-urban residential areas.

1.5 ASSUMPTIONS AND LIMITATIONS OF THE STUDY

This research is limited to examining the peri-urban residential neighborhoods in Delalekutuk and Ildamat wards. The assumption of this study is that the selection of Delalekutuk and Ildamat is a representative sample of all residential neighborhoods in Kajiado Town. The policy intervention of planning proposal is thus replicable in all residential areas.

2 CHALLENGES IN THE PROVISION OF BASIC URBAN SERVICES IN PERI-URBAN RESIDENTIAL NEIGHBORHOODS.

2.1 INTRODUCTION

The chapter delves into the obstacles faced in offering essential services in metropolitan neighborhoods. This includes the explanations of fundamental urban services, residential areas, and the methods for delivering urban services; a review of housing types in residential neighborhoods. The chapter delves deeper into theoretical viewpoints that could illuminate the underlying conceptual frameworks that may improve the delivery of fundamental urban services in peri-urban residential areas. In addition, the chapter investigates existing literature on strategies and policy interventions that enhance the provision of essential urban services, including affordable housing access. The chapter comprehensively explores relevant case studies. Formulating the analytical and conceptual frameworks of the study, the chapter comes to a close.

2.2 DEFINITION OF THE TERMS

Housing refers to the provision of dwellings that comply with legal requirements, allowing individuals and their families to reside in them. Affordable housing, on the other hand, refers to housing units that are made available to households who would otherwise struggle to afford housing in the open market, or who require a specific type of housing that is not readily accessible.

Essential urban services involve water, sanitation, drainage, energy, and convenient access. Key players in urban economic and social development, these services uphold fairness and inclusivity. The diverse physical characteristics of buildings, influenced by factors such as available resources, climate, culture, social status, and budget, form their respective housing typologies. The combination of these elements shapes the distinctive characteristics and design of buildings in a particular location.

As the World Bank notes, urban service delivery primarily consists of administrative and managerial interpretations implemented by either public or private institutions. While United Nations agencies emphasize democratic values, they prioritize human and civil rights and decentralization in service delivery.

In both academic research and policymaking, the significance of providing adequate infrastructure services has been widely accepted. With renewed interest in the subject, the theoretical and empirical foundations of infrastructure's role in driving economic progress have been illuminated. In recent times, the connection between infrastructure and poverty/inequality has gained significant attention(Ariyo and Jerome, 2004).

The foundation of contemporary societies, urban infrastructure significantly improves the standard of living. The success of these critical facilities is dependent on the ability to harmoniously coordinate multiple urban infrastructure agencies. By recognizing and controlling interdependencies, urban infrastructures can be more efficiently coordinated. Cities' essential networks of infrastructure serve as their skeleton, facilitating mobility, housing, energy, clean water, sanitation, and communication. As highlighted by Porter (1986), infrastructure forms the cornerstone of successful development initiatives. Infrastructure, the driving force behind urban progress and resident happiness, is at the forefront of city development discussions.

Key components of a prosperous nation, high-quality infrastructure and sufficient resources are crucial. Urban areas boast a dynamic infrastructure, accommodating various land uses with ease. Urban spaces are significantly molded by it, affecting population distribution, economic activities, and the movement of goods. The absence of adequate urban infrastructure can give rise to slums and worsen housing conditions in urban regions. Slum dwellers are distinguished from non-slum dwellers by the existence or absence of essential facilities (Otegbulu & Adewunmi, 2009). Infrastructure provision in housing regions must be given top priority in order to rectify these discrepancies.

Housing transcends mere shelter, entwined with economic activities, industrialization, and urban infrastructure development, as Abrams (1964) eloquently notes. As noted by Agénor and Moreno-Dodson (2006), urban infrastructure can significantly influence growth via different channels. Kessides (1993) and Sanford Bernhardt & McNeil (2008) both support the idea that infrastructure has an effect on household well-being and standards of life. In addition, the relationship between urban infrastructure and social justice is quite evident. According to Calderón and Servén (2010), improving infrastructure yields a decrease in social inequality.

Urban infrastructure is made up of a vast network of facilities that provide the public with services including electricity, gas, telephone service, water supply, sewage disposal, waste management, roads, drainage, public transportation, ports, and airports. Per Merriam Webster's Collegiate Dictionary (1993), infrastructure refers to the fundamental system or organization structure, emphasizing the intricate connections between its physical and technological components. With various organizations involved, urban infrastructure provision in Iran suffers from both vertical and horizontal fragmentation.

This fragmentation has created challenges in fostering relationships and coordination among various urban infrastructure agencies (Hejazi, 2003). Similar to other developing countries, Iran faces difficulties in coordinating different urban infrastructure agencies, especially when it comes to providing infrastructure for new development areas. These challenges include overlapping and duplicative activities (Khan, 1997) as well as delays in completing projects (Panday & Jamil, 2010). Therefore, establishing robust coordination mechanisms among these agencies is crucial for successful infrastructure provision.

Despite extensive research on urban infrastructure provision (Suen, 2005), the importance of inter-organizational coordination remains largely unexplored. The importance of organization coordination in providing urban infrastructure has not been thoroughly studied (Hudson et al., 2001), nor have the challenges caused by a lack of cooperation (Sohail et al., 2005).

2.3 PROVISION OF URBAN INFRASTRUCTURE

Numerous structures that are essential to cities operating effectively are included in the notion of infrastructure in thse cities. Green urban infrastructure and constructed urban infrastructure are the two main categories. Referring to the natural components that make up the urban environment's life support system, such as water networks, forests, rivers, greenways, parks, protected areas, and open spaces, is the term "green urban infrastructure." These factors are crucial for the survival of species, the preservation of ecological processes, the preservation of air and water, and the promotion of community and individual health (Benedict & McMahon, 2006).

Urban relations and urban development are the two main subcategories of urban development.

Urban infrastructure consists of facilities for housing, banking, police, fire protection, health, education, among others (Love et al., 2011; Flora, 1998). Swanson (1996) first used the phrase "social (urban) infrastructure" to describe how these constructions were integrated with urban infrastructure. Contrarily, communication networks that offer the general public with essential services make up physical urban infrastructure, also referred to as "urban infrastructure". This comprises urban services like roads and canals, as well as public transportation, ports, and airports. It also includes utilities like energy, power, and communications, as well as water supply, sanitation, sewage, and waste management.

Cities' urban development is crucial for fostering economic development and raising residents' living conditions. In order for urban communities to continue to succeed, Feldman et al. (1988) contend that a strong and energetic urban setting is necessary because without it, urban development is impossible. Porter (1986), who concurs with this viewpoint, believes that progress requires infrastructure. The distinctive characteristics of urban development in sustainable urban development are highlighted by Engel-Yan et al. (2005). They underline how crucial it is for the process of urban planning to take infrastructure into account. It follows that the significance of urban development is significant for all urban development. Urban infrastructure development is a complicated, comprehensive process (Sözüer & Spang, 2012). There are numerous reasons for this challenge.

Urban infrastructure subsystems are interrelated, thus any modification or action in one area may have a major impact on other regions (Rinaldi et al., 2001). Also, the involvement of many stakeholders at different levels of decision-making adds additional complexity (Wu, 1999). The existence of different stakeholders complicates the presentation process, and organizational problems such as coordination and communication problems among managers can prevent urban delivery (Sözüer & Spang, 2012).

Urban development and acknowledging the integration of related institutions is therefore an important factor in the development of urban development. Urban infrastructure provision is a time-consuming and difficult task, as Wu (1999) notes. It involves many stages such as financing, construction and maintenance and involves many stakeholders. Urban infrastructure projects have a wide life cycle from idea to implementation. For example, in Germany, these projects can take

12 to 20 years to complete (Sözüer & Spang, 2012). Similarly, Herder et al. (2011) argued that urban projects often last for years or decades.

The lengthy time it takes to provide infrastructure is caused by a number of variables. These elements include complicated planning regulations and approval procedures, handling complex regulations, organizational flaws such improper cooperation and collaboration between federal authorities, and challenges with land acquisition.

Moreover, the development of urban infrastructure requires large sums of money and often encounters problems in recovering the cost (Wu, 1999). A World Bank report (1991) highlighted the lack of urban development due to limited financial resources and workforce capacity. This situation affects many aspects of the city such as business, trade, residential areas and parks. Sohail et al. (2005) highlighted the lack of resources such as finance, skills, technology and trained personnel as critical factors for infrastructure development.

In addition, more construction projects than anticipated have begun in cities around the world. Studies have shown that only 40% of projects (such as urban construction) are under budget, while 50% are over budget from 40% to 200% of cost (Hartmann & Ashrafi, 2004). Investing in urban planning is still a major concern for experts and researchers in this field.

According to academics, there are numerous ways to finance the metropolis. Three strategies were mentioned by Azizi (1995): conventional state spending, private sector participation, and user payment. Usage fee laws are thought to be crucial for ensuring that new settlers profit from urban growth (Azizi, 2000). According to research, urban infrastructure is typically more economical and ecologically friendly when costs are determined by costs and solvency (Kessides, 1993). Wu (1999) underlined the necessity of user payment to maintain effective city use because, in the absence of such a system, the number and caliber of domestic items would expand.

However, Pethe and Ghodke (2012) suggest investigating alternative financing methods such as municipal bonds for municipal financing. They argue that the success of these initiatives depends on the presence of secondary production in urban infrastructure. It is important to ensure that all costs associated with infrastructure development are affordable for the target group (Cotton & Fr ancey, 1994).

Economy citizens constantly comment on the city's regulations in view of large investments, skills, long working life, legal issues of obtaining right of way on private land, and commercialization of business in large construction (World Bank, 1994); Ostrom, 1996). In many countries, infrastructure-elated public responsibilities and power are often shared between various government agencies. In order to create the repair property, the many government entities involved must coordinate in order to gain knowledge of the interconnection of city infrastructure (Engel-Yan et al., 2005; Benedict & McMahon (2006). Poor coordination can lead to problems such as duplication and overlap of activities, delays, increased costs, and conflicts among municipal agencies (UIAs) (Panday & Jamil, 2010; Khan, 1997). The following sections describe the collaboration.

2.4 AFRICA'S INFRASTRUCTURE: CHALLENGES AND OPPORTUNITIES

African policymakers fully acknowledge the pivotal role of infrastructure in shaping the continent's future. The need for more resources has frequently been cited by heads of state for energy, water, sanitation, telecommunications, and transportation. Consultations with the public have revealed that politicians align with the concerns of the poorest citizens, who also recognize the significance of improved infrastructure services for their quality of life.

The collective endorsement of infrastructure's importance was underscored in the Commission for Africa report. However, despite the political interest in infrastructure, academic and donor literature during the 1990s largely overlooked this subject, with only a few exceptions. Water received some attention due to its impact on health, but the contributions of electricity, telecommunications, and transportation to economic growth and poverty alleviation were largely disregarded in public resource allocation decisions. The Sustainable Development Goals (SDGs) brought water, sanitation, and to some extent, telecommunications into the spotlight for Africa.

In 2002, the Johannesburg meetings brought about increased attention to energy-related issues, but unfortunately, the topic of transport was largely overlooked. Despite the presence of Sustainable Development Goals (SDGs), the Poverty Reduction Strategy Papers (PRSPs) did not effectively considering the requirements of the underprivileged and did not recognize the critical role that transportation plays in achieving the SDGs.

It is interesting to note that between 1960 and 2000, a strong corporation existed between the average levels of education in Africa and different infrastructure subsectors, ranging from 0.51 (roads) to 0.70 (communications). Recent research provides substantial evidence supporting the link between infrastructure development, economic growth and poverty reduction, as seen by policymakers and vulnerable groups. Although certain methods are used to measure infrastructure development, econometric data consistently shows a positive impact on economic connectivity as well as growth or co-growth. language has the most impact, followed by road and electricity.

Access to water and sanitation are more intricately connected to infrastructure. Recent research has shown that real estate investment has increased the region's compound annual growth by more than 13% over the past 30 years. These findings also highlight the importance of infrastructure in agriculture. High market prices hindered the growth of agriculture in Africa, mainly due to expensive shipping and excessive middleman management. According to a recent IFPRI report, improved transportation can increase farm income by up to 10%.

2.5 AFRICA´S INFRASTRUCTURE CHALLENGES

Many African countries now have deteriorating and ineffective infrastructure services as a result of inadequate investment in maintaining the country's current infrastructure. These nations struggle with subpar ports, railroads, highways, and an insufficient information and communication technology (ICT) infrastructure. Examining both residential and non-residential needs is necessary to determine how well infrastructure satisfies demand. There is growing information from assessments of the investment climate made across Africa that gives light on non-residential demand in addition to insights from growth models. Below is a summary of this evidence. While the Sustainable Development Goals (SDGs) have increased awareness of the problems and their urgency regarding residential demand, they have ignored important issues that have a considerable negative impact on the poorest people's everyday life. These will also be covered in this section.

2.5.1 The non-residential infrastructure needs

The African infrastructure market is structured differently than markets in other continents. For instance, self-reliance is often adopted as a lifestyle to avoid unreliable public providers and due to the vast areas that make it impractical to establish dense networks. The majority of rural clients (over 70%) and approximately 50% of poor clients further contribute to this unique scenario.

However, this complexity conceals an underlying and frustrated demand, while also obscuring the significant costs imposed on the economy when investors are compelled to pursue self-reliance.

The relationship between investment and infrastructure in African countries is clarified by a recent study by Lumbila (2005). According to research, countries with better infrastructure—particularly in the area of telecommunications—have higher levels of both domestic and foreign direct investment (FDI) than nations with lower productivity. In nations with better developed infrastructure, infrastructure has an outsized influence on domestic investment, foreign direct investment, and total economic growth. Contrarily, there is no statistical correlation between infrastructure investment and economic progress in nations with poor infrastructure.

This shows that a lack of capital not only hinders further investment, but also increases poverty. This study shows that there must be sufficient capital to encourage investors and stimulate economic growth. However, only if there is some access to infrastructure, he claimed, does infrastructure contribute an important part in attending the needs of investors in Africa and elsewhere. As most African countries do not yet provide the necessary infrastructure or infrastructure, investors rely on their self-sufficiency to meet these needs.

The findings from previous econometric studies are further corroborated by surveys conducted among investors as part of the Investment Climate Assessments (ICAs). These surveys involve questionnaires that evaluate general operational constraints faced by investors. Among the case studies conducted in six African countries, electricity consistently emerges as one of the top five constraints out of nineteen potential factors. In contrast, transport and telecommunications are ranked lower in terms of priority.

When investors were asked about major obstacles severely affecting their business operations and growth, 22% identified telecommunications, 25% indicated transportation, and 48% highlighted electricity. It is noteworthy that corruption was listed as a major obstacle by 40% of the establishments surveyed. When evaluating the demands for non-residential infrastructure, these investment climates, which are mostly affected by the requirements of foreign investors, add bias.

The distinctions between foreign entrepreneurs and businesspeople in three East African nations—Uganda, Tanzania, and Kenya—were examined in a recent study by Moss et al. According to research, foreign investors are more interested in transportation and power than domestic investors.

Although anecdotal, this data is in line with the justification for measures intended to draw in foreign investment. Over the following two to three years, further study will be required to offer conclusive proof of shifting housing needs.

From a policy standpoint, the collective evidence from econometric studies and surveys suggests three key lessons for Africa. Firstly, there is an unmet demand for non-residential infrastructure, with energy being the primary concern for investors. Secondly, there exists a minimum threshold of infrastructure stock necessary to attract foreign investment in sectors beyond natural resources. Lastly, while both foreign and domestic investors express concerns about infrastructure, their specific demands may differ. Consequently, designing infrastructure solely based on foreign demand may overlook certain domestic needs. In other words, if the policy goal is to encourage domestic investment, especially in macro and micro-sized businesses, it may be advantageous to conduct a differentiated assessment of infrastructure requirements based on the type of investors. The results of this assessment will aid in locating and addressing the various levels and causes of variations in infrastructure requirements. It is critical to understand that not every sort of infrastructure is equally significant to every investor at every point in time.

2.5.2 The residential infrastructure needs

The access rate is the most dependable measure for assessing residential infrastructure demand. Achieving close to 100% access to water, sanitation, electricity, and telecommunications is typically the policy objective. However, when it comes to telecommunications, obtaining data on the proportion of the people who can use either fixed-line or cell phones from household surveys is inconsistent, necessitating alternative approaches. Evaluating transport demand is more complex, and there are ongoing debates about the most suitable policy approximation.

Moving from one place in space to another, such as from home to school, the market to the clinic, is known as transportation. The amount of time it takes to walk between these locations, which is the most typical means of transit, is one reasonable approach to approximation access. Unfortunately, there are only a few nations have statistics on walking times, which makes it difficult to provide a complete picture of access rates across the continent. As an alternative, some people estimate transit access roughly and contentiously based on the extent of the road network.

Later in the study, more reliable indicators are presented for a smaller group of nations and, in certain cases, for various income levels. Table 1 provides a summary of the most trustworthy data for Africa, trying to include as many nations as it can.

Table 2.1: African Access Rates to Infrastructure Services.

Table 1: Access rates to the main infrastructure services in Africa

	2002 unweighted averages (sample sizes are given in parenthesis)			
	Africa (48)	**Low income (65)**	**Low middle income (52)**	**Upper middle income (38)**
Electricity access rates				
% of total population [a]	14.9 (40)	30.7 (59)	81.8 (38)	87.2 (24)
% of rural households [b]	8.3 (25)	19.1 (34)	59.1 (11)	n.a.
% of urban households [b]	54.0 (25)	63.4 (34)	95.3 (10)	n.a.
Water access rates				
% of total population	64.1 (47)	64.8 (65)	85.4 (48)	92.8 (26)
% of rural population	53.9 (47)	55.9 (65)	76.0 (49)	85.3 (26)
% of urban population	82.6 (47)	82.9 (65)	94.3 (48)	95.6 (29)
Sanitation access rates				
% of total population	36.5 (46)	40.1 (65)	71.7 (48)	85.6 (23)
% of rural population	27.9 (47)	40.4 (65)	57.8 (49)	76.1 (25)
% of urban population	54.3 (46)	60.4 (65)	85.2 (48)	90.5 (26)
Telecoms access rates				
Telephone Subscribers/1000 people	89.7 (48)	50.9 (65)	250.3 (52)	578.3 (36)
Rural ownership of phones (% of households) [c]	0.7 (21)	2.4 (29)	9.4 (11)	n.a.
Urban ownership of phones (% of households) [c]	9.7 (21)	14.4 (29)	44.8 (11)	n.a.
Transport access rates				
Road km/1000 people [d]	3.5 (47)	3.0 (64)	4.96 (50)	9.2 (34)
Road km/1000 square km [d]	166 (47)	189 (64)	326.8 (50)	1083 (34)

Source: Based on data presented in Estache and Goicoechea (2004)

Given the prevalent poverty levels witnessed in Africa, a legitimate concern arises regarding the equitable provision of infrastructure to both the impoverished and the wealthier classes. Regrettably, international databases often lack a systematic approach to addressing this policy area. Policymakers seeking cross-country comparisons do have an option: they can rely on comparable household surveys. The Demographic and Health Surveys (DHS) and the Living

Standard Measurement Surveys (LSMSs), respectively, offer the most pertinent information for utilities and transportation. The percentage of households in various economic quintiles in 26 Sub-Saharan African nations that have access to electricity and piped water is disclosed in the DHS statistics.

At the same time, LSMS data provides schools and hospitals with information on travel times (albeit in a limited number of countries). Table 2 shows available data showing that clear access to water connections for the poor is not available to more than 40% of the population.. In fact, only three countries (South Africa, Ivory Coast and Nigeria) have made significant progress in distributing access equally across income classes. Worryingly, access appears to be restricted to the wealthiest 20% of the population in a third of the sample. A good explanation for this difference is that utilities predominantly serve capital and major cities, where the wealthy tend to have the energy.

Table 2.2: Summary of Demographic and Health Infrastructure Accessibility Rate

Table 2: Summary of DHS information on average access rates in Africa

	Quintiles				
	First	**Second**	**Third**	**Fourth**	**Fifth**
Improved water sources (% of population)	34%	49%	54%	67%	85%
Piped Water (% of population)	0%	1%	3%	11%	40%
Network Electricity (% of population)	0%	4%	12%	28%	71%
Transport in terms of access to School (% of population within 30 minutes of school)`	62%	65%	66%	68%	72%
Transport in terms of access to Health (% of population within 30 minutes of a clinic)	56%	60%	70%	73%	79%

Source: Based on a sample of 26 countries for which data is provided by Diallo and Wodon (2004)

However, the challenges faced by impoverished individuals extend beyond mere access to infrastructure; affordability also poses a significant concern. Current guidelines suggest that poor people should devote the largest share of their income to water and sanitation needs, about 5% (3.5% to water) and another 4-5% to electricity. Generally speaking, it is advised that families with limited means spend more than 15% of their earnings on housing, 5% on water and sanitation, 4% to 5% on electricity, and the remaining amount on transportation and communication. Available information is limited and focuses mostly on household expenses related to Internet services. It is reasonable to assume that the above figure is lower for energy use, as outdoor equipment tends to

have higher housing costs. However, it should be noted that unconnected users may have less usage due to higher costs.

Around two-thirds of Africa's urban population is thought to live in slums, against a backdrop of recession, bad government, and weak civil society. The problems caused by rapid urbanization in Africa will not lead to major changes in the current approach to urban development (Pieterse, 2008). These challenges include high unemployment and underemployment, underemployment, underemployment and supply inefficiencies, overcrowding and environmental degradation, circulation and a massive housing shortage.

2.6 TYPOLOGIES OF BASIC URBAN SERVICES AND THEIR DELIVERY PROCESSES

2.6.1 Water supply

Sustainable development requires the supply of water, sanitation, and hygiene (WASH). The distressing fact that almost 800,000 infants below five years die from diarrhea every year serves as evidence that the absence of access to good water and sanitation services has a direct impact on health. Adopting a comprehensive strategy for upgrading and extending WASH services is essential to addressing this problem, with a focus on public and private service providers working together especially. UNICEF stresses the significance of collaborating with partners to create viable public and private sector-applicable strategies for providing these services.

In numerous countries, authorities are promoting scientific collaboration and technology transfer, particularly among developing nations, to develop cost-effective sanitation and waste management solutions for slum areas (May, T., 1998). Urban WASH initiatives present unique opportunities and challenges that differ from those in rural areas. However, the importance of engaging in urban WASH efforts cannot be overstated. To ensure that everyone has access to water, sanitation, and hygiene services worldwide, it is crucial to recognize and address the unique problems, constraints, and opportunities presented by various urban contexts.

In order to provide inexpensive housing, Gawel et al. (2011) conducted a study in Mongolia with a particular emphasis on the cost of water. They noted that a lot of towns and cities are having trouble keeping up with demand for water because of aging infrastructure brought on by population increase (Vázquez-Barquero & Rodrguez-Cohard, 2016). The introduction of cost-recovering prices for water resources is necessary for sustainable development.

Urban areas had 83% less upgraded water sources available in 2008 compared to 91% in 1990., according to data published by the JMP in 2010. The demand for high-quality water supplies is anticipated to rise in Kenya, a country that is experiencing a water shortage and is working to achieve the economic and social progress indicated in Vision 2030. In response, the Kenyan government (Kenya Vision 2030) has established objectives to preserve water resources and improve methods for rainwater and underground water gathering.

Since it was founded in 2009, Kenya's Ministry of Water and Irrigation has been in control of overseeing the country's water supply. In 2008, improved sources of drinking water were accessible to 59% of Kenyans., according to the JMP's Water Supply and Sanitation report from 2010. Rural areas received 52% of this access, while urban areas received 83%. In addition, 44% of Kenyans live in urban areas, whereas 12% live in rural areas, and 19% have connections in their yards or homes that give them access to piped water.

2.6.2 Solid Waste Management

The process of rapid urbanization, accompanied by economic growth and the emergence of a growing middle class, has resulted in a corresponding increase in waste generation in developing world cities (Gossaye, 2001). According to projections, the annual production of municipal waste would increase to 2.2 billion tons by 2025. In many urban areas, waste management systems, infrastructure, and governance are struggling to keep pace with the rising population and the escalating amount of waste, particularly plastic waste.

As a response, collaborative and cross-sectoral approaches are being adopted in urban and peri-urban settings to work with cities and local governments, aiming to foster sustainable, locally-driven solutions. These initiatives include helping local governments and entrepreneurs create and expand technologies that increase the efficiency of water and waste management services while lowering costs. Moreover, efforts are being made to help cities access third-party financing to support the implementation of these services.

The ability to use proper sanitation is crucial for social advancement. Unfortunately, approximately half of the world's population does not have access to or a suitable toilet, according to the World Health Organization (WHO). Nearly 3 million people are deprived of sanitation services by using unsanitary practices such as open anus or by paying to use unsanitary toilets (UNICEF, 2001: 9). Lack of proper sanitation leads people to go to unsanitary places, leading to

the spread of dangerous diseases, especially diarrhea. Sub-Saharan African countries face a major challenge in providing improved sanitation to more than a third of their billions-plus populations to move towards the Sustainable Development Goals (SDGs).

It is really concerning how well-maintained Sub-Saharan Africa is. Exactly the same as in 1990, 55% of urban residents had access to sanitation in 2003 (UNU-IDE, 2021). The population of the city increased by 80% between 1990 and 2003. According to UN-Habitat (2006), there were 160 million urban dwellers without access to better sanitation in 2005, up from 77 million in 1990.

According to the Kenyan Household Finance Survey conducted in 2015, health insurance coverage is reported to be high at 72%. 6% including shared and private bathrooms. The removal of unhealthy people is not only brutal, it can also hinder the country's success in providing affordable housing and development. According to history, there are numerous ways to dispose of a body; nevertheless, doing so is a costly luxury that should not be put off until one has a better work opportunity. This is important in creating success (Biland, 1993; Moatazed-Keivani, 1993; Drakakis-Smith, 1981). Therefore, lack of water and sanitation in residences is still a major problem, especially in developing countries. Therefore, sanitation should be considered as an important factor when planning and providing affordable housing. This study intends to investigate the connection between inexpensive housing and sanitary conditions in Cajado.

Urban Transportation

Efficient and well-connected road networks play a vital role in unlocking a region's full potential. Historical evidence demonstrates that enhancing transportation systems not only facilitates business investment and economic growth but also creates employment opportunities. Nonetheless, in numerous urban areas of developing countries, the absence of reliable and adequately connected roadways remains a pressing issue due to insufficient investment and inadequate maintenance (Al-Kofahi et al., 2018; Al Tarawneh, 2014). In order to overcome these obstacles and improve public transportation infrastructure, USAID actively encourages integrated urban planning and helps governments allocate funds for it strategically. This comprehensive approach encompasses designing more resilient infrastructure, adopting clean transportation technology, and implementing "smart city" solutions to enhance real-time transportation management.

In the 21st century, urban areas in developing countries have become vital contributors to the global economy. People are moving in greater numbers to cities in pursuit of work, leisure, and cultural experiences. This rapid urbanization puts immense strain on the existing infrastructure systems. One significant challenge is mobility, particularly in terms of affordable and accessible transportation (Al-Kofahi et al., 2018; Al Tarawneh, 2014). Housing, infrastructure, transportation, energy, employment, education, and healthcare services are some of the key areas where towns face numerous difficulties.

The transportation system has a major impact in the lives of urban dwellers, connecting them to housing, business centers, work opportunities, leisure activities, and overall livelihoods. Unfortunately, the current state of transportation in many secondary towns worldwide is far from ideal. Inadequate road networks, poorly maintained stormwater drainage systems, and unsanitary pathways to residential areas are common issues. Moreover, high transportation costs hinder productivity, impede efforts to alleviate poverty, and pose safety and environmental risks to the community (Mitric, S., 2008).

Henning et al. (2011) emphasize that well-functioning urban transport systems contribute to the competitiveness and attractiveness of cities by providing residents with convenient access to housing, economic opportunities, social services, and an improved quality of life. Efficient urban transport systems also facilitate businesses in accessing labor and markets. However, growing urban populations present a twin challenge for cities in developing and transitional economies., rising income levels, and a surge in private vehicle ownership. These factors, combined with limited resources, create a complex environment for their urban transport systems.

Thus, this provides a basis to understand how Kajiado town affordable housing has cooperated such efforts of enhancing transport system, to ensure service efficacy and efficiency delivery and accessibility of good, serene homes that many may want to have.

2.6.3 Electricity

The solar industry is increasingly becoming competitive today due to big opportunities for investors and corporations. For the most part, the industry is still evolving and still has a massive opportunity gap to tap in. Most people who invest in the energy sector are looking for huge profits, while others advocate for it because it is one of the ways of impacting the environment. Most of

those advocating for the former want to use solar energy instead of fossil fuel because of the effects on the environment.

The impact of providing energy is related to many things, such as housing, health and poverty reduction. The task of identifying, measuring and monitoring energy input becomes more difficult due to the differences between body and body. However, it is important to view energy capture as a continuous improvement process rather than a simple binary system with different outcomes (Billand, 1993; Moatazed-Keivani, 1993; Drakakis-Smith, 1981).

Using this overview allows us to understand many aspects of energy flow through the home network. It should be more relevant to access to opportunities, including at the national, community and local level, and include assessment and review processes that take into account the use of energy production. In contrast, binary systems only determine whether a home or community has enough energy to solve complex energy use issues.

Some of the current definitions of energy use cannot be used to address the sustainability of energy consumption. For example, the International Energy Agency (IEA) defines energy use as the first connection to electricity and the increase in energy use over time. In contrast, the Global Energy Assessment (GEA) definition used in this study includes the characteristics of sustainability. This means that energy use is "potential and reliable access to clean energy options with good knowledge" (Okpala, 1992; Ogunshakin and Olayiwola, 1992).

This study focuses especially on the energy consumption of electricity. For eight years, beginning in 2006, research was conducted to investigate urban energy use in seven different countries, as stated in the research objectives. This study used a variety of techniques to collect data, including interviews with electronic devices, household surveys to collect data such as family size, overall income, legal energy use, associated costs, and Process Development (PDP) information. . These PDPs include stakeholders that invest heavily in electricity generation and services for the urban poor. These stakeholders include government agencies, local authorities, energy providers, property managers, regulators, non-governmental organizations (NGOs), learning and consumer organizations. With this comprehensive approach, the study clearly identifies the barriers to urban energy use and demand and makes recommendations to address these issues.

2.7 TYPOLOGIES OF AFFORDABLE HOUSING AND PROVISION PROCESSES OF BASIC URBAN SERVICES

2.7.1 Government Housing

Governments often engage in housing initiatives for two primary reasons: to enhance the infrastructure of the state by constructing housing complexes for key personnel such as technocrats, senior managers, military and security staff, and to offer housing solutions for lower-income segments of society. They can achieve this either through direct means, such as implementing comprehensive housing construction projects, or indirectly, by supporting self-help programs and upgrading existing settlements. Each of these strategies will be covered in depth in the sections that follow.

2.7.1.1 Direct government housing provision

Throughout the 1950s, 1960s, and 1970s, various governments made efforts to address the housing issue faced by low-income populations. They initiated significant house-building programs aimed at relocating residents from squatter settlements (UNCHS, 1996; Okpala, 1992; Drakakis-Smith, 1981). Typically, these initiatives received funding directly from the central government or government-affiliated financial institutions (UNCHS, 1996; Okpala, 1992). The special demands of the low-income groups were not sufficiently taken into account in the design of these initiatives, though (Drakakis-Smith, 1981). Instead, the interests of the private contractors participating in the building process largely determined the physical qualities, scale, and construction methods.

As a consequence, many of these projects failed to meet the living standards required by the disadvantaged areas (Drakakis-Smith, 1981). The housing blocks, in example, provided only fundamental shared utilities like kitchens, restrooms, and washing facilities, making them unsuitable for bigger families and lacking in space (Drakakis-Smith, 1981; Yap, 1996). Additionally, due to a focus on cost reduction, inexpensive land on the outskirts of cities was often selected, resulting in limited access to employment opportunities and an overall compromise in construction quality (Okpala, 1992; Ogunshakin and Olayiwola, 1992).

2.7.1.2 Indirect government housing provision

In response to the growing housing shortages and the limited success of direct provision methods, several developing nations' governments adopted alternative approaches during the 1970s and 1980s to tackle the housing requirements of low-income urban populations. These approaches included assisted self-help initiatives such as sites and services programs and settlement upgrading projects (Burgess, 1992; Pugh, 1994; Drakakis-Smith, 1981). By implementing these strategies, governments were able to indirectly facilitate housing provision and navigate the obstacles posed by prominent aid organizations like the World Bank.

2.7.2 Private sector housing provision

According to the research by Tipple et al. (1999), In developing nations, middle- and upper-class urban residents are mostly served by formal housing. Varied developing countries make varied contributions from this form of housing, ranging from 20% in the majority of less developed countries to 60% in more developed and higher-income nations.

The approaches to private housing can vary, encompassing speculative residential developments of varying scales and individual house constructions initiated and financed by owner-occupiers, often executed by small contractors. The growth of the private housing market is directly influenced by commercial housing developers who undertake projects with the intention of initiating and profiting from home development (Drakakis-Smith, 1981). Consequently, a growth in housing developers is correlated with an increase in the amount of expansive speculative development. Additionally, the existence of investors motivates government and developers to aggressively pursue joint venture projects targeted at improving the availability of affordable housing in the nation (Drakakis-Smith, 1981).

2.7.2.1 Self-Built Houses on Rented Land

Low-income households have developed a pattern of constructing their dwellings on leased land, often in informal settlements that cater to and serve the needs of people residing in such areas (Yap, 1996; UNCHS, 1996c; Rakodi, 1995). It is important to recognize that these households maintain a degree of control over their housing units. However, they still face challenges related to the lack of secure land tenure, which leads to their reluctance to either make investments in their dwelling units or combine their communities. Instances of self-built housing on rented land can be

found in various locations, including Papua New Guinea, Fez in Morocco, Calcutta, Mombassa, and Abidjan (UNCHS, 1996c; Rakodi, 1995).

2.7.3 Public and private joint venture schemes

Plans for public-private joint ventures are a well-established method for the private sector to provide housing. To encourage private businesses, state authorities frequently provide affordable land and tax benefits. The finance and construction of housing units on the offered land is then handled by the private sector. The remaining units are made accessible to low-earning households at predetermined prices, with the possibility for them to sell a predetermined share of these units on the open market. Similar approaches have been used by a number of nations, including Malaysia, India, and Iran (Billand, 1993).

In these joint ventures, the government party may negotiate with private developers or set design guidelines, especially for the project's low-income component (Moatazed-Keivani, 1993). The success of these programs hinges on the government's dedication to putting the policy into practice and how appealing the projects are to private developers financially. For instance, Iran struggled before to 1990 because the government's insufficient land allotment prevented the open market sales of housing units (Moatazed-Keivani, 1993). Affordable Housing: Challenges of PROVISION of Basic Urban Services in Developing Countries

After examining the current state of housing, various limitations affecting the sector have come to light. It is crucial to approach the development of a national housing policy with meticulous attention and prioritize the following key concerns.

2.7.4 Poor access to land for housing

The lack of available land combined with past and present ownership patterns is a major barrier to the construction of new homes. The high cost of land is a constant topic of contention in the community since it prevents the development of housing options. Thus, urgent attention and targeted measures are imperative to address this land scarcity issue. Policymakers must address the challenge of increasing affordable housing supply while considering the limited land availability (Gofen, 2015).

Examining strategies and action plans centered on the government's purchase of land within communities becomes vital in order to be in line with the planned Land Use Policy. This approach

would facilitate the establishment of housing land banks to cater to the residents' needs. Moreover, the acquisition of land for residential purposes should be approached from a sociological standpoint, emphasizing the preservation of the community's cultural identity.

2.7.5 High Cost of Infrastructure

The excessive cost of land infrastructure is a significant obstacle to the development of housing, in both the public and private sectors, especially when the development is located far from existing infrastructure. When creating new sites, developers are solely responsible for making investments in the necessary road and water infrastructure; they are not entitled to any benefits from any connections that other people or developers might make in the future (Billand, 1993; Moatazed-Keivani, 1993; Drakakis-Smith, 1981). This significant infrastructure expense has a direct impact on the final land development cost, which in turn affects consumer home affordability.

As a result, it is essential to reevaluate the original cost of land infrastructure and create a consistent strategy for supplying utilities to housing complexes. Currently, infrastructure costs make up between 25 and 30 percent of housing prices and are crucial to providing affordable homes. Unfortunately, this aspect has been overlooked by authorities, resulting in increased housing costs by developers (Gofen, 2015). This is evident in gated residential communities, where contractors independently provide electricity, water treatment plants, sewage facilities, and access roads to the estate, among other amenities.

2.7.6 Increasing rural-urban migration

The migration of people from rural to urban areas has created significant challenges in terms of housing supply and traffic management. The demand for multi-family housing, particularly apartments, is high in cities. Consequently, it is crucial for the central government's renewal plans for certain cities to align with the proposed housing policy, specifically addressing housing-related aspects (Gofen, 2015). At a broader economic level, a key challenge is to implement policies that promote economic development and simultaneously slow down urbanization by creating more job opportunities in rural areas.

2.7.7 Inadequate finance mechanisms for low-income housing

Financial institutions are appropriately represented in the home credit market, according to a detailed investigation, although low-income residents' access to credit is clearly constrained. In particular, the most economically disadvantaged families are excluded from formal credit

channels. This exclusion can be partly attributed to inflexible eligibility criteria that require stable income sources and land ownership as collateral (Gofen, 2015). Consequently, it is imperative to implement appropriate financing mechanisms that prioritize realistic eligibility criteria and offer lower interest rates for low-income households. Additionally, there is a need to reassess the institutional framework responsible for administering low-interest financing to this demographic.

Considering that housing is a fundamental human right, it is crucial to address the housing needs of the most vulnerable individuals. Although government housing incentives provide some assistance, the process of accessing these incentives lacks a clear structure. As a result, there is a risk of inadvertently directing the benefits towards higher-income groups. To rectify this situation, it is essential to develop well-defined incentive systems explicitly targeting low-income households (Okpala, 1992; Ogunshakin and Olayiwola, 1992). Strategies and action plans should be devised to gather comprehensive information on the socioeconomic characteristics and geographical distribution of the lowest income quintile. Furthermore, a focused approach to affordable housing for low-income households requires the specific allocation of funds through the annual national budgeting system.

2.7.8 The cumbersome regulatory approval process

The housing delivery system faces challenges due to a prolonged and intricate regulatory approval process. Although government measures are important, they often lead to delays in obtaining planning approvals for land sub-division, as noted by Pike et al. (2017) and Tomaney (2014). The involvement of government referral agencies further exacerbates these delays, resulting in significant costs for private developers. Ultimately, this situation negatively impacts the affordability of housing for consumers.

2.7.9 Lack of integrated planning in housing programs

In the absence of a well-defined national development plan, residential subdivisions often focus solely on providing housing units and basic infrastructure, neglecting essential community services and amenities. As a consequence, residents are compelled to travel considerable distances to access daycare facilities, transportation options, and shopping centers (Pike et al., 2017; Tomaney, 2014). It is crucial, therefore, to prioritize integrated planning for housing projects, ensuring that residents have access to comprehensive community facilities. This approach is vital for the sustainable development of neighborhoods (Vázquez-Barquero and Rodrguez-Cohard, 2016). Governmental

planning organizations should take a more active role in home development in order to accomplish this. It becomes essential to continuously analyze housing needs, prioritize those needs, and incorporate those assessments into national zoning plans and comprehensive development strategies.

2.7.10 Inadequacy of housing information system

The insufficiency of information, as previously highlighted, is a matter of significant worry, as the establishment of an effective housing policy necessitates a dependable housing information system (UN, 2019). Consequently, it is crucial to allocate both financial and human resources towards the creation of a comprehensive, easily accessible, current, and transparent housing market database.

2.7.11 Inefficiency of house construction

The achievement of cost-effective house construction necessitates the consideration of affordability, availability, and efficient utilization of both materials and labor. In order to encourage the availability and utilization of building materials, especially those sourced locally, it is imperative to develop strategic plans and initiatives (Carmona et al., 2016). Challenges faced by the construction industry arise from low entry barriers, the absence of regulatory bodies, the lack of mandatory standards, and the absence of a legally binding building code.

As a result, the performance of contractors has generally been subpar, leading to prolonged construction timelines and the production of low-quality housing (Billand, 1993; Moatazed-Keivani, 1993; Drakakis-Smith, 1981). Consequently, it is crucial to comprehensively address construction quality management to ensure the effectiveness of the proposed housing policy. This can be accomplished through capacity building initiatives, which include training, registration, and licensing of housing contractors, alongside the implementation of a Building Code. Striking a balance between enhancing competitiveness in the globalized economy and meeting the demand for improved housing standards is of utmost importance.

2.8 THEORETICAL PERSPECTIVES:

2.8.1 Neighborhood planning theory

In 1915, Robert E. Park and E. W. Burgess introduced the ecological concept of the "neighborhood" in the field of planning. The implementation of this concept was observed to some

extent during the development of new towns in the United Kingdom, particularly under the localism Act of 2011, which facilitated significant growth and development of towns in England.

Neighborhood planning can be defined as a type of urban planning that involves collaboration between professional urban planners and communities to shape both new and existing neighborhoods. This process includes the creation of a physical neighborhood plan, often through participatory planning, or an ongoing decision-making process for neighborhood affairs. City planners have employed this approach to address various social issues such as community disintegration, economic marginalization, and environmental degradation.

The initial phase of neighborhood planning involves defining the geographical boundaries of the neighborhood. Although neighborhood planning can encompass various scales, from urban neighborhoods to rural areas, determining the exact boundaries can pose challenges. Once the plan's boundaries are established, the individuals leading the process must consider strategies to engage the broader neighborhood community in the planning efforts.

Another crucial step is defining the objectives of the plan, with the active participation of local residents and stakeholders being highly valued. The planning process can either be led solely by a city official with limited interaction or input from residents, or it can be undertaken by a self-selected group of residents who may disregard or overlook input from others in the neighborhood. After collecting data through community consultations and evidence gathering, a neighborhood plan can be formulated. Finally, evaluating and monitoring the plan are recognized as the concluding steps in neighborhood planning. This study aims to employ the principles of neighborhood planning theory, which emphasize collaborative efforts among members of society to achieve the established goals and objectives.

2.8.2 Collaborative planning theory

Collaborative planning is an inclusive and participatory approach to designing, aiming to involve a wide range of stakeholders. It employs various facilitation techniques to foster consensus and cooperation among participants. The key elements of collaborative planning can be summarized as follows:

- Discourse Arenas: These are the spaces where negotiations and re-negotiations occur during the planning process. They provide a platform for stakeholders to engage in constructive dialogue and exchange ideas.
- Knowledge Production and Reproduction: The generation and utilization of knowledge are crucial for decision-making in collaborative planning. This knowledge emerges through interactions among diverse participants, drawing on different forms of expertise and experiences. Ethical considerations and moral dilemmas may also be addressed in these discussions.
- Communicative Rationality: Effective communication among stakeholders is essential in collaborative planning. This involves not only conventional modes of communication but also creative presentation techniques such as storytelling, metaphors, visual imagery, and aesthetic representations of experiences. Various actors, including individuals, local populations, groups, governments, and both private and non-governmental organizations, can be involved.
- Trust: Trust forms a vital foundation for collaborative planning. It enables productive and meaningful communication among participants, fostering an environment of openness and cooperation. Without trust, the collaborative process may falter, hindering the achievement of fruitful outcomes.

2.9 CONCEPTUAL MODELS FOR ENHANCING DELIVERY OF BASIC URBAN SERVICES.

2.9.1 Collaborative Housing

Collaborative housing embodies a significant change in civic engagement, influenced by contemporary ideas such as "social innovation," "community-driven development," and "co-creation." While these concepts are not entirely new, they have gained more attention from scholars and policymakers recently. The goal is to emphasize the structural and symbolic elements of delivering public services within advanced capitalist countries.

The relationships between the state and its residents in delivering public services have changed, which has led to this paradigm shift. Since the post-World War II era, when people were predominantly considered as "recipients," "subjects," or "users" of public services, scholars like

Gofen (2015) and Needham (2008) have highlighted changes in these relationships throughout Western European nations.

However, beginning in the middle of the 1980s, people started to be viewed as "consumers" (Clarke, 2007) or "customers" (Mathiasen, 1999) who need to be satisfied, provided options, and served. Since 1945, Western Europe has experienced many periods of social or public housing provision, and these changes have had an impact on the housing sector as well.

Whitehead (2015) identifies the initial phase as the post-World War II period, during which the State played a pivotal role in constructing social housing, reducing the involvement of third-sector organizations that had previously taken a leading role in providing social services accommodation. During this era, citizens were recipients of this housing type.

The second phase got under way in the 1980s when the government began to step away from direct provision and take on the role of a commissioner and regulator of social housing. The responsibility of delivery shifted to a combination of local governments and non-profit organizations, such as housing associations (Walker, 1998). In certain countries, like England and the Netherlands, the third sector expanded as public housing stock was privatized. This was influenced by "New Public Management" approaches that integrated private-sector management techniques and treated users as customers.

Over time, there has been a noticeable reduction in state involvement in public service provision across many member countries of the enlarged European Union, particularly since the late 1990s. The global financial and economic crisis (GFEC) and the ensuing austerity measures were some of the factors that caused this shift.

A growing focus on discussions of responsibility (Dean, 2010; Lemke, 2001; Rose, 1999), which redefines social issues and risks as personal matters that individuals are responsible for managing, including in the housing sector (Flint, 2004; Heeg, 2013), is linked to this decrease in state involvement. The phrase "co-creation" in this context emphasizes the transformative nature of citizen participation in service delivery (Alford, 1998; Boyle & Harris, 2009; Cahn, 2004), highlighting the unique characteristic of service as both a production and consumption process.

2.9.2 Bottom-Down Approach

When it comes to developing programmes that involve decentralization, local political institutions ought to make decisions regarding the creation of strategic plans of growth policies as well as development intervention strategies. Pike et al. (2017) and Tomaney (2014 There has also been a lot of research done on several empirical situations and target areas of local development strategies. Scholarly discussions include place branding practices (Cleave & Arku, 2017), Smart City ideas e.g. Crivello, 2015; Viitanen & Kingston, 2014), approaches for nurt These debates enlightened on different policy ideals in diverse places.

2.9.3 Decentralized Approach

Collaborative housing represents a notable shift in public engagement, influenced by contemporary ideas such as "social innovation," "community-led development," and "co-production." While these concepts are not entirely novel, they have gained increasing attention from scholars and policymakers in recent years, aiming to highlight both the structural and symbolic aspects of public service provision within advanced capitalist nations.

This change in perspective can be traced back to evolving dynamics between the state and its citizens in delivering public services. Researchers like Gofen (2015) and Needham (2008) have documented these changes in Western European countries since the era of postwar welfare states, during which individuals were largely viewed as mere "recipients," "subjects," or "users" of public services.

However, since the middle of the 1980s, there has been a change in how people perceive them; they are now seen as "consumers" (Clarke, 2007) or "customers" (Mathiasen, 1999) who are entitled to services, satisfaction, and a variety of service provider options. Since 1945, Western Europe has experienced several stages of social or public housing provision, and these changes have also had an impact on the housing sector.

According to Whitehead (2015), the post-World War II era was the first stage, during which the State significantly contributed to the development of social housing, reducing the involvement of third-sector organizations that had previously taken the lead in providing social services housing in the early 20th century (Schultink et al., 2005). Citizens in this time period received this type of dwelling.

The second stage began in the 1980s as the government started to move away from direct provision and instead assumed responsibility for social housing oversight and regulation. Local governments and nonprofit organizations like housing associations worked together to implement the plan (Walker, 1998). In some nations, such as England and the Netherlands, "New Public Management" tactics that incorporated private-sector managerial approaches and viewed users as consumers led to the third sector expanding as public housing stock was privatized.

As the European Union has been expanding, there has been a continuous decrease in the role of the state in the provision of public services especially since the late 1990s driven by issues like the global financial and economic crisis (GFEC). Such withdrawal is linked with increased emphasis on talks of responsibility that have redefined societal questions and challenges in terms of individual's responsibilities for instance within the housing industry. Therefore, with a view to this context, the term 'co-production' underlines the transformative aspect of public engagement in services, stressing specificity of services as a production and consumption process simultaneously (Alford, 1998; Alford, 2009.

2.9.4 Approach-Based

It is crucial to distinguish local housing policies from other mandatory plans that cities, towns, and counties must submit to their respective states. Consolidated Plans, Public Housing Agency Plans, Continuum of Care Plans, Fair Housing Assessments for HUD, and comprehensive studies are some examples of the compulsory plans that fall under this category. Comprehensive analyses may incorporate land use and may also contain a housing component with wider policy consequences. Local housing policies may share some characteristics with these plans, but they fundamentally vary because they are not mandated by higher governmental levels.

According to Barca et al. (2012), the idea of fostering economic growth through a place-based approach to growth policy entails both potential advantages and significant hurdles. when a result of decentralized policy-making for economic growth, these problems result from the potential for policy fragmentation when these policies move through several levels of municipal and regional governance structures (Schneider and Cottineau, 2019). Additionally, different local governments have diverse institutional capacity in terms of planning, lobbying abilities, and financial absorption potentials (Crescenzi and Giua, 2016: 2341; Farole et al., 2011).

According to a development ideal that prioritizes competitiveness, the idea of regional disparities is a fundamental component of regional development policy (Pelkonen, 2016). A bottom-up, upward-moving strategy for regional development is ineffectual in economically underdeveloped areas, according to studies on the effects of EU cohesion policy (Crescenzi and Giua, 2016: 2341). In earlier research, capacity restrictions in small towns and certain development standards for second-tier cities were also mentioned (Hytönen and Ahlqvist, 2019). These studies acknowledge the diverse circumstances present at the local level (Camagni and Capello, 2015). Additionally, rural settlements in disadvantaged regions often don't benefit from regional policies (Huggins and Clifton, 2011). These findings support the notion that when decentralizing development strategies, it's vital to account for the unique developmental ecosystems and scales (Iammarino et al., 2019).

2.9.5 Bottom-Up Approach

Urban decentralization is becoming more and more important to governments, charities, and international organizations. Examining how local politics affect the delivery of essential services in various nations and cities can help guarantee that decentralization aid and the urban sector complement one another effectively (McCoy et al., 2002). The provision of basic amenities, such as electricity, housing, sanitation, and clean water, while the region sees rapid urbanization, is one of the major challenges faced by African governments (Huggins and Clifton, 2011; Kline and Moretti, 2014; Neumark, 2020).

Although local governments are typically responsible for delivering these services, many African countries lack fiscal decentralization, resulting in insufficient resources for municipal governments to adequately provide these services. Consequently, subnational governments often rely on transfers from the federal government, which can become politically contentious when the ruling party at the central level differs from the party governing subnational administrations, creating a situation known as 'vertically split authority.'

This project aims to explore the intersection of development economics, service delivery, and politics through a comparative analysis of multiple countries and a detailed study of specific regions. By doing so, it will identify effective approaches for foreign aid allocation to address urbanization challenges (McAuslan, 2010). Key research objectives include examining whether vertically divided authority hinders the delivery of basic urban services by reducing intergovernmental transfers and identifying donor modalities that can effectively channel

international assistance towards urban service provision under circumstances of vertically divided authority (McAuslan, 2013).

2.10 PLANNING STRATEGIES AND POLICY INTERVENTIONS FOR ENHANCING DELIVERY OF BASIC URBAN SERVICES

2.10.1 Planning Strategies and Institutional Management

As shown in the daily use and appropriation of spaces (Olson et al., 2002G; Webster, 2002; Ng'ayu, 2001), the idea of the rural-urban fringe results from the interaction between governmental interventions and the activities of important players. According to Olson et al. (2002), policies aim to promote desired future conditions, yielding both positive and negative outcomes. Local authorities and development agencies can convert agricultural land into urban areas through their actions (Webster, 2002; European Environmental Agency, 2006). Ineffective legislation, unequal application of rules, and inadequate land-use policies all contribute to this shift of land use, which is frequently fueled by land use planning policies that decentralize development away from the metropolis (Al-Kofahi et al., 2018; Al Tarawneh, 2014). Examples of laws that can support such activities include those that provide tax breaks for commercial and industrial activity (Webster, 2002).

Similarly, authorities may adopt policies and implement extensions of municipal boundaries with the intention of decentralizing development, thus making the outskirts of the city attractive for investments (Webster, 2002; Jianyi, 2016). This leads to a shift in economic activities from the inner-city core to the periphery, attracting residents from within and outside the city due to new economic opportunities and affordable housing (Schultink et al., 2005). Limited control over land management in the periphery is a result of poor management (Ardeshiri and Ardeshiri, 2011) and the failure to create and implement urban development plans for these regions (Al Jarah et al., 2009; Al-Kofahi et al., 2018). As a result, stakeholders and landowners have a big say in how much agricultural land is turned into urban space in peri-urban areas.

2.10.2 International and Local Interventions.

2.10.2.1 International Law

The recognition of the right to housing under international law can be found in Article 11 of the International Covenant on Economic, Social and Cultural Rights 1966 (ICESCR). One particular article has it in mind that every individual and their family are entitled to a living standard that comprises enough provision of food, clothing and housing among others. This further emphasizes on an ever-improving quality life. Since Kenya has ratified the ICESCR, it has a duty to respect the provisions of the Convention, in particular the right to suitable housing. The ICESCR provides for every person right to an adequate standard of living which allows them to live in dignity, including access to basic needs such as food, clothing, housing, and medical care. There have been inadequate land planning and management policies that have contributed to housing-related problems in Kenya. The above factors for instance have led to the emergence of slums or sub-standard housing settlements (Jiboye, 2011).

2.10.2.2 Sustainable Development Goals

The above policy is developed to ensure a holistic approach to achieving sustainable development. Agenda 6 stipulates for sustainability aiming to provide clean water and sanitation.

2.10.2.3 United Nations Habitat

This article focuses on the Housing and Slum Upgrading project, which aims to give everyone access to decent housing, improve conditions in slums, and put an end to a slum construction boom. It emphasizes in particular how suitable land is becoming more accessible, more affordable, and how new housing opportunities are being created. The study also emphasizes the significance of implementing local and national slum upgrading programs that would improve low-income groups' quality of life and living conditions in most metropolitan regions. The Global Housing Strategy (GHS), the Global Network for Sustainable Housing (GNSH), and UNHRP are important projects in this area.

2.10.2.4 Kenya Vision 2030

This policy outlines the objectives of housing development by 2030. The primary goal of this vision is to enable the construction of 200,000 housing units each year through diverse initiatives. It aims to create affordable and high-quality homes for individuals with lower incomes in Kenya.

The policy also aims to advance the study and creation of appropriate building materials and technology. It also emphasizes the establishment of a comprehensive national housing database and an effective monitoring and evaluation framework. This informs this research on how adequate and efficient the provision of 200,000 housing units is effective in Kajiado town.

2.10.2.5 Sessional paper no. 3 of 2016: National Housing Policy

The following policy has been formulated to promote responsible utilization of resources and the provision of sustainable housing. It articulates the guiding principles embraced by the government in its efforts to facilitate housing development. The policy places emphasis on fostering the growth of privately owned housing projects while concurrently fostering the creation of habitable and inclusive communities.

2.10.3 Legal framework and regulatory interventions.

2.10.3.1 Constitution of Kenya, 2010

According to the 2010 Kenyan Constitution's provisions, everyone has the fundamental right to housing, which is a part of the extensive Bill of Rights. In particular, Section 43 (1) (b) ensures that everyone has the right to housing that is readily available, adequate, and competitively priced.

2.10.3.2 Water act, 2016

Every Kenyan has a right to access to sufficient supplies of clean, safe water, as well as reasonable standards of sanitation, according to the 2016 Water Act.

2.10.3.3 The Housing Act (1990 Revised 2012)

The Act provides information about the functions of the National Housing Corporation (NHC) and its responsibility to ensure the availability of affordable housing. Article 1, section 6 introduces the Housing Fund, while Section 7, article 1 (b) states that the NHC is authorized to provide loans to companies, societies, or individuals for the purpose of acquiring land and constructing authorized dwellings or implementing approved projects. Furthermore, the NHC is obligated, as mentioned in the same article, to construct residential buildings, undertake approved projects and layouts, and offer services related to approved schemes.

2.10.3.4 County Government Act, 2012

For the purpose of providing services there, the required delegation of power, duties, and responsibilities to County governments is made. This law primarily aims to ensure the efficient usage of limited land, water, and resources for economic, social, ecological, and other particular goals peculiar to the county. It also aims to see the development of a friendly network of settlements. It supports important tasks like encouraging integrated planning within counties, coordinating comprehensive development plans at the county level, establishing effective communication channels between county governments and the national government, and involving the public in planning and decision-making processes. Additionally, it is an Act that controls the 2019 revisions to the 2011 Urban Areas and Cities Act.

2.10.3.5 Urban Areas and Cities Act, 2011.

The categorization, management, and oversight of urban areas and municipalities are supported by this legislation. It provides the criteria for categorizing urban areas, the foundations of regulation, and the participation of residents.

2.11 CASE STUDIES: ENHANCING DELIVERY OF BASIC URBAN SERVICES TOWARDS AFFORDABLE HOUSING

2.11.1 India: Dhaka City

The lack of financial resources among low-income individuals in Dhaka city prevents them from accessing suitable housing conditions. Their limited financial status and the absence of secure land tenure significantly hinder their ability to obtain formal financial assistance. According to Nahiduzzaman's thesis on 'Housing the Urban Poor' in 2012, the urban poor demonstrate sufficient financial capability to meet rental obligations and other essential expenses.

Deliberative discourse and partnerships make up the local governance paradigm that this investigation looks into. The goal of this analysis was to assess "informal" resources for low-wage housing policy, the objectives of "formal" housing authorities, and alternate means of securing land tenure that are consistent with the informal nature of low-wage housing. In addition, the idea of social business was utilized to examine whether low-income communities could serve as both a beneficiary and a partner in affordable low-income housing developments that emerged from connections among vested players (Strauss & Corbin, 1998).

The research's findings showed that there is an unregistered, active "informal" housing market that runs separately from the conventional housing industry. In this market, de facto tenants trade monthly rent payments for "house rental tenure security," while genuine property owners buy "business tenure security" from slum landlords (Fifth Five-Year Plan, 2002). An unique platform for business investments in this unorganized sector has been made possible by the development of the Jhilpar Cooperative. It is noteworthy that residents of Jhilpar spend more than 30% of their monthly income on housing costs, which is more than the percentages spent by many people in the middle class and those with high incomes.

Consequently, the lack of comprehensive knowledge regarding housing relocation decisions (employment-housing nexus) among formal housing authorities hindered the implementation of affordable low-income housing initiatives (Stoker, 1998). As a result, these projects have often failed to benefit the urban poor effectively, instead favoring other income groups. The study sought to answer the crucial question of whether low-income housing regulations are simply ignored by the government or if it is just uninformed of informal housing practices.

2.11.2 Bottom down approach

Here, the government is the only entity providing the services and providing its residents with programs for inexpensive housing. As a response to the myriad housing issues the nation was experiencing, the Indian government unveiled the national housing strategy in 2017. This policy aimed to rectify the fragmented approach that had been previously taken towards addressing housing issues. Furthermore, the government's 7th five-year plan (2016-2020) included a strong emphasis on the development of affordable urban housing.

2.11.3 Overlapping Challenges

Local authorities are struggling to fulfill their obligations in providing affordable housing initiatives, resulting in low-income communities being forced to pay excessive rents to reside in slums without adequate urban services or secure tenure. The government only addresses 7% of the annual housing demand and heavily relies on the private sector to bridge this significant gap. However, even the formal private housing sector has limited availability, leaving low and middle-income families with no choice but to resort to expensive informal arrangements.

The national housing policy was approved by the government in 2017, but the housing delivery system still lacks coordination as public and private developers work independently. Private

developers mostly concentrate on increasing revenues by appealing to the top and upper-middle income levels. Unfortunately, there are few options for financing homes, and the ones that are available tend to be pricey and short-term, favoring the more affluent segments of society. For their urban initiatives, state-owned financial companies commonly run into funding challenges. The development of affordable housing options for low-income metropolitan neighborhoods faces considerable challenges as a result of these forces working together.

2.11.4 Nairobi County (Boma Yangu)

One of "big four" initiative identified by the government included development of 500,000 units of affordable and decent housing. The article 43(1)(i) of the constitution is fulfilled by the affordable and decent housing initiative. Additionally, the affordable housing initiative works towards achieving SDG 12 which aims for cities and human settlements that are inclusive, secure, resilient and sustainable. (State Department for Planning, 2020).

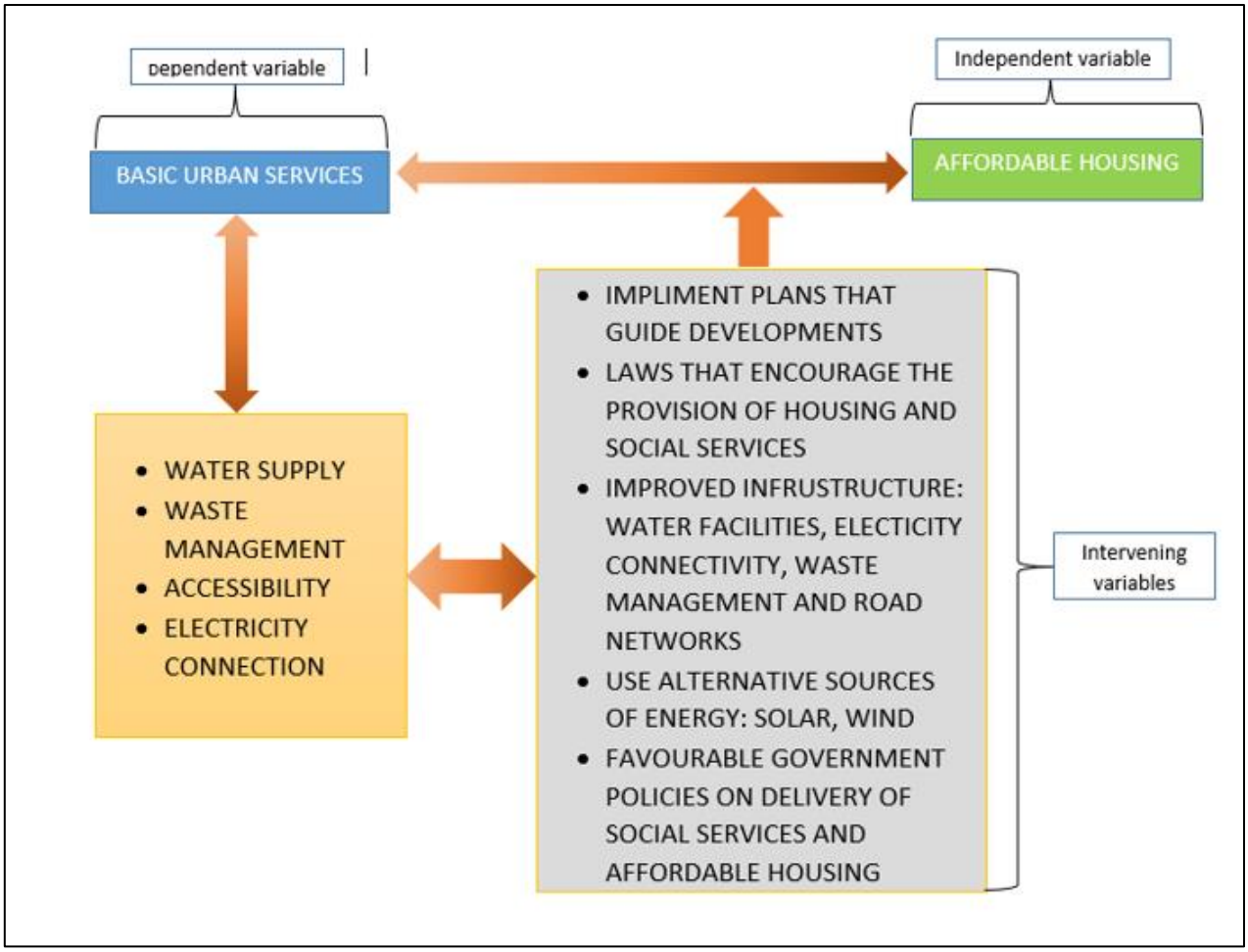
During the period under review, registration of over 270,000 Kenyans on the Boma Yangu platform where nearly 15,000 members had contributed over KES 100 million voluntarily as deposits for the purchase of homes under AHP. Over 120 potential project sites across the country were identified with about 12,300 acres to develop AHP projects. And the launch of flagship projects, of which the first at park road, Ngara, has provided an initial 228 completed housing units in a record six months from inception (State Department for Planning, 2020). The Affordable Housing Program (AHP) will provide qualitative guidance on providing adequate and decent homes and devise innovative ways of mobilizing funds to develop low-cost housing and associated social and physical infrastructure (State Department for Planning, 2020).

2.12 AFFORDABLE HOUSING: CONCEPTUAL & ANALYTICAL FRAMEWORKS FOR ENHANCING DELIVERY OF BASIC URBAN SERVICES

The literature review has identified that urban infrastructure encompasses various structures essential for the sustenance of urban life, as well as serving as a catalyst for economic development and enhancing quality of life. Specifically, this study concentrates on the physical urban infrastructure, which comprises vital components such as water supply, waste management, electricity, and accessibility. There are several conceptual models that enhance provision of these basic urban infrastructure that facilitate housing development

Conceptual Framework

Figure 2.1: Conceptual Framework



(Source: Author, 2022)

3 CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

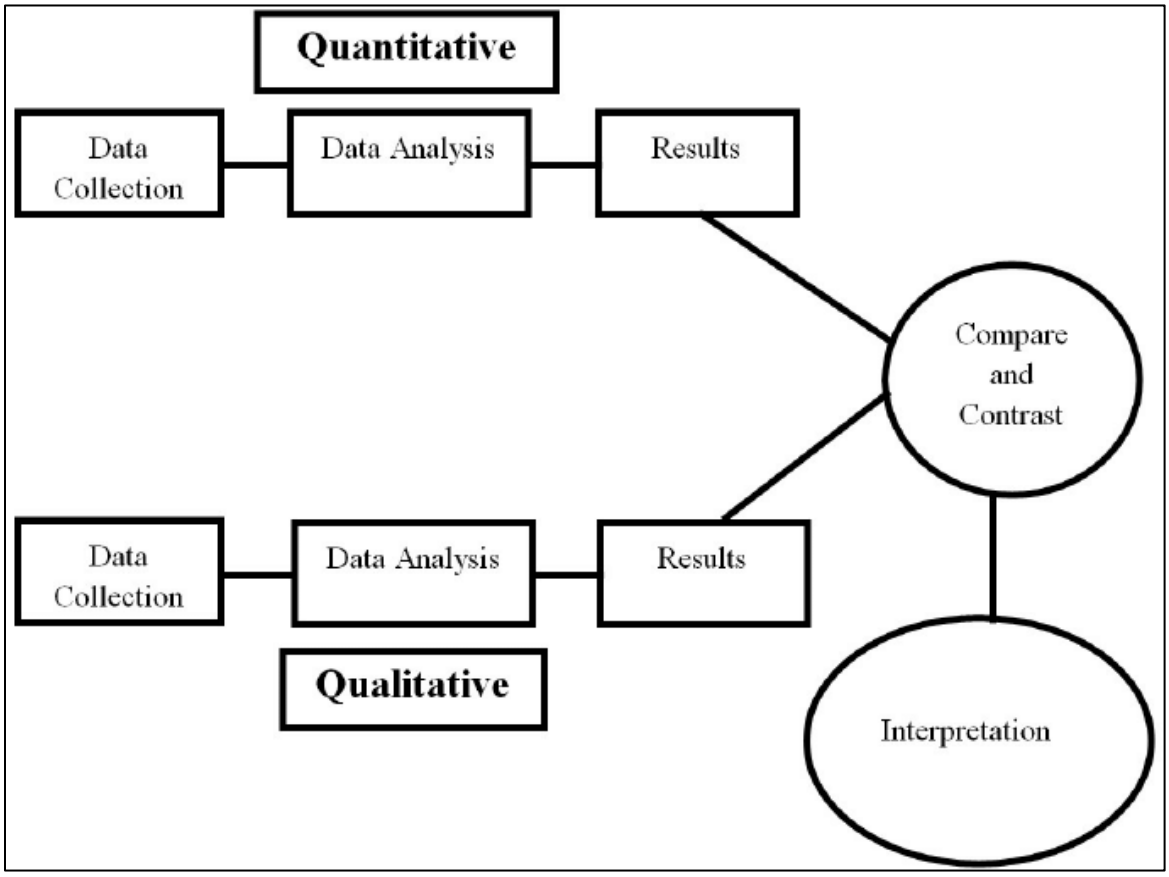
The research design, target population, sample size, and sampling technique are all described in the first section of this chapter. The chapter's section describes the procedures and instruments used for gathering data, and it closes by describing the procedures and instruments used for analyzing the data as well as the ethical issues that were taken into account during this research.

3.2 RESEARCH DESIGN

This study adopted a survey design with both qualitative and quantitative approaches. The design was adopted because it was tenable in this study to draw facts and evidence about the phenomenon of how the existing urban basic services and their provision has impacted on the affordable housing.

Quantitative research can be described as a research method concerned with collecting and analyzing data that is structured and presented in a numerical form which can be measured or expressed in quantifiable units (Melissa J. Goertzen). This method will aid in house typology, accessibility and affordability evaluation and population and demographical analysis. On the other hand, qualitative researches involve collecting and analyzing non-numerical data in order to understand various concepts and physiographical phenomena. This method will be utilized in performing a situational analysis of the site that will help in explaining the climatical, environmental and physiographical orientation of the site.

Figure 3.1: Research Design



(Source: African Journal of Public Affairs, 2017)

3.3 TARGET POPULATION

Population is defined by Mugenda (2003) as the total group of individuals or objects that belong to a group because they have certain observable features. Kajiado Sub-County was predicted to have a total population of 37,059 individuals at the Sub-County level (Census, 2019).

Therefore, the target population will involve three main categories:

i. Key informants who are mainly residents of Delakutuk and Ildamat wards within Kajiado sub-county.
ii. Tenants of the house typologies available within the study area.
iii. Land owners.

3.4 SAMPLE SIZE AND SAMPLING TECHNIQUES

According to Fellows & Liu (1997), sampling offers a practical approach in collecting valid and reliable data without considering the whole population. Barg, & Gall (1989) adds that target population/ sample size represents the entirety of hypothetical set of persons or objects to which the investigator wish to generalize the outcome findings. Identification of sample size is important to the researcher, for correct representation of the entire population, and for validity and reliable findings as argued by (Naoum, 2007).

3.4.1 Sample size

Kothari (2004) defined sample design as a set strategy for selecting a sample from the sampling frame. Hence, 2019 KNBS data shows Kajiado County has a total of 1,117,840 population and that of Kajiado central sub- County has a population of 37,059 for convention households. The study area will focus on two wards of Delalekutuk and Ildamat which crosscuts my project area, within Kajiado central sub county which has a total population of 161,862. However, with the main focus being on the two wards, Ildamat has 831 people while that of Delalekutuk has 7,247, giving a total of 8, 078. Using the Cochran formula:

$N_0=\frac{z2pq}{e2}$

Where:

E is the desired margin of error

P is the proportion of the population

Q is 1-p

The **Z** value is on the Z table.

Using a significance level of 95% with a margin error of 5%, gives p=0.5

Z value is given as 1.96

Therefore, the sample size;

$(\frac{(1.96)2(0.5)(0.5)}{(0.5)2})$ =385

That the population that will be used in my study will be 385.

The sample size stated was assumed to be quite big, this forced the study to develop an alternative approach. A sample was developed using Nasuirma's (2000) formula. The study employed Nasuirma (2000)'s sample size calculation method to follow a scientific methodology for selecting samples when a big number is involved.

The formula was $n=\{NC_V^2\}/\{C_V^2+(N-1)\epsilon^2\}$

Where: n is the sample size.

N is the population.

Cv2 is the coefficient of variation that represents the tolerance of the desired level of confidence at 95% (0.05) (Nasuirma, 2000)

Therefore, the sample size for the households for Delalekutuk was

n= 7247 (0.5)2 /0.52+ (8078-1)0.052 n = 98.65

And for Ildamat was

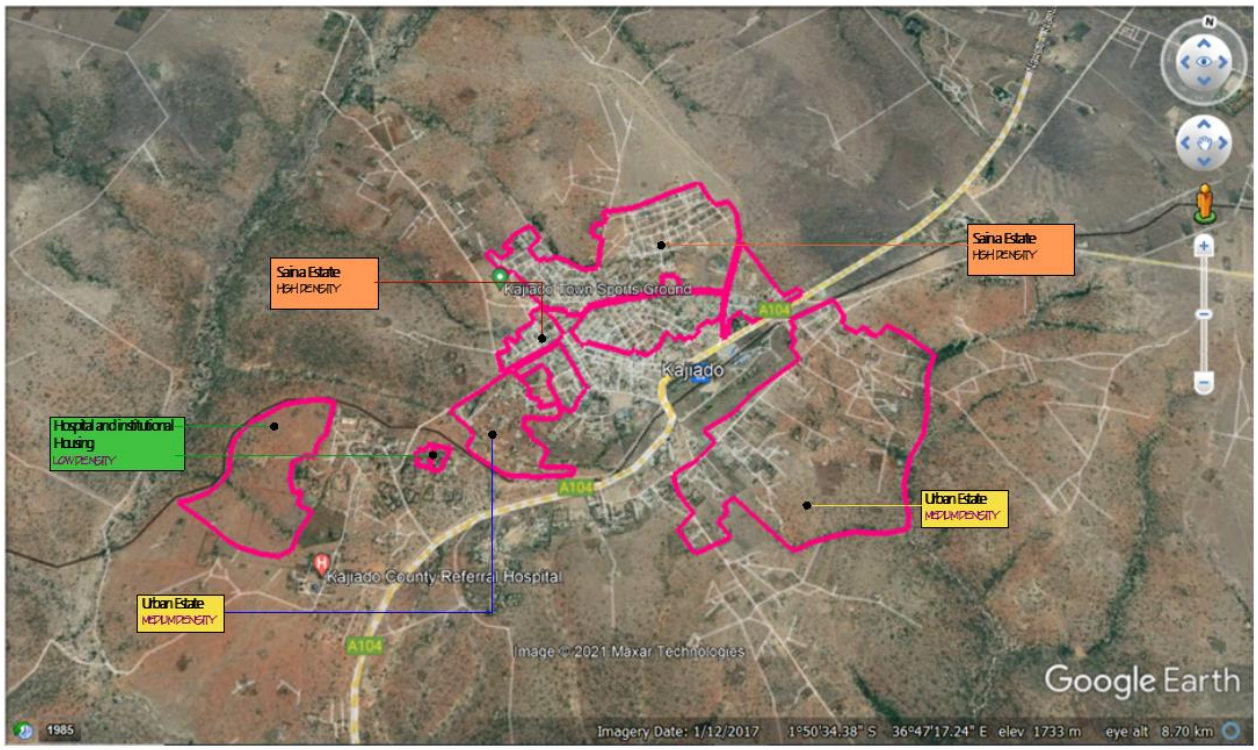
n= 831 (0.5)2 /0.52+ (831-1)0.052 n = 89.35

The calculated sample size being 188 households, the figure was rounded off to a tenth to take care of unresponsive questionnaires. Due to the homogeneity of the data the researcher settled on 100 households where the researcher used a sample interval of 5 households derived from the sample interval formula:

N/n where **N** is the total population and n is desired sample size which was 35households.

3.4.2 Sampling plan

According to Voehl (2014), erroneous data collection may lead to inacceptable results among other consequences like failure to answer research questions accurately and wasted resources. Thus, data collection method adopted should be selected carefully which informs on the data instruments used to collect research data (Zikmund, 2003). Therefore, from the target population sampling was categorized into 3 settlements; High, medium and low densities.



Map 3.1: Human Settlement Population Densities.

Source: Field survey ,2022

Table 3.1: Sampling frame data needs.

S/NO.	CARTEGORY	SAMPLING FRAME	DATA
1	Key informant	Kajiado town senior chief Kajiado County Lands officer. Health officer Environment officer. Sub county planner Estate agents Road's officer Water Electricity	-History of Kajiado town -Spatial changes that emanate from urban land use. -the housing issues within Kajiado town -Health and sanitation issues -Effects of urbanization on housing provision -Strategies for urban development and effective delivery of affordable housing.
2	Tenants	Those in Delalekutuk and Ildamat	The adequacy of affordable housing. Related land uses to housing provision How effective has the affordable housing been effective to them.
3	Home and Land owners	House and land owners in Delalekutuk and Ildamat	Efficacy of the delivery of affordable housing in Kajiado town.

3.5 DATA NEEDS MATRIX

Table 3.2: Data Needs Matrix

OBJECTIVES	DATA NEEDS	DATA SOURCE	DATA INSTRUMENTS	DATA COLLECTION METHOD	DATA ANALYSIS
To assess the provision of essential urban services in Kajiado town's affordable housing projects.	Review of legal documents such as, Constitution of Kenya, Development control guidelines as per physical planning and land use bill, 2019etc. Suitability of compatible land use such as, accessibility, public utilities, education, industrial and public purpose land uses Related land uses to affordable housing provision	Mapping Secondary reports Interviews	GPS essentials, Camera Questionnaires Telephone interviews	Mapping and GIS Key Informant interview Observation, Photo taking, Note taking Administration of Questionnaires	Overlay and map interpretation SPSS Computation of qualitative and quantitative data.
To examine the existing situation in the delivery of housing in Delalekutuk and	The level of need that the people of Kajiado town are in regarding provision of basic urban services	Field Interviews Telephone interviews	Key informant Guide Observation form	Key Informant Interview Observation, Photo taking, Note taking	SPSS Computation of qualitative and quantitative data.

Ildamat at Kajiado town.		Secondary data reports	Questionnaires interviews. Telephone interviews	Administration of Questionnaires	
To propose planning and policy interventions that need to be formulated to enhance the delivery and provision of essential urban services in Kajiado town towards affordable housing.	The ability and feasibility of having essential basic urban services in Kajiado town	Secondary data on case delivery of basic urban services.	Key Informant Interview	Key Informant Interview	SPSS Computation of qualitative and quantitative data.

3.6 DATA COLLECTION METHODS AND TOOLS.

3.6.1 Interviews

In this study, interviews were used as a strategy for gathering data, and a prepared list of questions (referred to as an interview schedule) was used. This approach ensured that the interviews were structured and focused on achieving the study's objectives. An interview schedule is essentially a questionnaire designed for oral interaction between the interviewer and the respondent (Sproull, 1995). Key informants interviewed included members of the Kajiado County Government, the Lands and Physical Planning Department, the senior chief of the town of Kajiado, estate agents, a road officer, a Kajiado County Lands officer, as well as primary respondents like tenants, landowners, and housing developers.

3.6.2 Observation

Observation and completion of an observation form were utilized to gather data on the provision of essential urban services in the study area. As a result, the study documented the presence of public water supply, the accessibility of roads, the collection of public waste, and the availability of electricity connectivity within the designated research location.

3.6.3 Mapping

This study also adopted mapping as a data collection methodology to establish the housing typologies. On the other hand, it assisted in mapping where these urban basic services were well or less provided.

3.6.4 Photography

The study used photography for visual recording and transmission of data. Photographs of key features (infrastructural services) were taken and recorded to aid in the analysis of other information collected during the fieldwork.

3.6.5 Focus Group Discussions (FGDs)

These guides were administered to several key informants. Issues of interest investigated included; water, roads, sewer connectivity, electricity connectivity and waste management.

This was conducted with an aim to get their views on the existing basic urban services, their proposals in areas that require intervention, a view of the locals' challenges regarding different aspects, and their proposals on best ways to mitigate challenges and achieve development in the area.

3.6.6 Data collection tools

3.6.7 Questionnaire

In order to obtain data from households, landowners, and developers, structured questions were used in the actual data collection procedure. This includes conducting interviews and distributing surveys. In order to learn more about the existing state and accessibility of essential urban services, key informants were questioned. The data collected from the interviews, which included both qualitative and quantitative information, is thought to be useful in determining the relationship between the availability of fundamental urban services and the selected residential communities.

3.6.8 Interview guides

To collect data for this study, interviews were conducted as a method of data collection. The interviews followed a predetermined set of questions, known as an interview schedule, which helped maintain a structured approach and align the interviews with the study's objectives. Key informants for this research included officials from the County Government of Kajiado, specifically the Lands and Physical Planning Department, the Director of the roads department in Kajiado county, and the Ward administrator.

3.6.9 Base map

This study also adopted mapping as a data collection tool to establish the infrastructural services within the areas and their conditions.

3.7 DATA ANALYSIS METHODS AND TOOLS

3.7.1 Descriptive/qualitative data

The analysis of the data was conducted utilizing the information collected, as demonstrated in the data needs matrix table. Qualitative data underwent content analysis, encompassing details pertaining to the delivery of essential urban services for affordable housing, housing typologies, as well as the benefits and opportunities associated with the correlation between basic urban services and affordable housing. Charts, graphs, and statistical tables were used to portray statistical data in order to make it easier to understand. On the other side, descriptive textual formats, photo graphics, and tales were used to display qualitative data.

3.8 ETHICAL CONSIDERATIONS

An individual's way of life is shaped by a set of social standards and principles known as ethics, which make a distinction between acceptable and undesirable behavior. As a subset of applied ethics, ethics is extremely important in the field of research. According to Akaranga and Makau (2016), it involves a set of accepted guidelines that direct researchers' conduct in an ethical manner. These ethical considerations are designed to protect the integrity and dignity of research participants, including respondents. They emphasize the responsible handling and dissemination of research data, ensuring the preservation of anonymity and confidentiality (Akaranga & Makau, 2016).

To ensure the ethical integrity of this study, the confidentiality of the respondents was assured during the collection and publication of the gathered information. The research adhered to the fundamental principles of research ethics, such as avoiding fabrication or falsification, in order to uphold its primary objectives (Mugenda, 2003; Kour, 2014).

4 CHAPTER 4: SITUATIONAL ANALYSIS OF KAJIADO TOWN

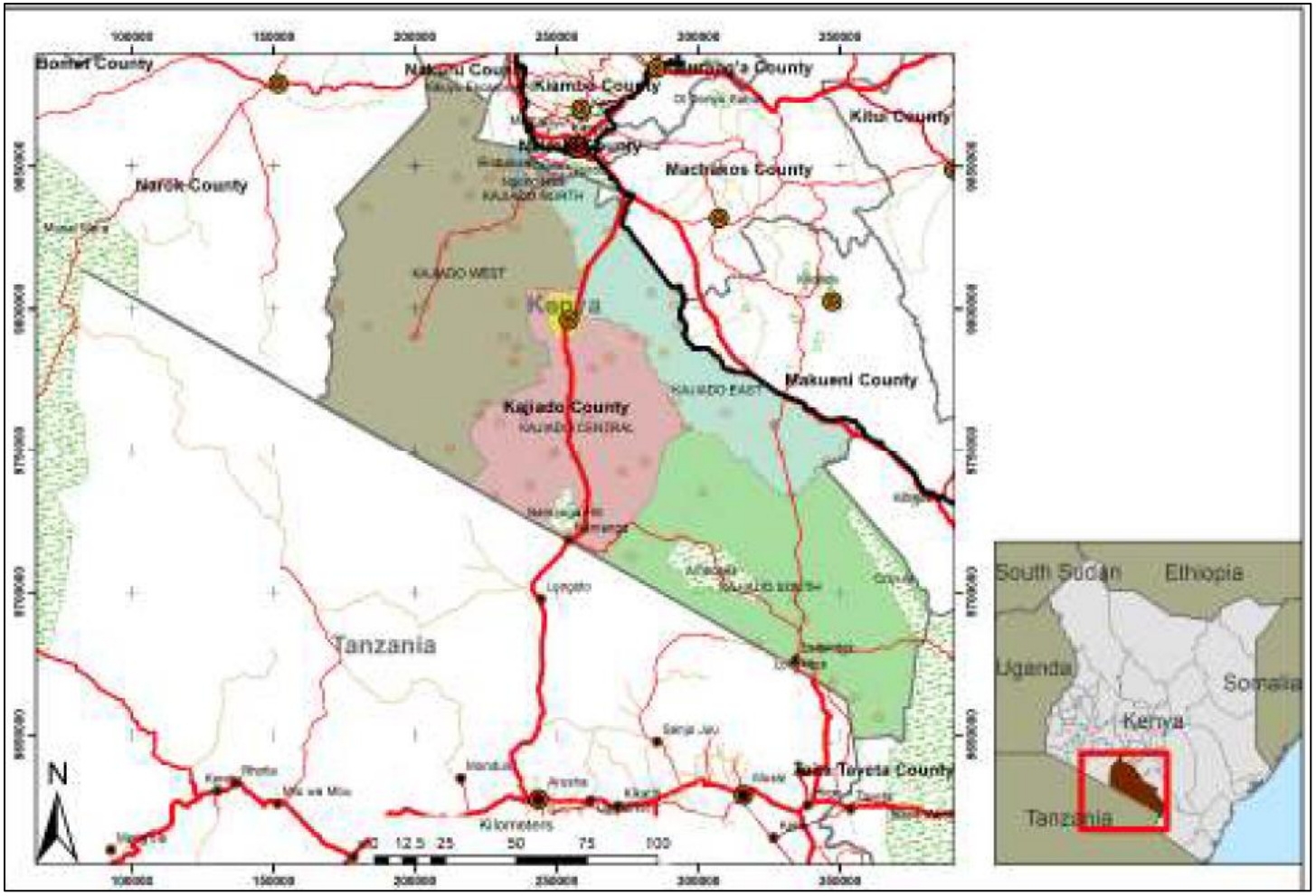
4.1 INTRODUCTION

This chapter analyzes the existing situation of Kajiado Town. The first part deliberates a contextual analysis of Kajiado Town in terms of its local context. The third part outlines its demographic characteristic, climate and physiographic characteristics, the socio-economic and the cultural diversity, social infrastructures located within the planning area and lastly the physical infrastructure found in Kajiado core area. The fourth and final section outlines the governance framework in terms of the institutional, policy, legal and financial framework.

Kajiado town is located in the Kajiado County. It is located in Kajiado Central sub-county and a small part in Kajiado East Sub-County. The specific study area has two wards namely: Delalekutuk and Ildamat. The town is approximately 80km to the South of Nairobi City.

4.1.1 National context

Kajiado town is the headquarter of Kajiado County. See map 4.1.



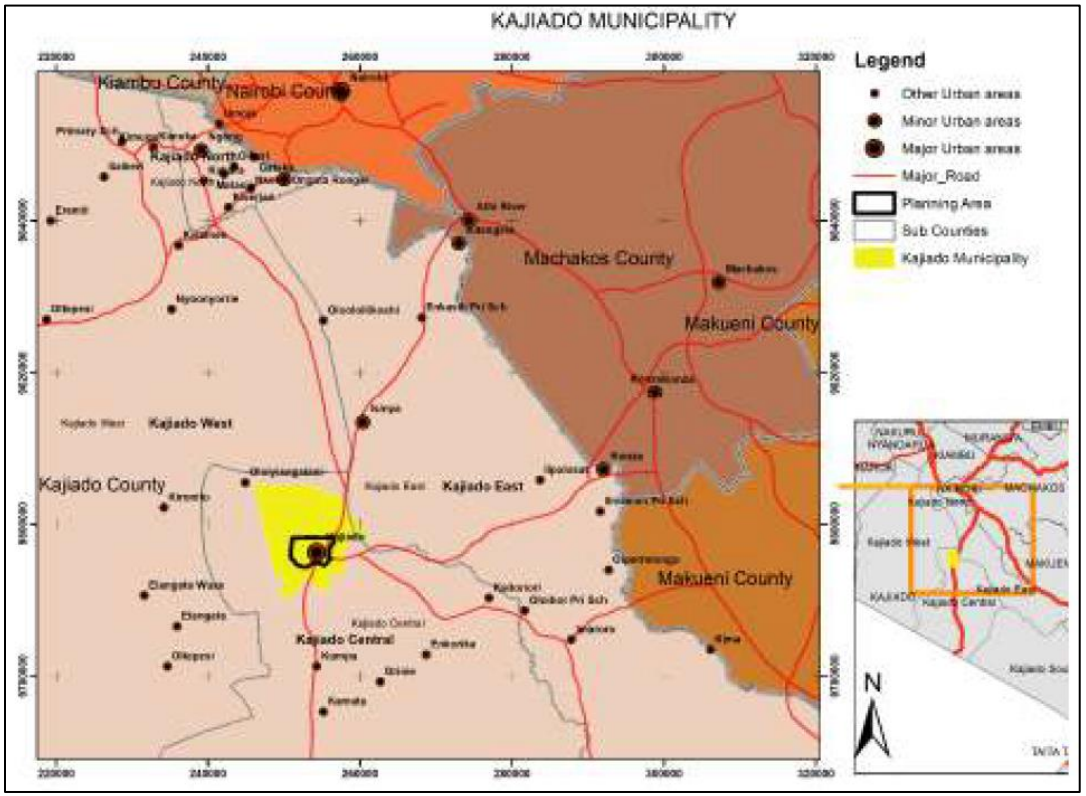
Map 4.1: National context of Kajiado, 2019

Source: Field survey, 2022

4.2 LOCATIONAL CONTEXT

4.2.1 Regional Context

Kajiado Core is strategically positioned within the Nairobi Metropolitan Region. It is located in Kajiado Central with close proximity to Kitengela, Namanga, Ngong, Rongai, Athi River and Nairobi economic hubs. It is located along the Trans-Africa Highway thus making the town strategic for international trade.

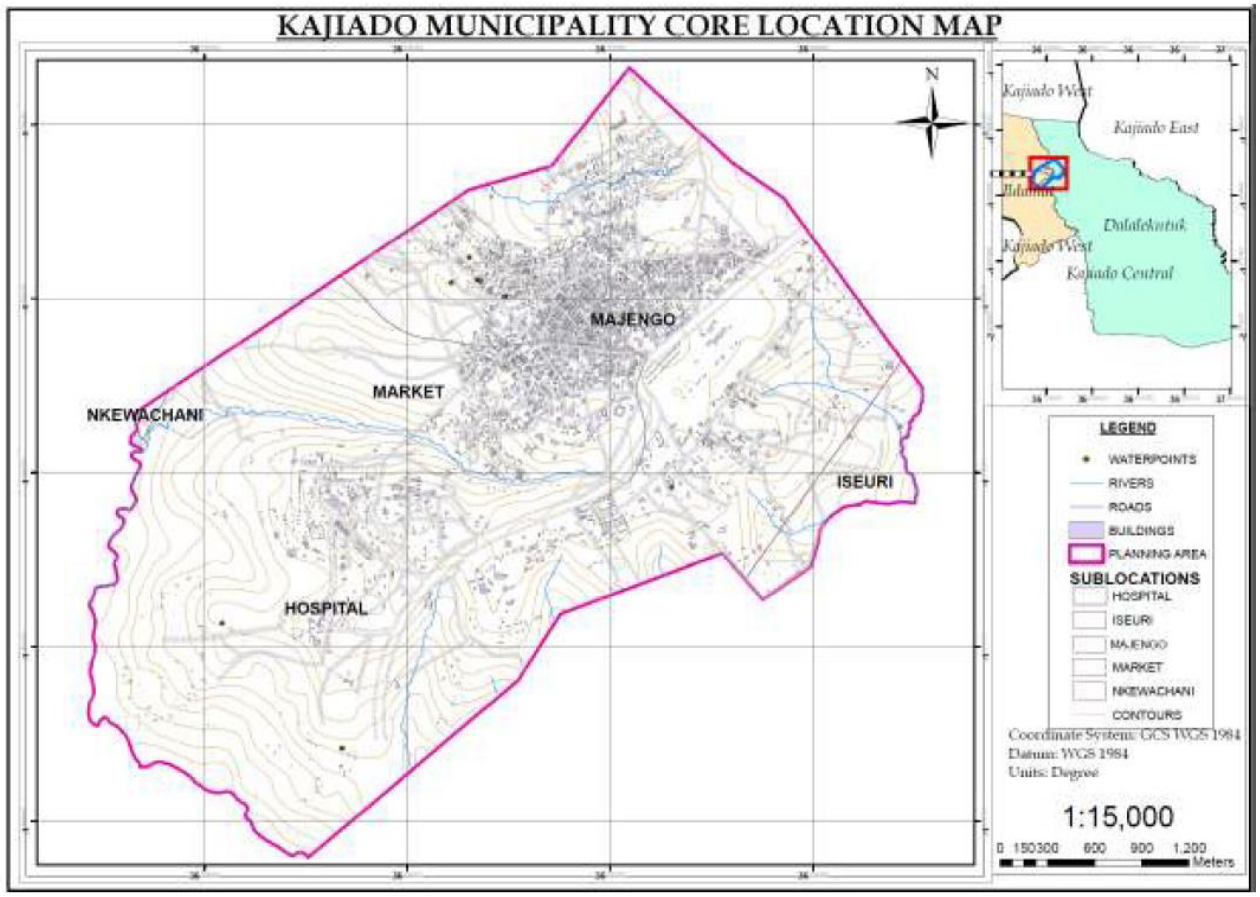


Map 4.2: Regional Context of Kajiado

Source: Field survey, 2022

4.2.2 Local context

Kajiado core is covered by four wards namely: Dalalekutuk, Ildamat, Imaroro and Kaputiei North wards. It covers approximately 25km2 and is located below the Equator within latitudes 01°45’ 20"S and 01°53'30"S and within longitudes 36°42'40"E and 36°50' 55"E. The altitude of the area ranges from 1660m to 1800m above mean sea level (msl).



Map 4.3: Local Context, 2019

Source: Field survey ,2022

4.3 POPULATION AND DEMOGRAPHY

The county is characterized by a population of men (557,098), women as (560,704) and intersex gender (38). Kajiado central sub county has a population 161,862 which is comprised of 81,514 males, 80,343 women and 5 intersex genders. The sample size and the gender used in this research are derived from this target population.

4.3.1 Household size

Moreover, the County has a total number of 316,179 households with an average of 3.5 household size. This therefore notifies on the high number of households found within the study area.

4.3.2 Population Density

With a total of 1,117,840 population Kajiado County covers approximately 21, 871 square kilometers giving a population density of approximately 51 No. of persons per square Kilometer

Table 4.1: Site Population Data

	2019 Kenya Population Census					
Area	Male	Female	Total	Households	Size (sq. Km)	Density/Km Sq.
Ildamat	15,094	14925	30,019	9392	3.7	8142

Source: KNBS 2019, Vol. II

4.4 PHYSIOGRAPHY AND CLIMATE

4.4.1 Topography and Slope Analysis

Topography and slope are major factors in the determining of settlement patterns in urban areas. The study area is gently sloping from the north to the south. Plate 4.1 is an image showing how the land is sloping in the western part of the planning area. Its relief ranges from 1640m to 1780m above sea level.

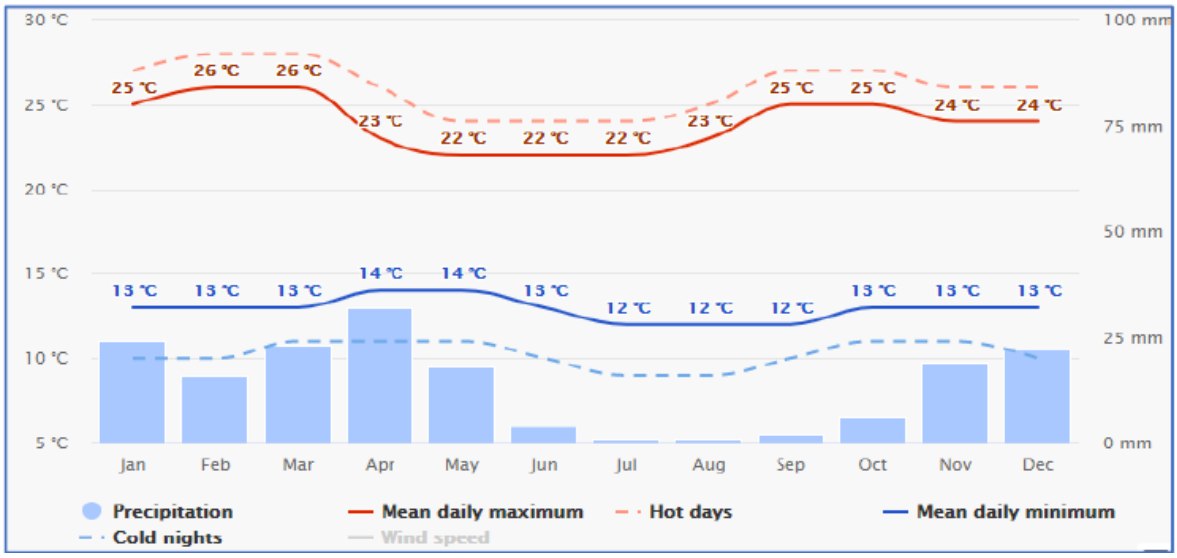
Plate 4.1: Gentle slope from western side of Kajiado town

Source: Field Survey, 2022.

4.4.2 Rainfall

Kajiado town experiences bimodal precipitation seasonality with rainfall amount ranging from 600mm-1600mm pa (Climate data.org, 2017). The area experiences long rains between March and May while the short rains occur between October and December. The driest month is July, with an average of 19 mm of rain while heavy rainfall is received in the month of April, with an average of 166 mm annually as shown in the figure below.

Figure 4.1: Rainfall distribution data of Kajiado Town.

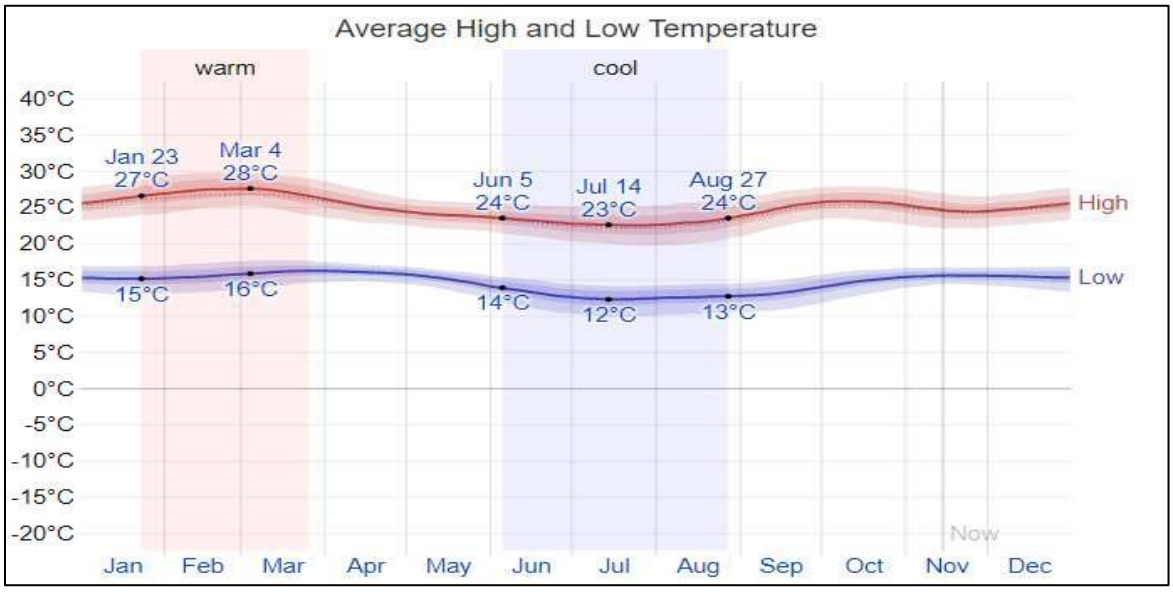


Source: Mateo Blue, 2022

4.4.3 Temperature

The study area experiences temperature ranging from 34^{0}C and the lowest is 10^{o}C. The coldest period is mainly July to August and the hottest season is mainly from November to April (CIDP, 2018-2022). The high temperature in the region discourages widespread agricultural practices and encourage pastoralism in the planning area's periphery.

Figure 4.2: Temperature pattern in Kajiado Town



Source: Climate data. Org, 2022

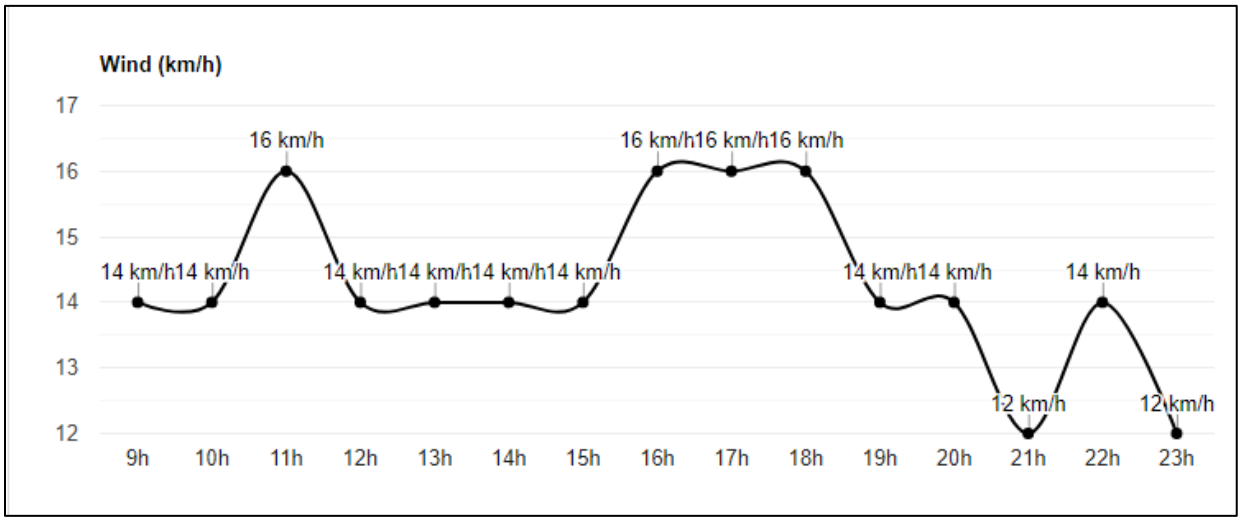
4.4.4 Sunshine

The research area receives more than 8 hours of sunshine giving it an equinox characteristic. This could be a potential source of solar energy as proposed in the Flagship Project of Kenya Vision 2030 and the Big Four Agenda, 2018.

4.4.5 Wind

The major average hourly wind direction in Kajiado town is from the east throughout the year, with wind speed that travels at 16km/h see fig 4.3. The relatively high altitude in the outskirts of the study area makes it ideal for a wind farm project due to the good windy conditions. This will ease the delivery of the affordable housing, where energy is important aspect in its delivery and efficiency.

Figure 4.3: Wind Speed data of Kajiado Town



(Source: Climate dat. Org, 2022)

4.4.6 Geology

The town primarily consists of black cotton soil, which is supported by volcanic rocks such as agglomerates, tuffs, and phonolites. The soil has good drainage, without being excessively porous. According to Wamwangi (2012), the region is covered by relatively shallow black cotton soils, which may transition into grayish loamy soils in some areas. These soil formations are a result of the weathering process acting upon the underlying volcanic rocks. Situated between the black

cotton soil and the bedrock is a layer of lateritic soil, characterized by a grayish brown hue and often containing rounded gravel. This geological composition offers a solid and sturdy base for constructing residential structures.

4.4.7 Soil.

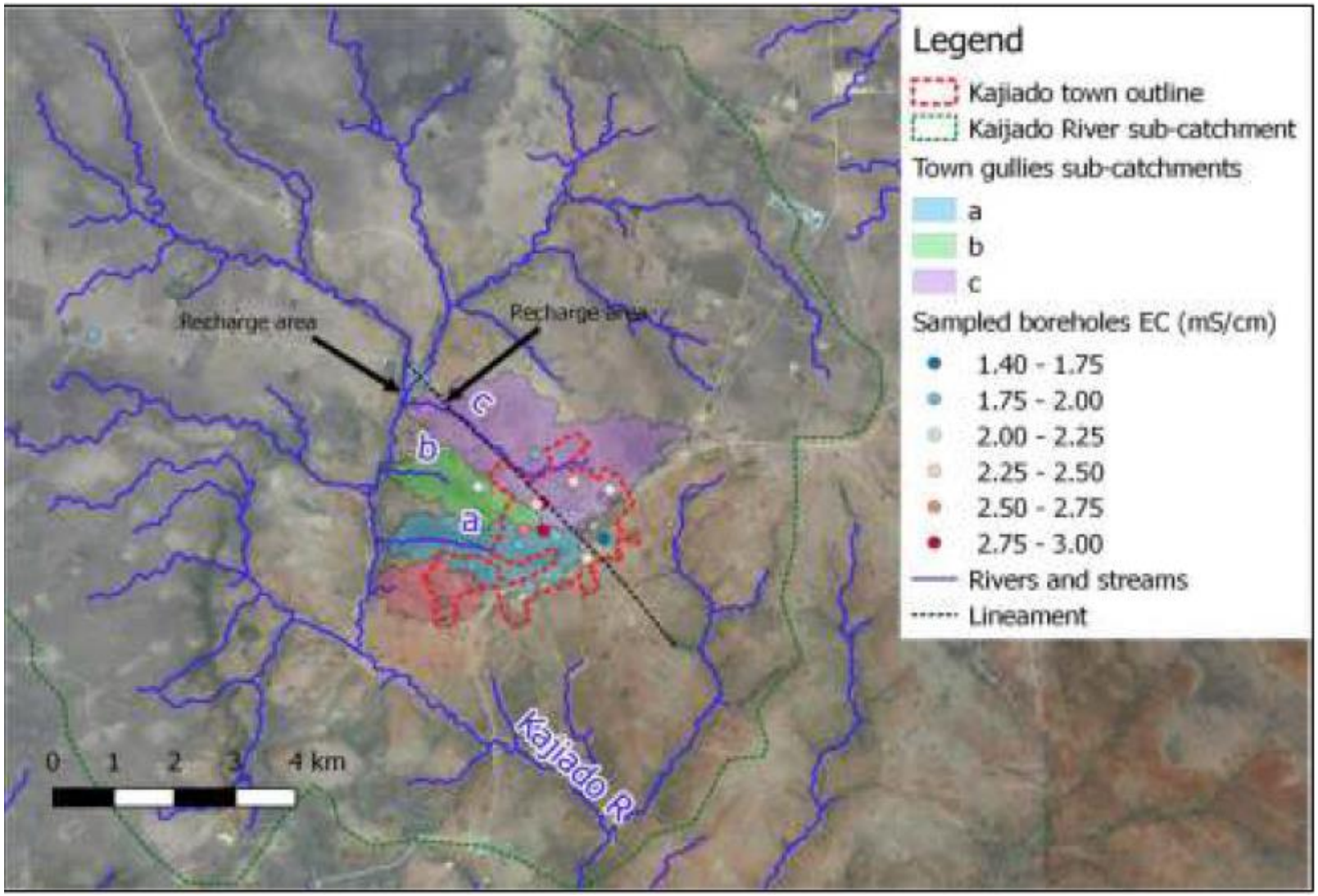
The main soil type in Kajiado town is loamy soil, while black cotton soil occupies a portion of the south, where the administrative offices and Moipei primary school are located. Sandy soil is also present in the western parts of the area. Loamy and black cotton are both suitable for agricultural activities.

Plate 4.2: Black cotton and loam soils

Source: field survey, 2022

4.4.8 Hydrology.

Kajiado core area lies in the Athi River Basin; Athi River flows north of the County boundary (Oord, 2017). A contributory of the Olkejuado river lies 3 km west of town with catchment areas (see figure 4.4). The headwater area of the Kajiado River lies in North and Northwest parts of the town and has a catchment area of 200 km2 up to the river confluence in the Southeast part of Kajiado. Kajiado Town lies on a water divide; south of Namanga Road water drains to the south, from where it flows into the Olkejuado River. The area is well drained thus reducing chances of flooding in the area, this provides a suitable area for residential use.



source: Oord, 2022

Map 4.4: Kajiado town river system

4.4.9 Water resources.

With the current devolution, accessibility of water in Kajiado town has increased especially through, Boreholes, water points and kiosks. Therefore, this study seeks to understand the interrelation accessibility of the residential nature and the water points.

Plate 4.3: Water resources

Source: Field Survey, 2022

4.5 IMPLICATIONS OF PHYSIOGRAPHY AND CLIMATE IN THE PROVISION OF BASIC URBAN SERVICES.

4.5.1 Topography and slope

The gentle slope orientation of the area contributes heavily on the suitability of living /habitation capability of the area since the neighborhoods will be easily accessible and easy to develop. The topographical analysis utilized in this study approves that the area is suitable for residence.

4.5.2 Rainfall

In consideration of the gentle topographical orientation of the area, the rainfall pattern is ample for residential habitation. The rainfall pattern is neither too high nor too low which reduces the chances of flooding within the area.

4.5.3 Temperature

The high temperature patterns may discourage habitation but being an atmospherical hinderance the residents may opt to plant trees for canopy and shade provision. Therefore, the high temperatures do not sideline the area from residential habitation.

4.5.4 Wind

Wind provides a free source of energy ranging from electrical to kinetic energy. Being a relatively dry area, Kajiado can use wind powered boreholes to draw water from underground reservoirs, therefore wind in this case acts as a habitational pulling factor attributing the area as suitable for residential purpose.

4.6 SOCIO-ECONOMIC AND CULTURAL PROFILE OF KAJIADO TOWN

4.6.1 Socio-economic

Most of the inhabitants within the study area practice pastoralism. Beef market thrives as a result of the pastoralistic nature of the locals. Small-scale farming is practiced by use of greenhouses for food crop farming of maize, beans, and vegetables. The main market for such produce is in Isinya and Nairobi Metropolis such as Kitengela, Machakos and Nairobi city. Moreover, the town is characterized by mini supermarkets which support the economy of the town. A lot of primary economic activities take place in the periphery of the Kajiado town that include sand harvesting,

stone mining (building stones and marble), and livestock production which include cattle, sheep and poultry. These production activities present value chain enhancement within the town and municipality creating the backward and forward linkages within the area.

4.6.2 Ethnicity

Kajiado town is vastly predominated by the Maasai community. However, the town is eequally cosmopolitan with mixed tribes such as Kikuyus, Kisii, Kamba and Luos'.

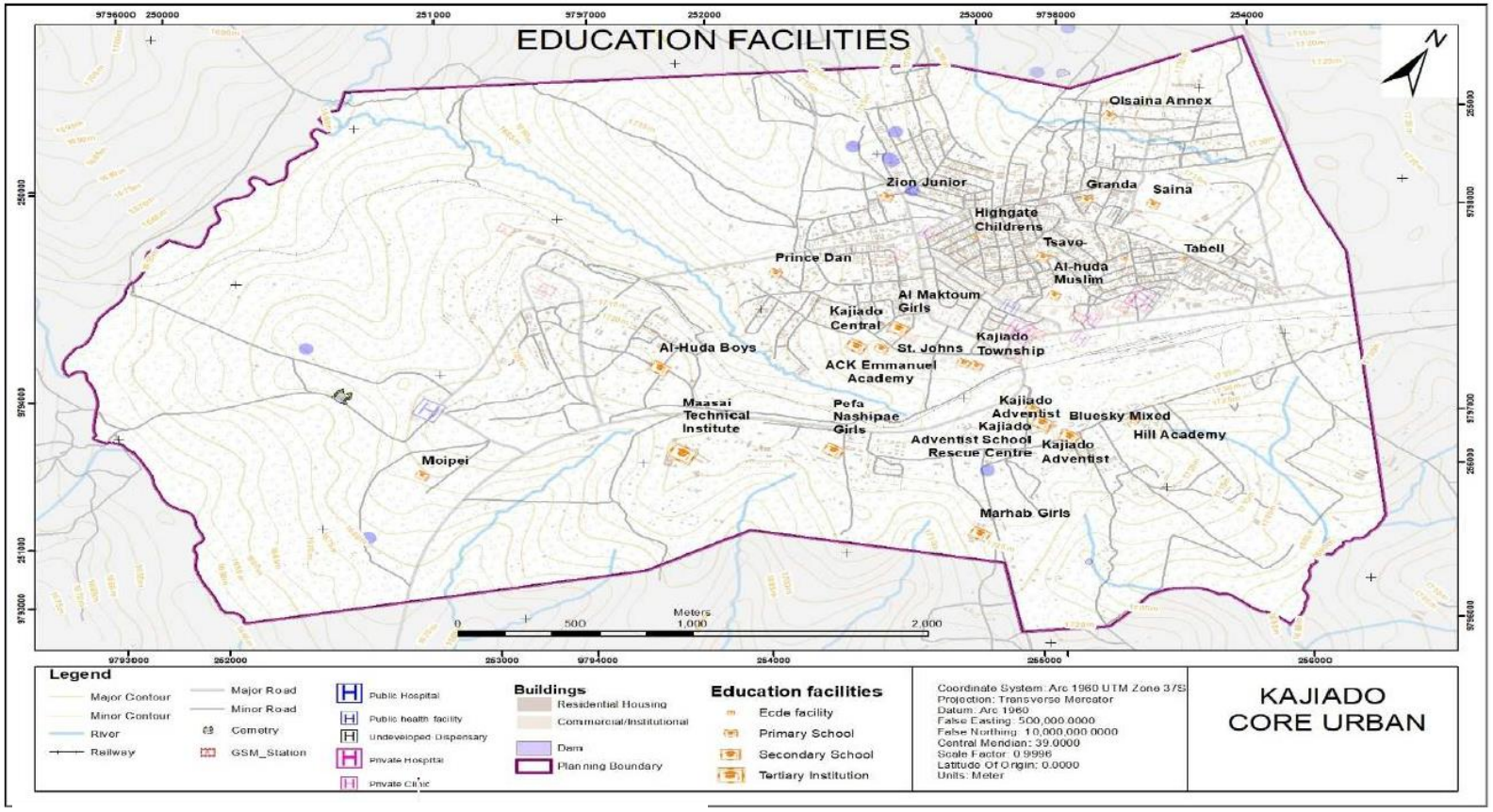
4.6.3 Religion.

The study area is predominated by the Christians and the Muslim religions, Christian covering 85% as Muslim cover 15%. This is shown by the increased mushrooming of churches within the study area.

4.7 SOCIAL INFRASTRUCTURE

4.7.1 Schools

Kajiado core has quite a number of schools from kindergarten to the higher institutions as shown;

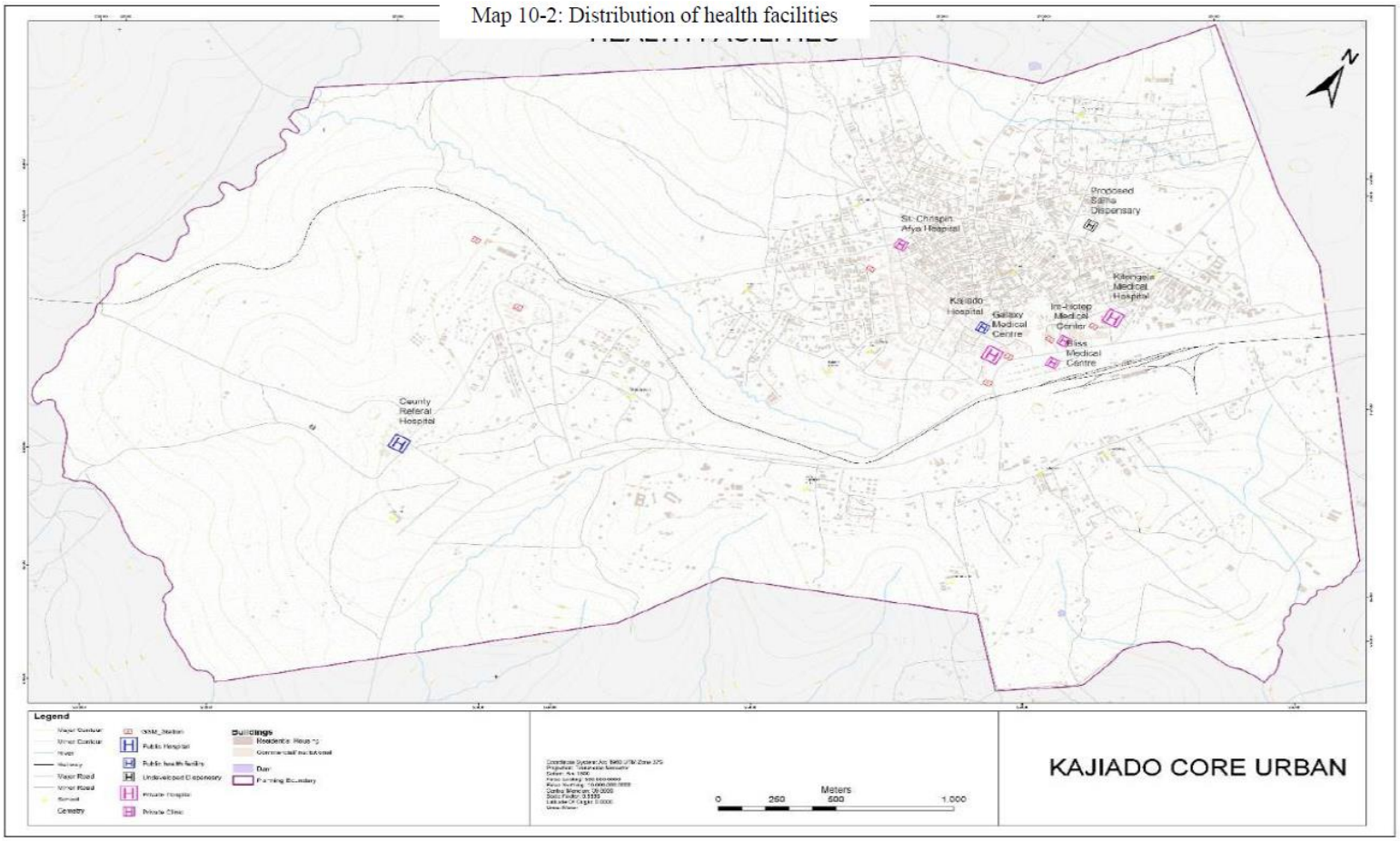


Map 4.5:Education facilities in Kajiado town

(Source: Author constructed, 2022)

4.7.2 Health facilities

The study area is well serviced with one public hospital. The facility is a level five hospital that performs county referral function. The rest of the existing health facilities are private as shown:



Map 4.6: Health facilities in Kajiado town Source: Author constructed, 2022

4.7.3 Recreational facilities

The town is having stadiums, urban space and parks.

4.8 PHYSICAL INFRASTRUCTURE

4.8.1 Means of transport

National trunk roads, Nairobi International Airport, and the standard gauge railway connect the area to the remainder of the nation, the rest of Eastern Africa, and the rest of the world. The Trans-African Highway, A1 Road, and other connection routes are accessible from the area. Kajiado Town is strategically located for international trade and commerce because to the Trans-Africa Highway that connects it to Tanzania. In contrast to already developed areas like Nairobi and other large cities, this gives plenty of possibility for growth and returns on investment, according to Faisal Guhad, a project manager at Al-Bushra Properties.

4.8.2 Power supply

The main source of power within the study area is the use of electricity for lighting. Solar energy is used for the street lighting. Residents of the planning area primarily utilize gas and wood-burning stoves for cooking.Sewer systems.

The town is yet to have a sewer line for proper waste disposals but the locals make use of pit latrines. Being an area of vast open land attributed with bushes and thickets, some of the locals prefer to use the natural mechanism of human waste disposal.

4.8.3 Solid waste management system

The study area has no predestined place for solid waste management.

Most of the inhabitants within the study area use compost pits as their main source of solid waste disposal, burning, and open waste are also used.

4.8.4 Sanitation

Pit latrines are the predominating means for liquid waste management. However, there are few uses of septic tanks who then privately manage the liquid waste as the town is yet to have a prearranged sewer line for liquid waste disposal.

5 CHAPTER 5: CHALLENGES IN THE PROVISION OF BASIC URBAN SERVICES IN KAJIADO TOWN

5.1 INTRODUCTION

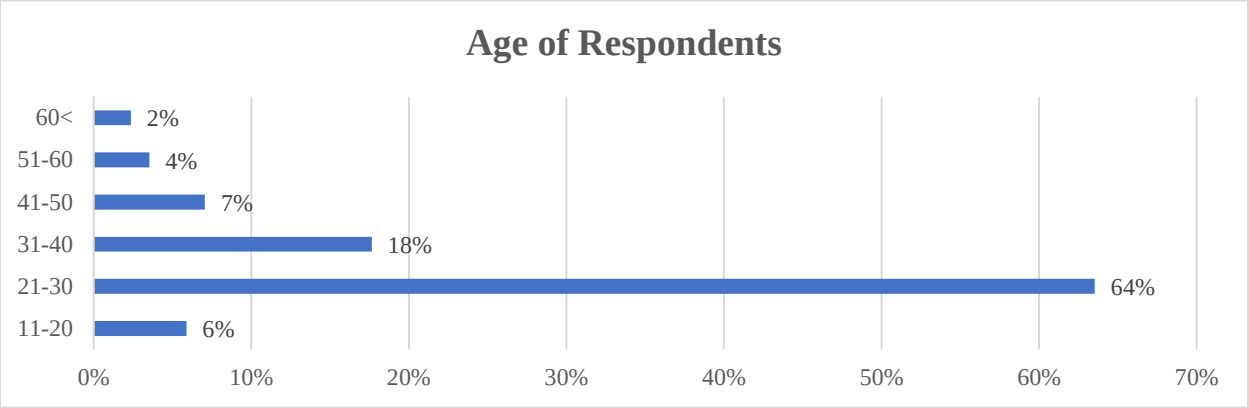
The findings related to the third and fourth research objectives, which served as the study's foundation, are presented in this chapter along with a descriptive interpretation. The assessment of the delivery and provision of essential urban services, their effects on the delivery of affordable housing, and planning interventions that improve the delivery and provision of essential urban services in support of affordable housing in Kajiado town are all covered in detail in this chapter.

5.2 DEMOGRAPHIC CHARACTERISTICS

5.2.1 Age of respondents

Seventy (70) detailed questionnaires were administered to household heads in the quest to apraise the delivery of basic urban services towards affordable housing in the study area and which were duly filled to meet the study objectives.According to the field survey, it was found that 64% of the respondents were between the ages of (21-30) followed by those between (31-40) who accounted for 18%, those between (41-50) accounted for 7%, ages (11-20) accounted for 6%, ages (51-60) accounted for 4% and those above 60 years accounted for 2%. In the household survey males account for 58% while females account for 42% of 100 respondents. Figure 5.1 is a a bar graph displaying the respondents' percentage and the corresponding age groups.

Figure 5.1 Age of Respondents



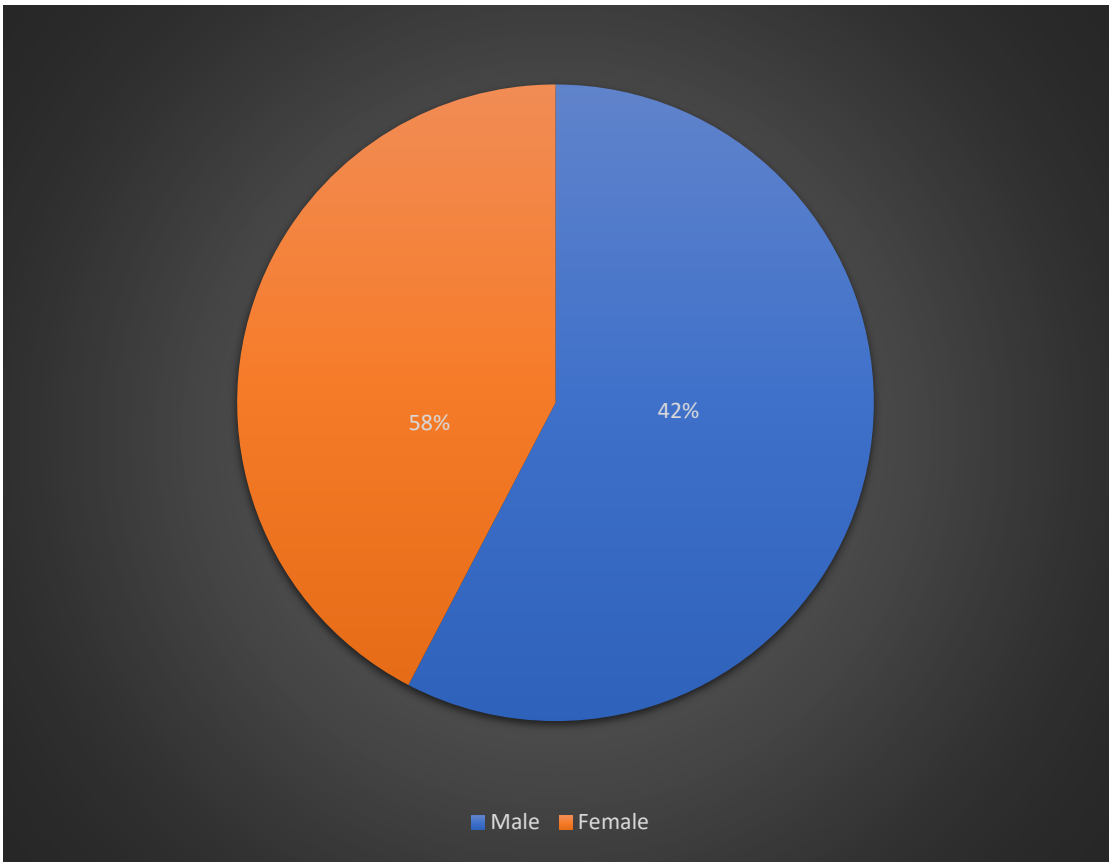
Source: Field Survey, 2022

Therefore, it is clear from these results that respondents over the age of 21 to 30 (64%) were sufficiently mature to explain the current situation in the delivery of affordable housing in the research area. The bulk of the respondents were young persons in the study area, ranging in age from 21 to 30 years, according to the study's findings.

5.2.2 Respondents Characteristics

The key characteristics of households include age, gender, literacy levels, household sizes and access to urban basic services. These factors are vital since they impact residents request for an affordable housing hence there is need to understand them. Outstandingly, the respondents were family heads (either male or female). Limitation on the family heads as the respondents was educated by the suspicion that they are the decision-makers within the interest of other household individuals and, so, their sees communicated those of the entire household. Gender distribution.

Figure 5.2: Gender distribution

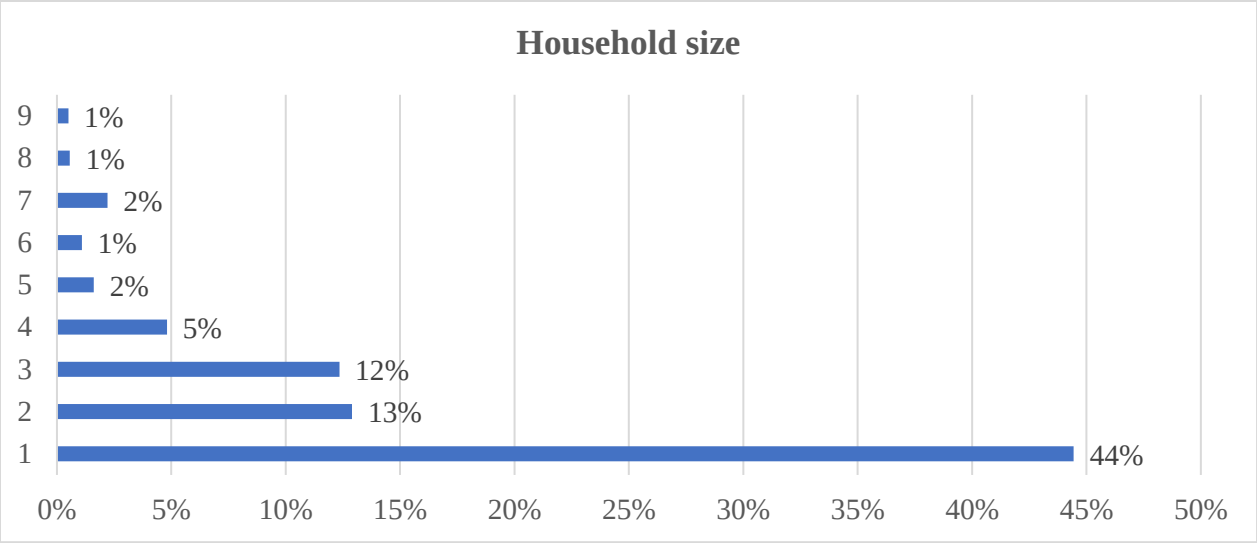


Source: Field survey, 2022

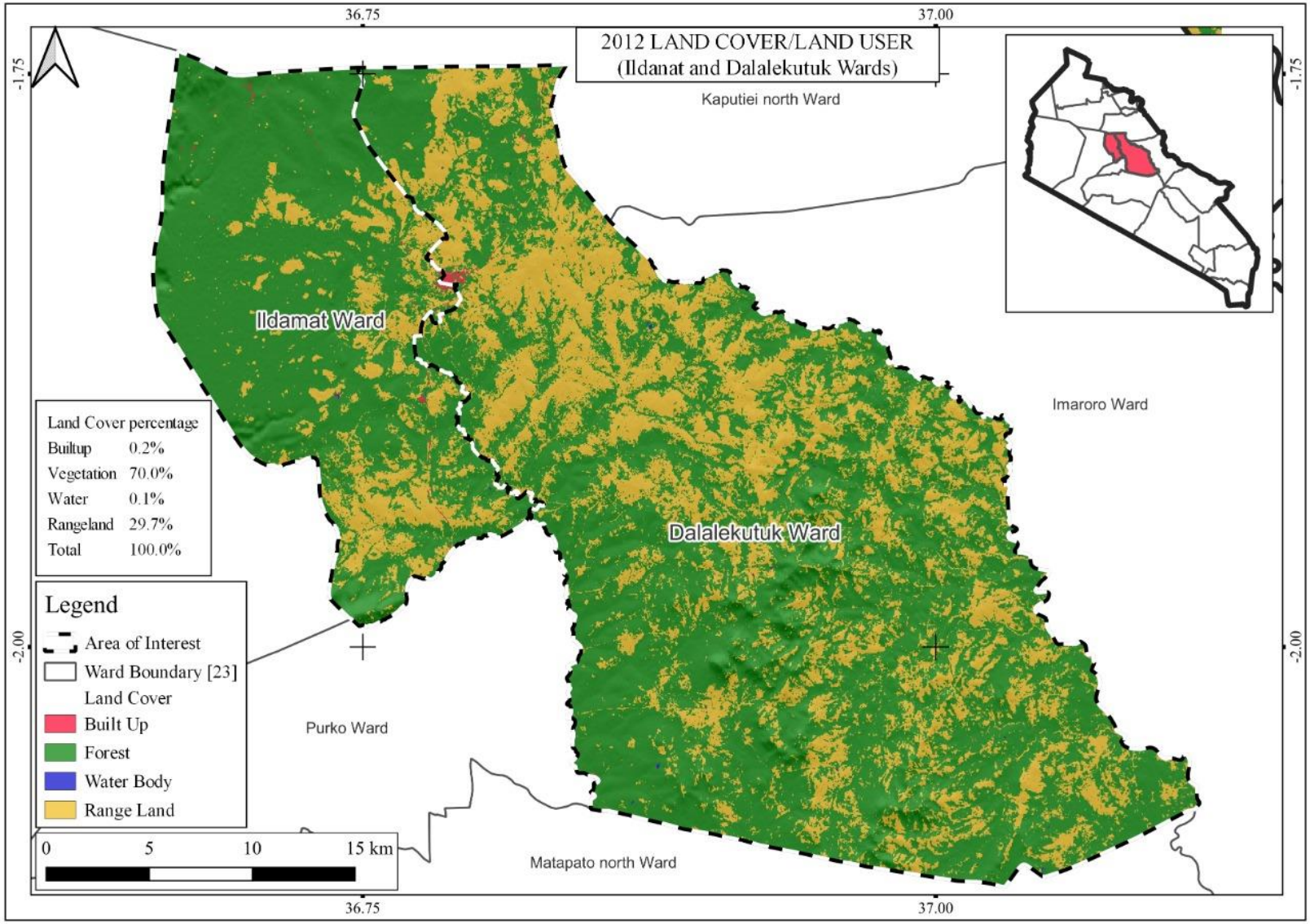
5.2.3 Household size

A field survey was undertaken to determine the household sizes and typologies within the study area. This was essential in determining the level of occupancy per sq. unit of the available land and the co-dependency between them. Most of the respondents lived alone making up for 44% followed by 2 people in a household at 13%, 3 people in household at 12%, 4 people in a household at 5% 5 and 7 people in a household at 2% and the least had 6,8 and 9 people in a household at 1%.

Figure 5.3: Household size



Source: Field survey, 2022



Map 5.1: Kajiado Land Cover, 2012

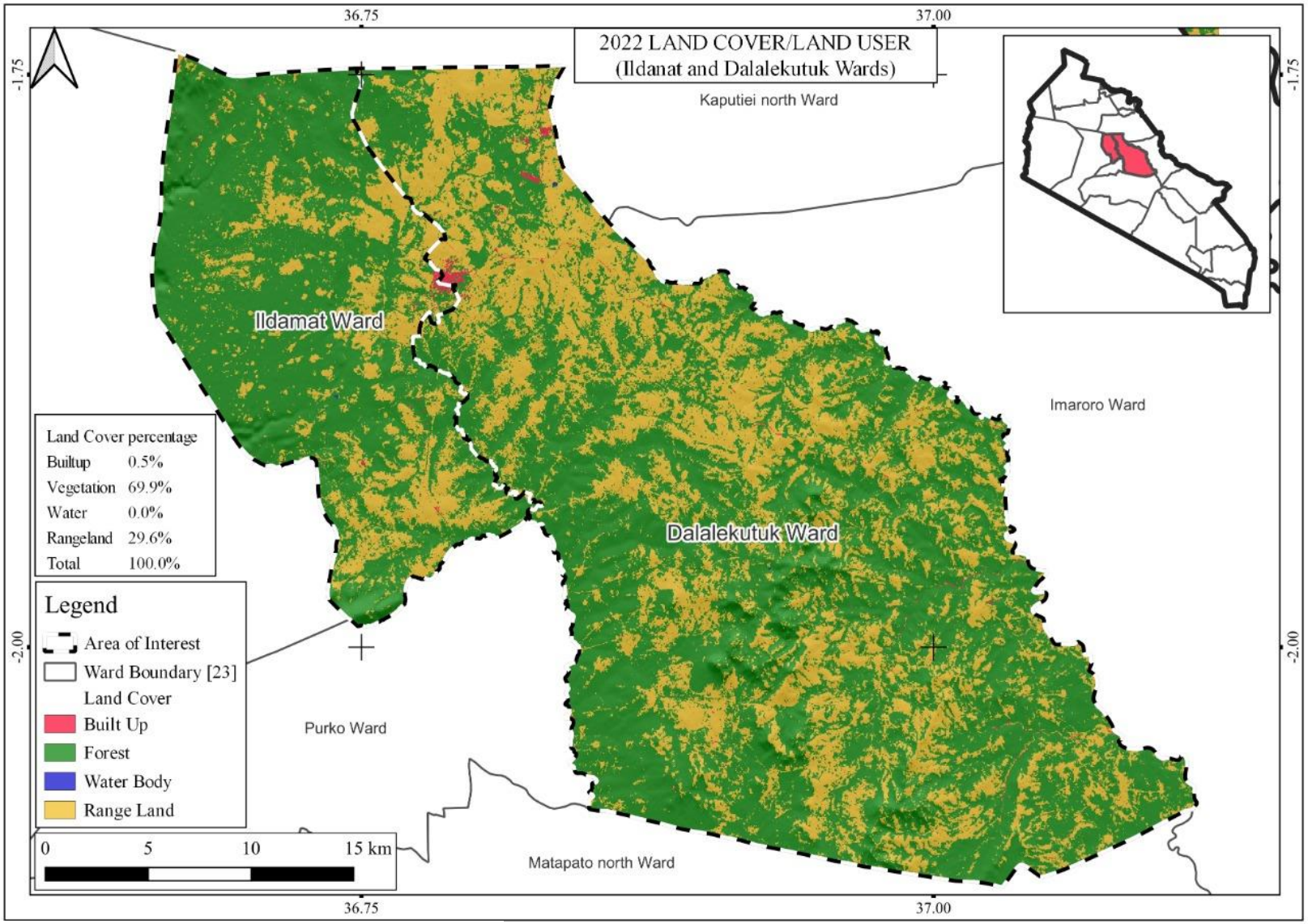
Source: Author constructed, 2022

Table 5.1: Kajiado land cover data, 2012.

	Land Cover 2012		
	value	count	percentage
	Built-up	5130	0.2%
	Vegetation	1828124	70.0%
	Water	1350	0.1%
	Rangeland	776724	29.7%
	Total	2611328	100.0%

Source: Author constructed, 2022

Map 5.1 and 5.2 compare the land cover transformation in Ildamat and Dalalekutuk between 2012 to 2022 wards bet. In 2012 the built-up areas occupied a total of 0.2% of the land, water surfaces occupied 0.1%, and the rangeland a total of 29.7%. Vegetation cover occupied the largest percentage at 70%. In 2022 the land cover had changed to 0.5% being occupied by built up areas which is an increment of 0.27% from 2012. The vegetation covers in 2022 occupies a percentage of 69.9% which is a reduction of 0.08%. Water surfaces had reduced to 0% from 0.1% which is a 0.04% deduction. The rangeland had also reduced in percentage from 29.7% to 29.6% which is a 0.04% reduction.



Map 5.2: Kajiado Land Cover, 2022

Source: Author constructed, 2022

Table 5.2:Kajiado land cover data, 2022

Land Cover 2022		
value	count	percentage
Builtup	12080	0.5%
Vegetation	1826098	69.9%
Water	316	0.0%
Rangeland	772834	29.6%
Total	2611328	100.0%

Table 5.3;Kajiado land cover transition data 2012-2022

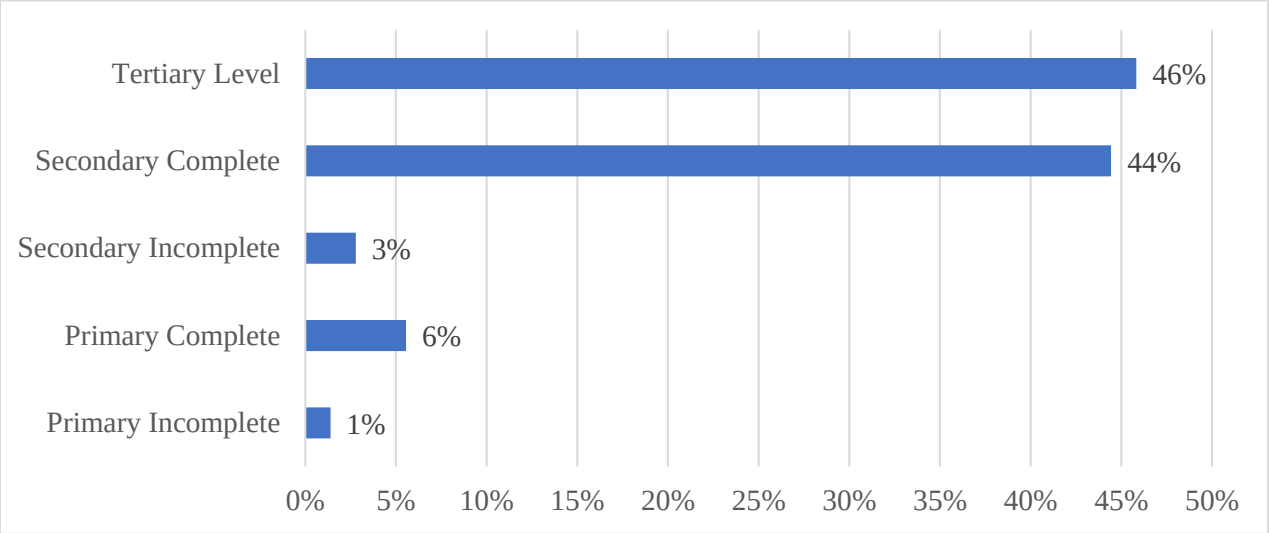
Land Cover Change 2012 – 2022	
Builtup	0.27%
Vegetation	-0.08%
Water	-0.04%
Rangeland	-0.15%

Source: Author constructed, 2022

5.2.4 Literacy rate

The degree of development and economic growth within a community is mostly influenced by the exposure and education levels of its citizens. The goal of this study is to ascertain the literacy levels of the people living in Kajiado town.

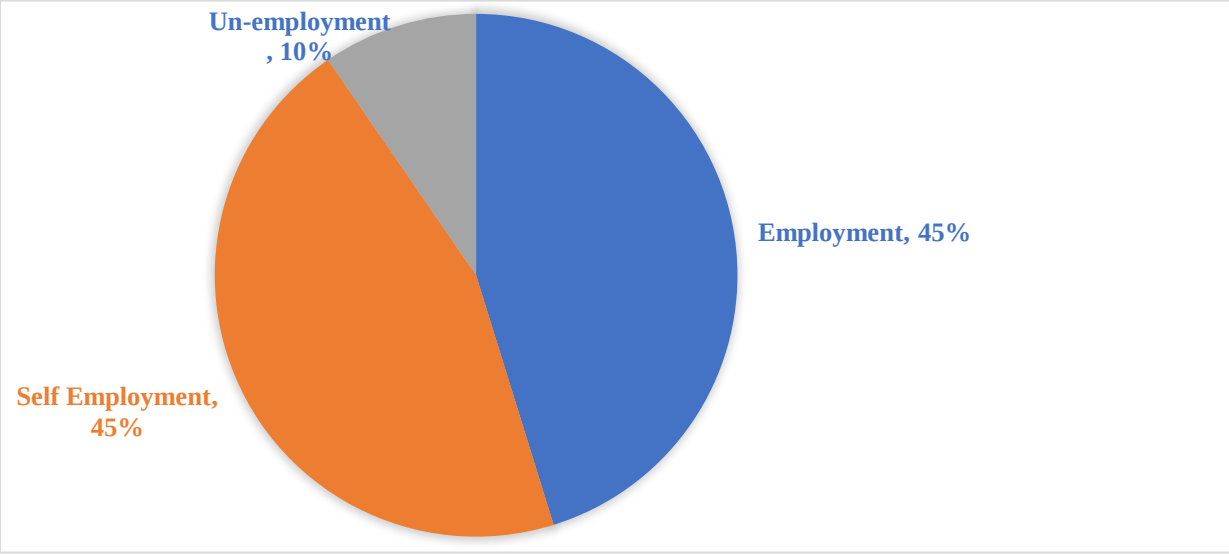
Figure 5.4: Literacy Rate: Highest Level of education



Source: Field survey, 2022

The majority of respondents (46%), followed by 44% of those who completed secondary school (44%), 3% of those who did not complete secondary school, 6% of those who did not complete primary school, and at least 1% of those who did not complete primary school, had acquired tertiary level education.

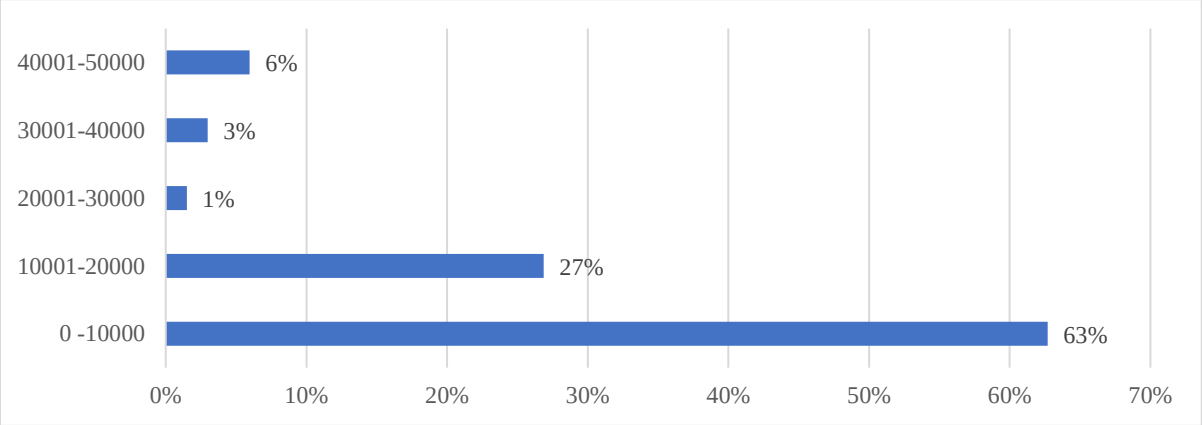
Figure 5.5:Level of income and employment



Source: Field survey, 2022

Most of the respondents were either self-employed or under employment accounting for 45% of the sample size each while 10% of the respondents were unemployed.

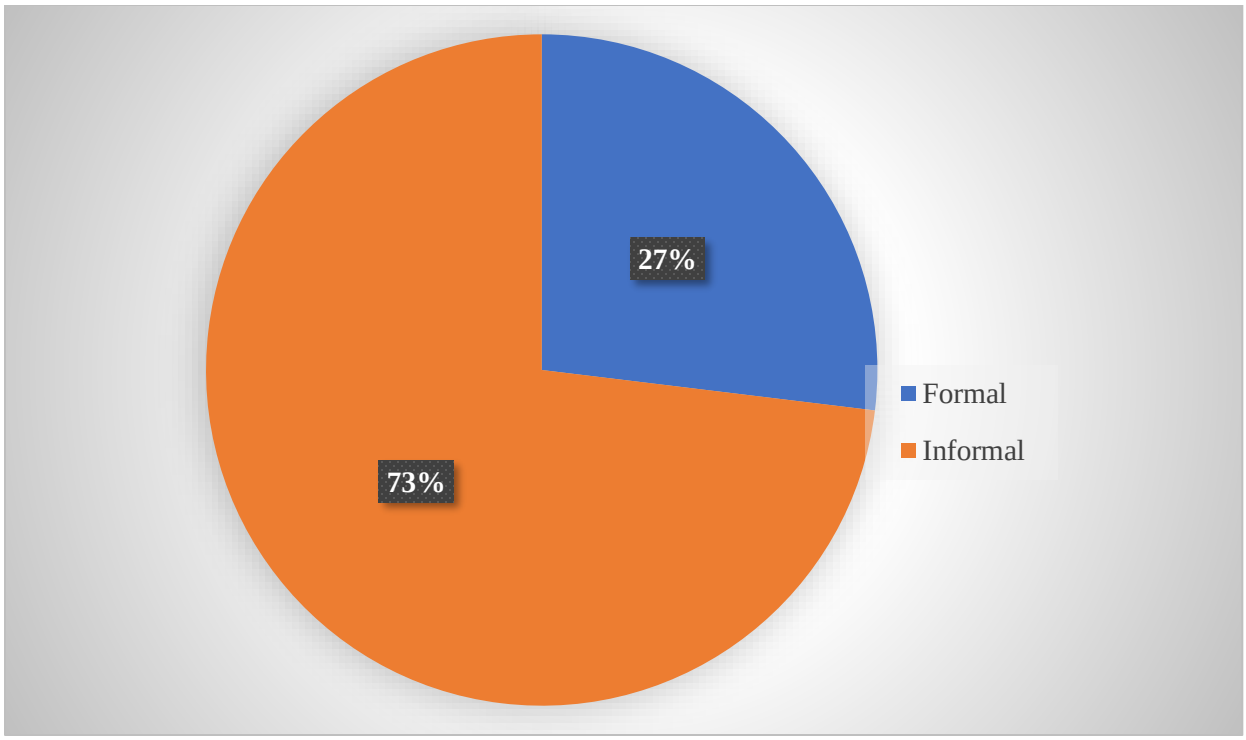
Figure 5.6: Income levels of the residents



Source: Field survey, 2022

Most of the respondents were in the (0 - 10,000) income bracket accounting for 63% of the sample size followed by (10,001 - 20,000) income bracket accounting for 27% of the sample size, 6% of the sample size were in the (40,001-50,000) income bracket, 3% in the (30,001 - 40,000) income bracket, the (20,001 - 30,000) income bracket accounted for the least number of respondents at 1% 73% of the respondents were under informal employment and 27% were formally employed.

Figure 5.7: Types of Employment



Source: Field survey, 2022

5.3 LEVELS OF PROVISION OF BASIC URBAN SERVICES

The findings on the first objective of this study were established in literature review and further proved during the field survey as presented herein. The study examined four aspects of basic urban services that support housing which are water, waste management, and electricity and transport accessibility.

5.3.1 Access to water as a basic urban service

There are three main sources of water in Kajiado municipality (town) namely ground water (shallow wells and bore holes), surface water, and rain water. Water is used for domestic, irrigation and livestock purpose. Rain water is harvesting from roof tops during the rainy season at some homesteads. Thereafter, it is either stored in plastic water tanks, underground/ground concrete tanks. Surface water surfaces include water sourced directly from seasonal river streams, and water pans while ground water sources include shallow well and borehole. Water in the municipality is further classified into improved and unimproved sources. Improved sources include protected shallow wells, boreholes and rain water collection while unimproved sources include unprotected

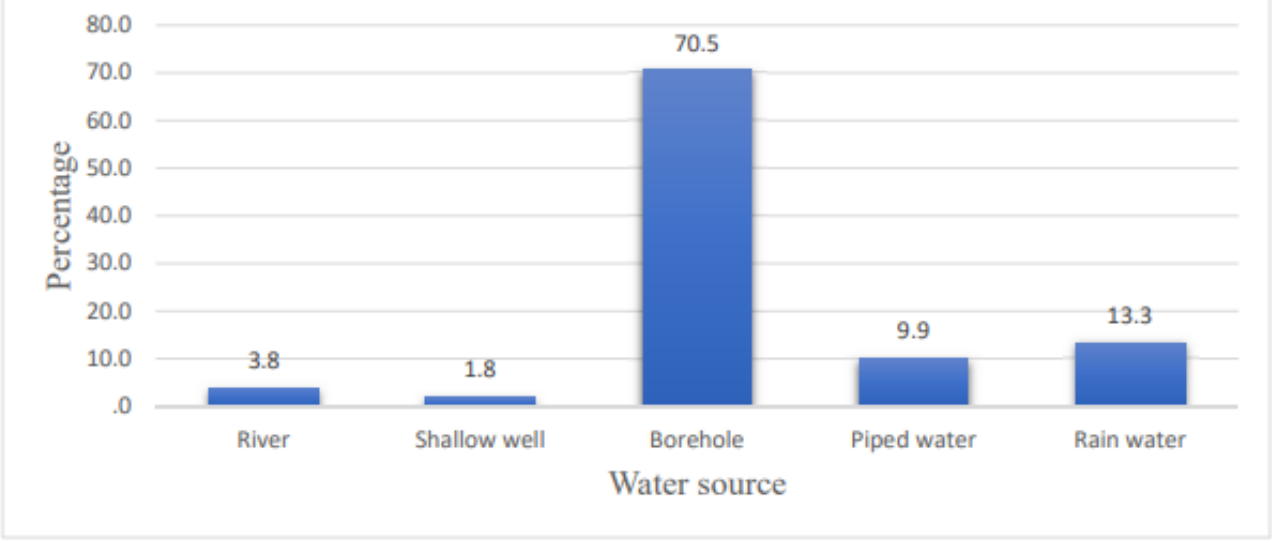
seasonal river streams, water pans and shallow wells. Subsequently, water from boreholes is pumped into elevated water tanks from where it then flows under gravity at water collection points.

In 2016, the World Health Organization (WHO) stressed the importance of supplying a minimum of 150 liters of water per person daily in urban areas. This provision is crucial for meeting basic needs and preventing health concerns. The WHO emphasized the necessity of consistent access to water and sufficient sanitation facilities for personal and household purposes, such as drinking, personal hygiene, laundry, food preparation, and maintaining cleanliness at home.

The WHO advocates for the universal accessibility of water and sanitation services, whether it's within households, workplaces, or educational and health institutions nearby. This approach ensures that all members of society, including the disabled, elderly, women, and children, have their needs considered, promoting dignity, health, and overall quality of life. The WHO suggests that this be accomplished by ensuring that every home has access to a water source within 1,000 meters and that the time needed to collect water does not exceed 30 minutes (WHO, 2016).

Proportion of population accessing various water sources

Figure 5.8: Proportion of population accessing various water sources



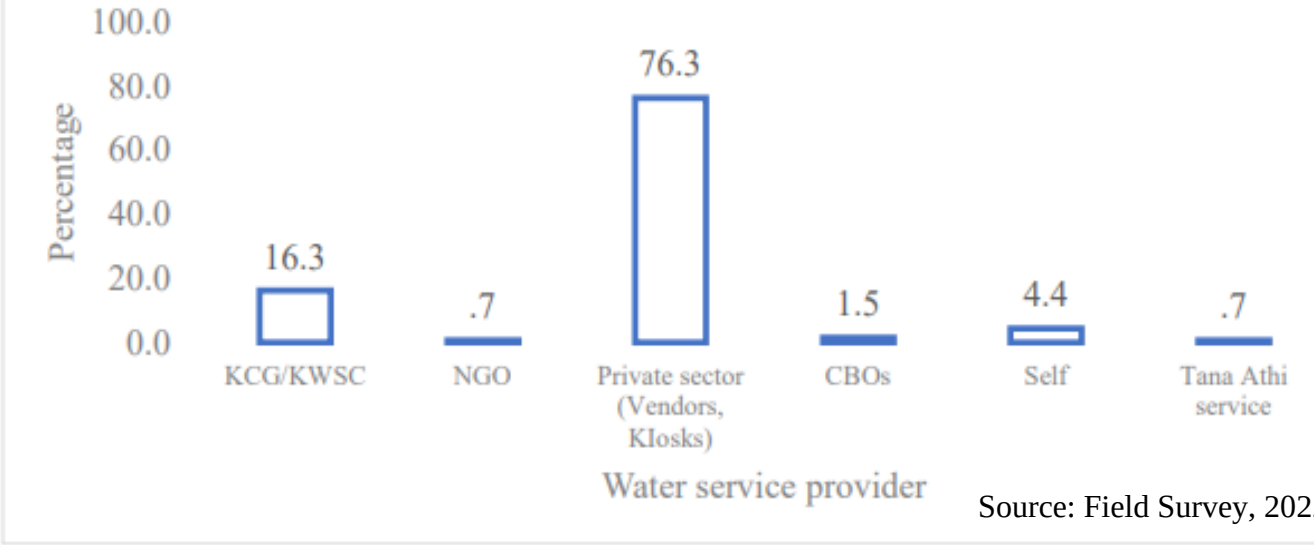
Source: Field Survey, 2022

According to the field survey (2020), boreholes supply 71% of the municipality's water needs, while rainwater provides 13.3%. 10% of the water supply comes from other sources, such as piped water, while the rest comes from shallow water. The local administration has not installed a sewage

infrastructure in the Kajiado municipality. The town can supply 3.8% of its water needs via natural water streams. According to the study's findings, 9.9% of households have access to the water system.

5.2.4.1 Water service providers

From the findings the private sector constitutes the biggest supplier of water (76%). Kajiado county

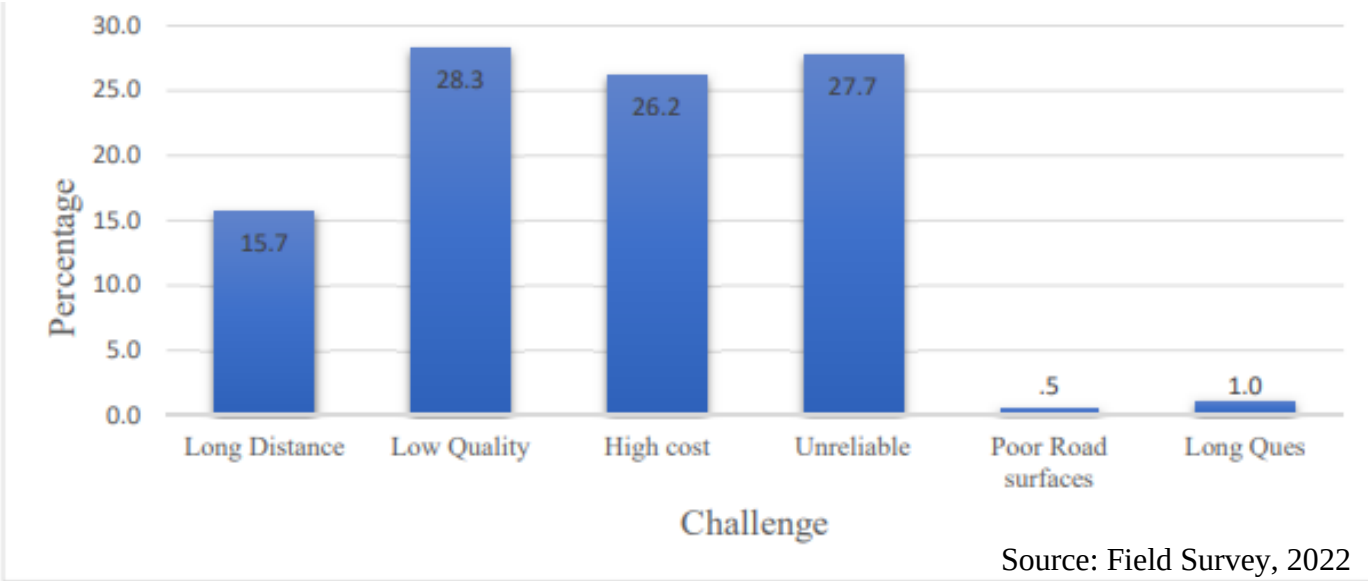


Source: Field Survey, 2022

government/Kajiado Water and Sewerage Company (KWSC) (16%), self (privately operated wells) (4%) and Community-based Organizations (CBOs) (1.5%). Hence from this analysis, it is evident that the Kajiado County Government has not put in place appropriate measures to supply water to the town residents.

Challenges in accessing water

Figure 5.10: Challenges in accessing water Source



Source: Field Survey, 2022

According to the field survey, it was found that 76.3% of the residents of Kajiado town do buy water from vendor trucks and buckets costs far more than from piped systems. Several challenges are faced while accessing the water sources such as long-distance, low-quality water, high costs, unreliability, poor road surfaces and long queues. 15.7% of the population have to travel long distances to access pure water, 28.3% receive low quality water while 26.2% have access to water under high costs. Unreliable water supply is problem which was faced by 27.7% of the population, 0.5% of the population had access to poor roads while1.0% had to wait long queues to attain clean water.

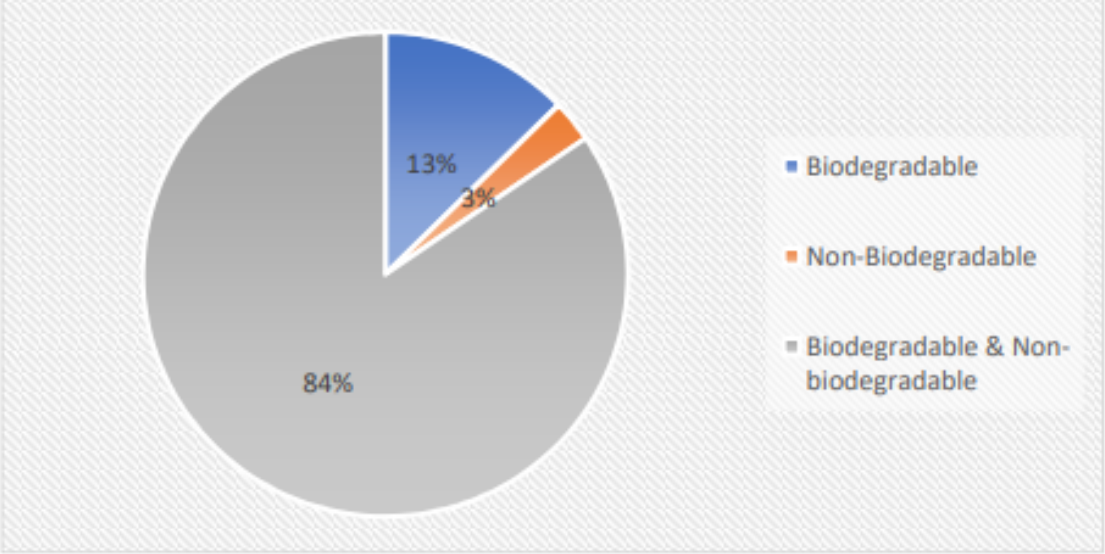
5.2.4.2 Solid and liquid waste management

Like other places, Kajiado town also generates waste. Waste can be classified biodegradable and non-biodegradable. The municipality of Kajiado does not have a sewage system put in place by the local government. Poor solid waste management is practiced in the research area.. In the residential estates, such as Shapashina, individuals' litter in specific places, but factors such as wind redistribute the litter. That results in a dirty environment since there are no definite collection sites for garbage within the study area. Garbage collection trucks visit a number of times in a week around the central business district. However, they do not go to specific homes or locations to collect the garbage. They only do the collections around the CBD to keep it clean. Those in the homes have to subscribe to private garbage collectors, who they pay to collect the solid waste.

5.2.4.3 Type of waste generated and means of disposing waste

According to the findings, 84% of the households do generate both biodegradable and non-biodegradable wastes, while 13% and 5% do generate biodegradable and non-biodegradable wastes respectively.

Figure 5.11: Type of waste generated



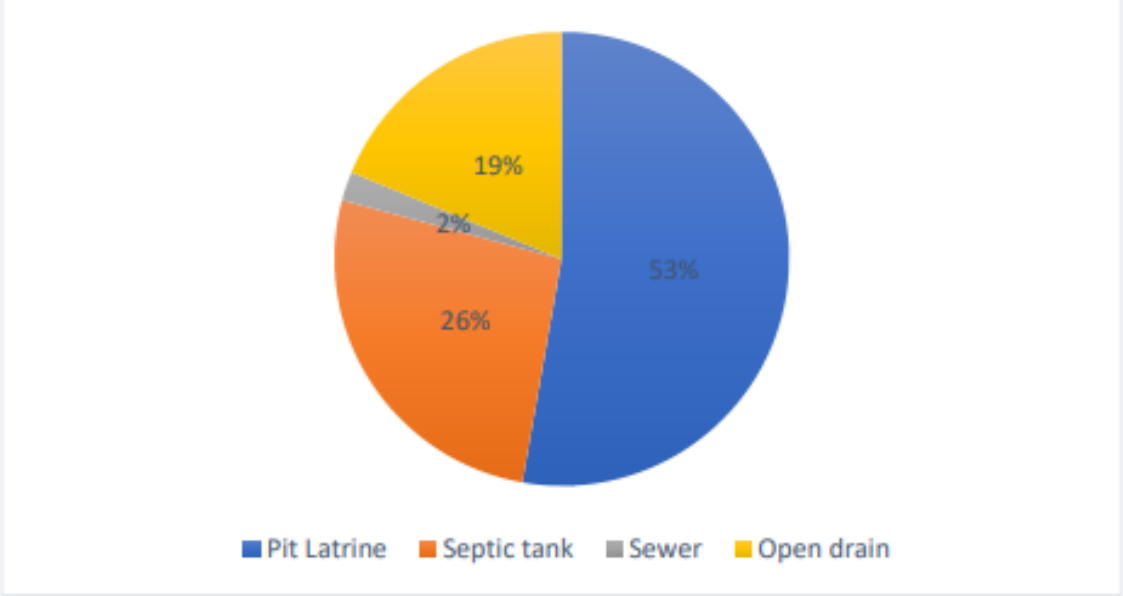
Source: Field Survey, 2022

5.2.4.4 Means of disposing liquid waste

According to the field study, 53% of the respondents do dispose their liquid waste using pit latrines while 2% uses sewer while the rest do make use of septic tank (26%) and open drain (19%). The disposal of liquid waste is hazardous to the environment and the people and can cause disease outbreak such as typhoid and cholera. Similarly, excessive use of pit latrine might result to contamination of underground water through open aquifers. From this analysis it is evident that low use of sewer indicates the town lacks an intensive network coverage of the sewer line connection for collection and disposal of liquid waste.

For a safe and sustainable residential neighborhood, a reliable sewer line should be established within Kajiado town that will ensure reliable drainage, waste disposal and treatment of the liquid waste.

Figure 5.12: Means of disposing liquid waste



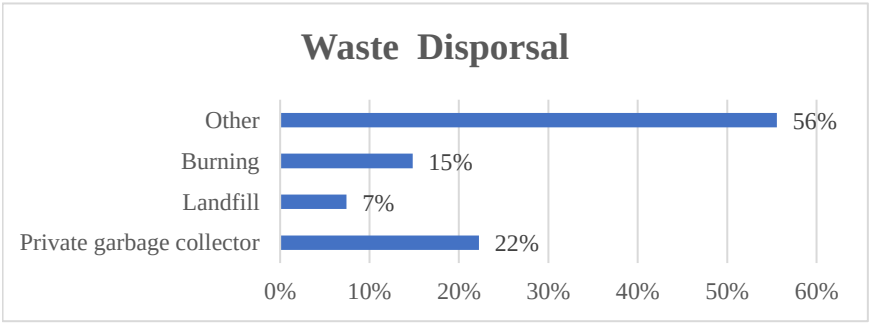
Source: Field Survey, 2022

5.2.4.5 Challenges of waste disposal.

With respect to managing of solid waste the filed survey revealed that 22% of the households dispose solid waste to proper designated places while a paltry 56% through indiscriminate dumping. The rest disposed through burning (15%) and landfill (7%). Indiscriminate dumping of solid waste is the major cause of dirtying the town with litter especially on roads as shown in figure 5.13. According to the field study, 68 % of the respondents did not have access to a waste collection.

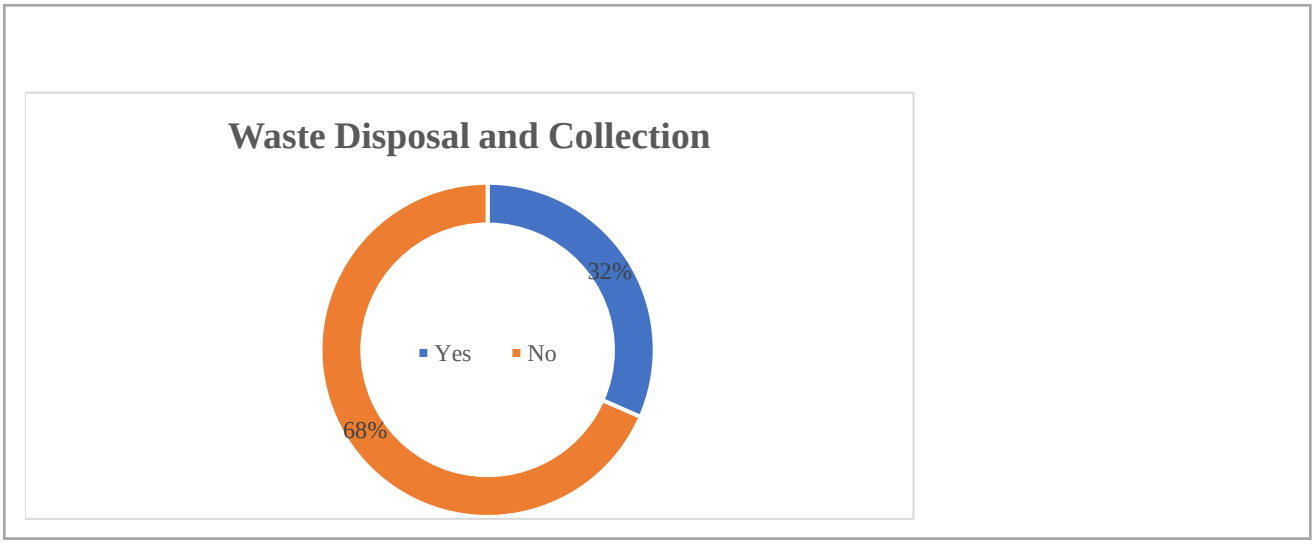
Figure 5.13:Means of Waste Disposal

Means of disposing solid waste



Source: Field Survey,2022

Figure 5.14: Access to waste collection service



Source: Field Survey,2022

Image showing Indiscriminate dumping of solid waste.

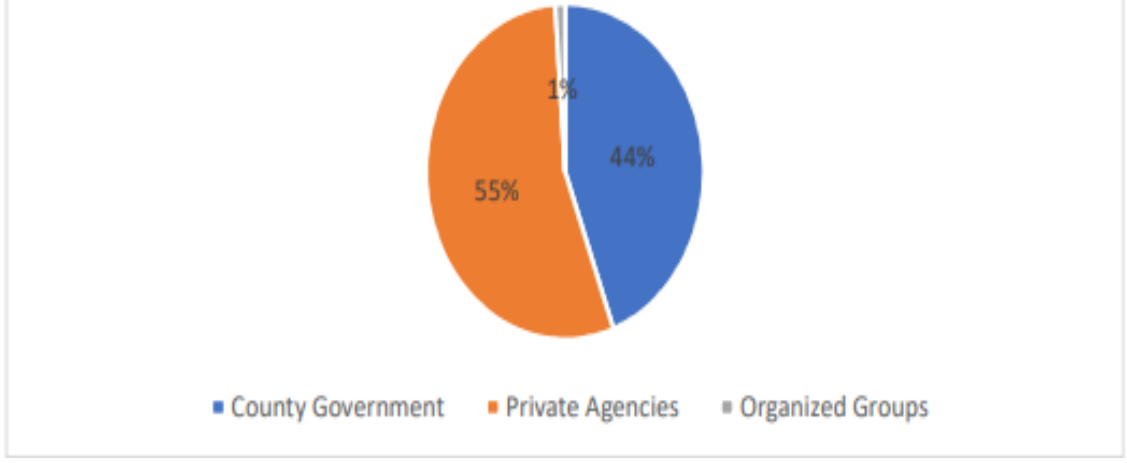
Plate 5.1: Indiscriminate dumping of solid waste

Source: Field Survey, 2022

5.2.4.6 Waste collection agencies

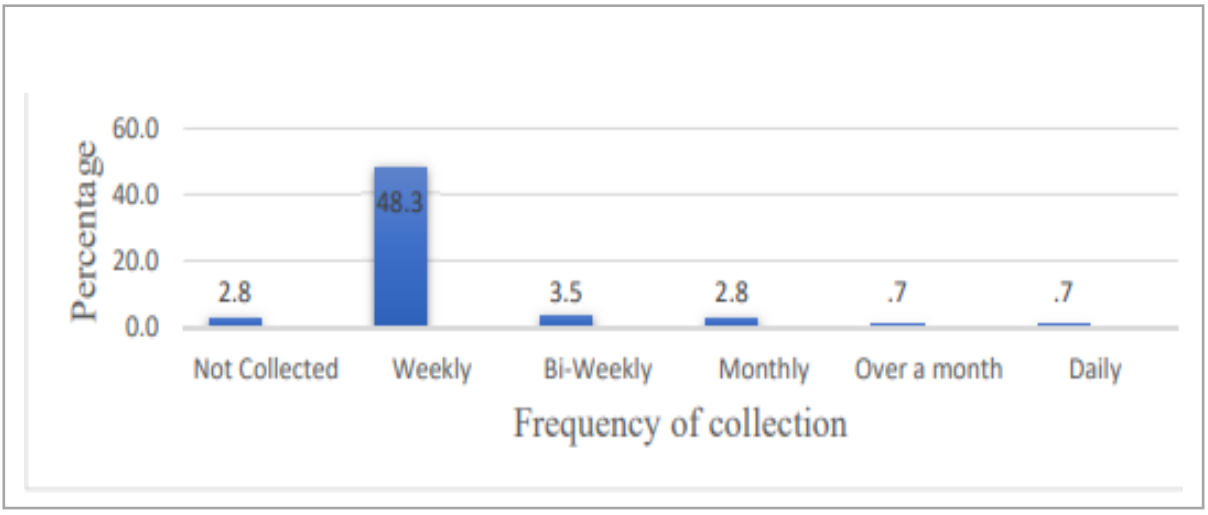
According to figure 55% of the solid waste is collected by private agencies where as 44% is collected by the Kajiado county government while 1% is collected by organized groups. Most of waste collection takes place on a weekly basis (48%) as per figure.

Figure 5.15: Waste Collecting agencies



Source: Field Survey, 2022

Figure 5.16:Frequency of waste collection

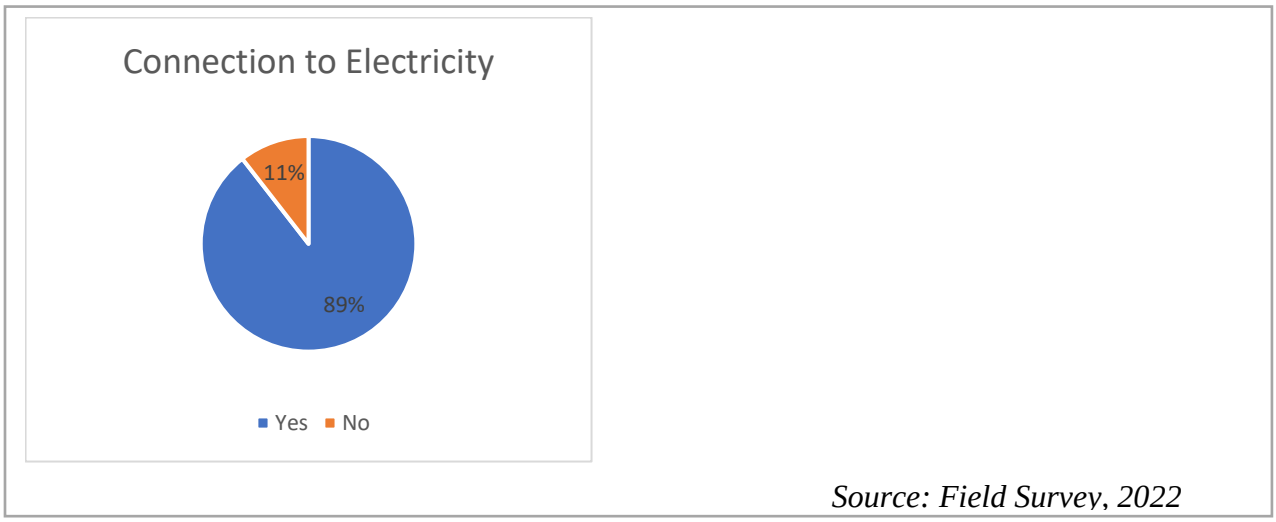


Source: Field Survey,2022

5.2.4.7 Access to Electricity Services

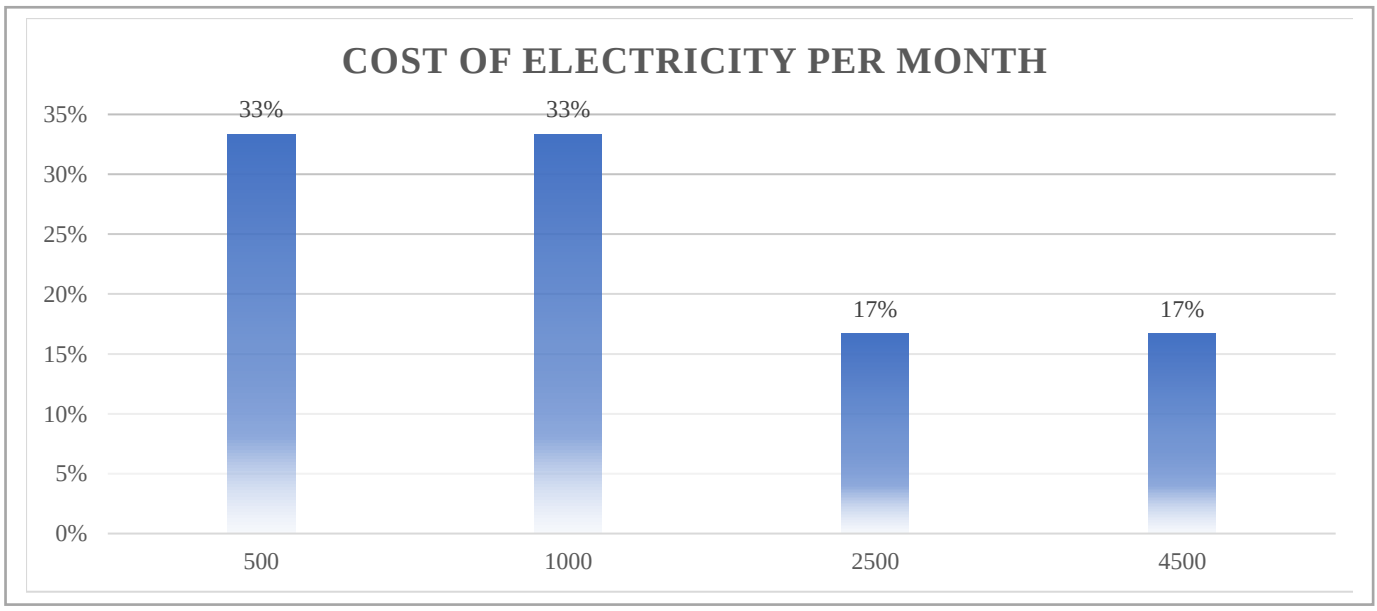
Today, most people depend on electricity for different and almost all activities. 89% of the respondents had electricity connection whereas 11% did not have electricity connection. 66% of the respondents paid (500 and 1000) shillings per month each accounting for 33% for electricity and 34% paid (2500 and 4500) shillings per month each accounting for 17%. Availability of electricity makes it easy for residents and outsiders to consider buying or building properties within an area.

Figure 5.17: Connection to electricity



Source: Field Survey, 2022

Figure 5.18: Cost of electricity



Source: Field Survey, 2022

Considering electricity is an essential element required in almost all the homesteads country wide, the stated prices might be a bit stannous to the common ‘’wananchi’ within the study area considering the economic levels of the people. The affordability factor might influence the residential sustainability of the area.

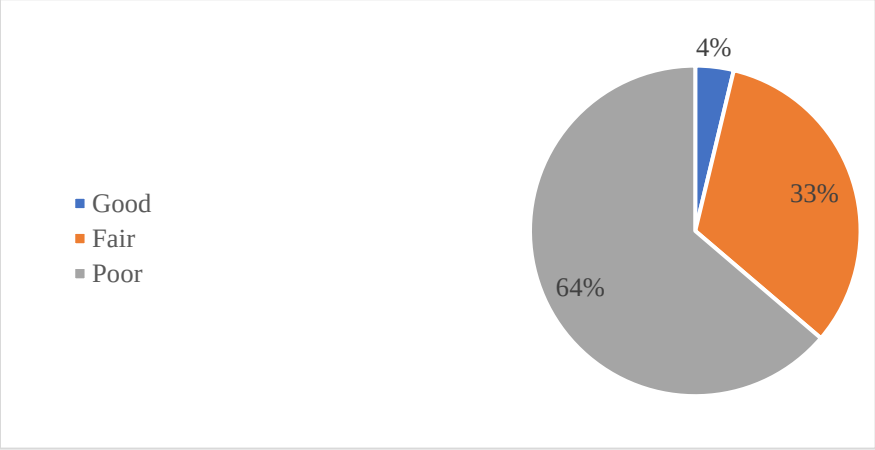
5.2.4.8 Access to Roads Services

Access roads make up 61.9% of the total road network, hence the dominant road network in the study area. It is a common phenomenon in Kenya, for many urban access roads to suffer from encroachment, according to the filed study (2021), all access roads fall solely under the jurisdiction of KCG. Due to inadequate budgetary allocation, KCG is unable to construct and improve access roads to required standards to make the municipality more habitable.

From the findings, 64% of the respondents considered the road condition to be poor, 33% considered it fair and 4% considered it to be in good condition. This is an indication that road condition poses a challenge to timely circulation of people, goods and services in the study area and it also has serious implication of increasing the cost of doing business due to transportation delays thereby slowing economic growth of town especially in provision of affordable housing.

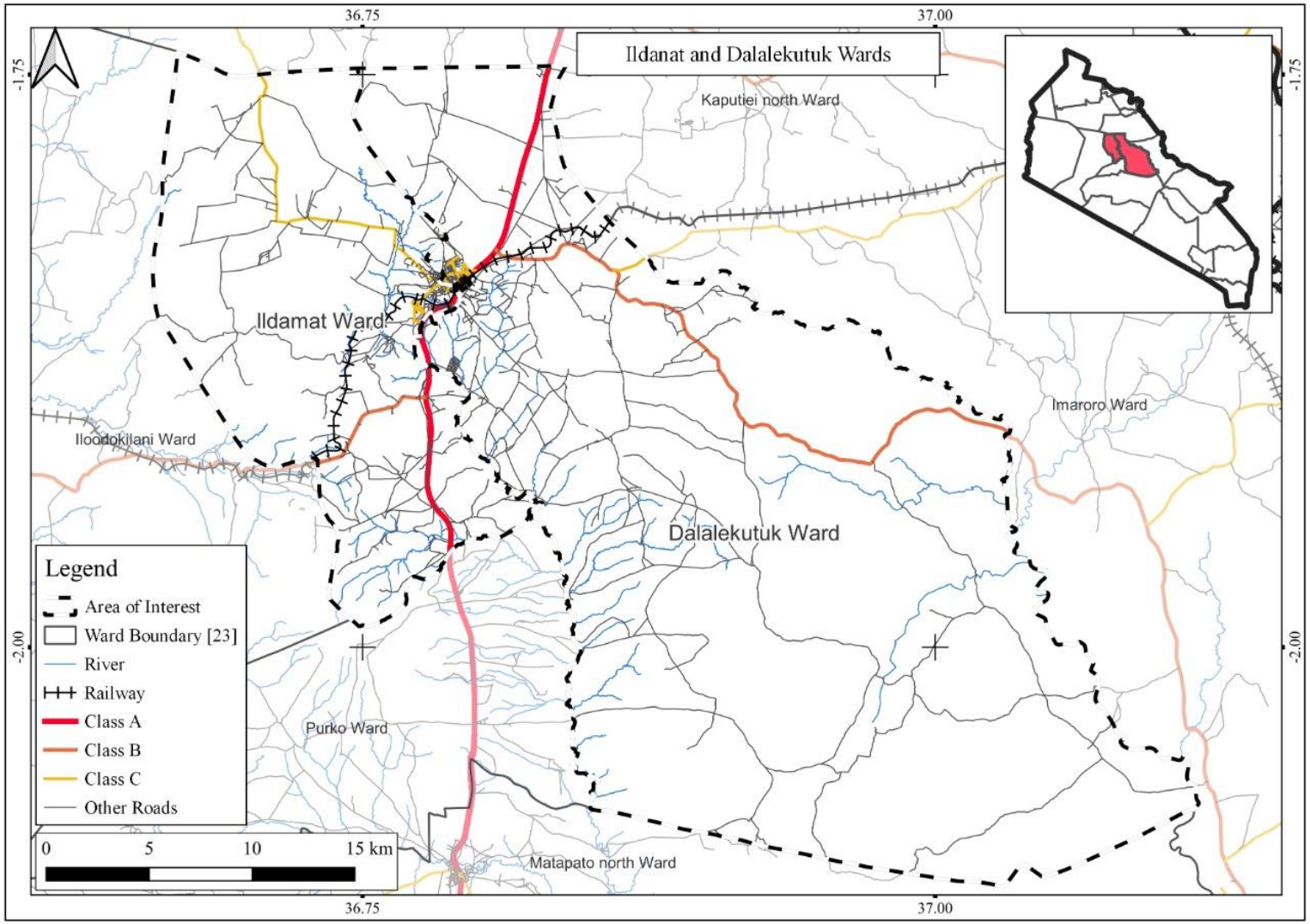
5.2.4.9 State of road infrastructure

Figure 5.19: State of road infrastructure



Source: Author, 2022

From the research study majority of the roads were in poor condition holding 64% of the total road network coverage. This comprised of dry weather roads which could not be accessed during the wet seasons and roads that lacked drainage systems causing flooding when it rains. 33% of the roads were in fair condition and only 4% of the roads were in good condition.



Map 5.1: Road infrastructure in Ildamat and Dalalekutuk Wards

Source: Author constructed, 2022

From the study it was established that majority of the town residents suffer due to bad roads. The roads were dusty and when it rained, most roads are completely impassable due to poor drainage. However, a project to pave 7 kilometers of town roads will soon get underway thanks to coordination between the county and the national governments.

Plate 5.2: Road upgrade

Source: Field Survey

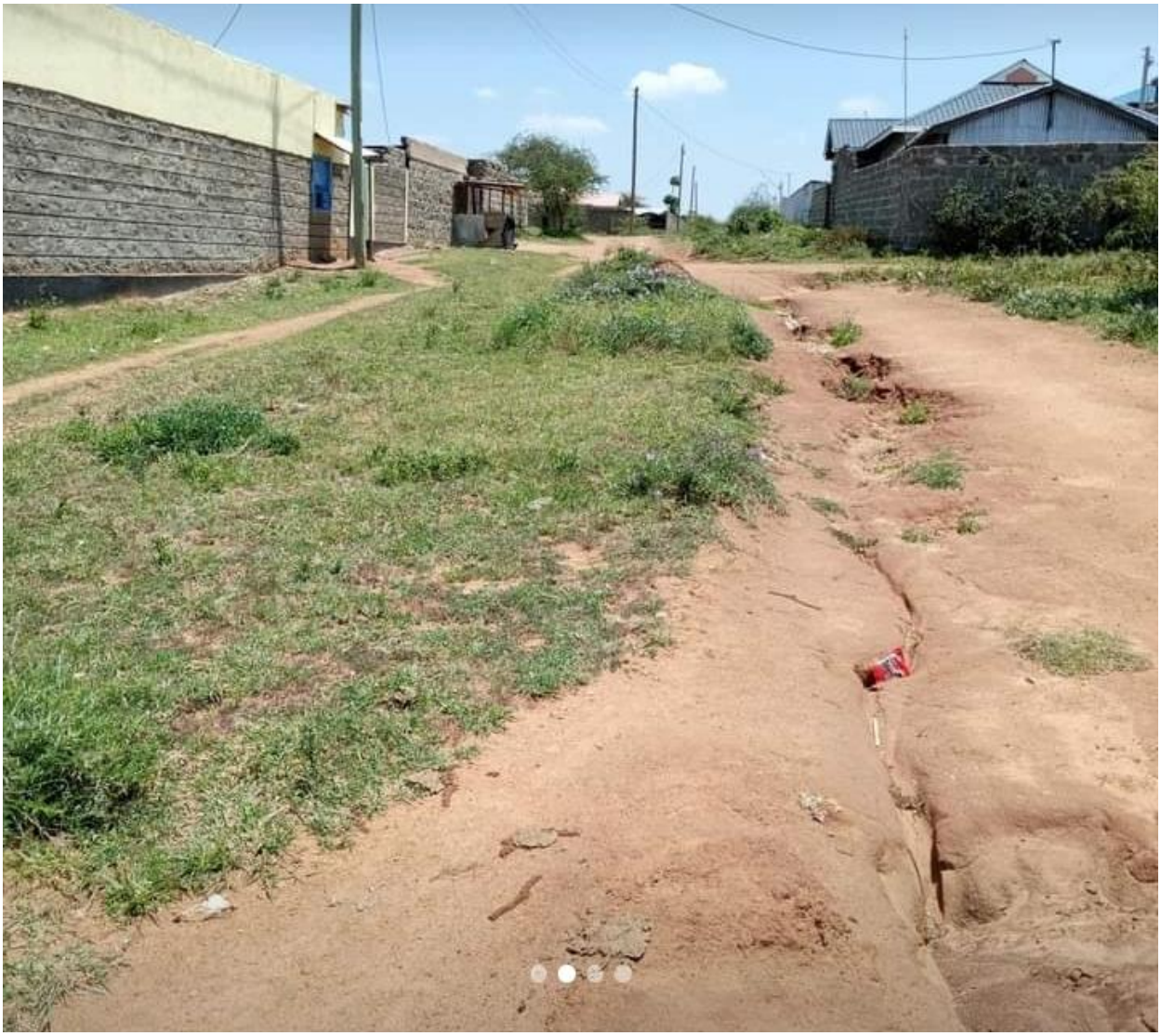
Plate 5.2 represents an image of a road tarmacking project within Kajiado town that is meant to improve road accessibility within the town.

Plate 5.3:Lack of all-weather roads

Source: Field Survey

Plate 5.2 represents the 19% of the impassable roads during the rainy season. The roads pose a great threat to the economic activities as well as social activities since the area is not easily accessible during the wet seasons. Inadequate drainage systems can also result in flooding of the nearby region, which may be hazardous to the health of the locals. Diseases like malaria, and cholera are prone in areas with poor drainage systems.

Plate 5.4:Eroded Road due to lack of proper drainage system

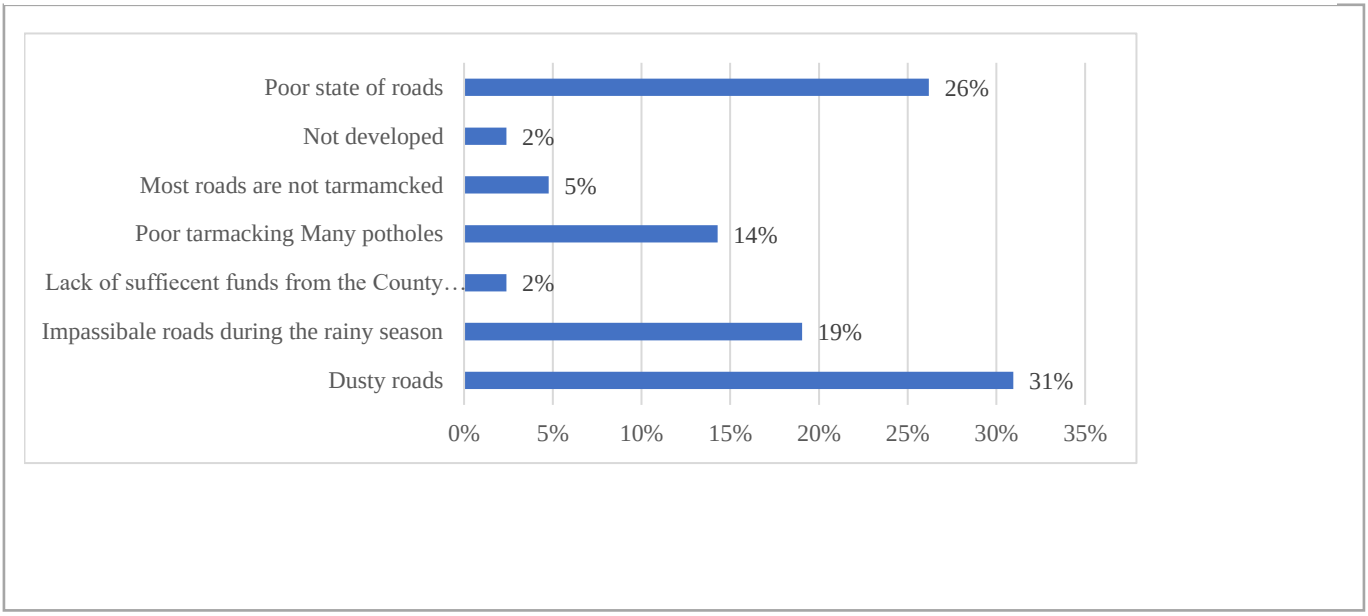


Source: Field Survey

The lack of road drainage systems has led to road degradation within the site. Plate 5.3 represents a road within the site that has been eroded by water streams during the rainy season. The road is inaccessible by motor vehicles which is inconvenient to the area residents.

5.2.4.10 Challenges on Road Infrastructure

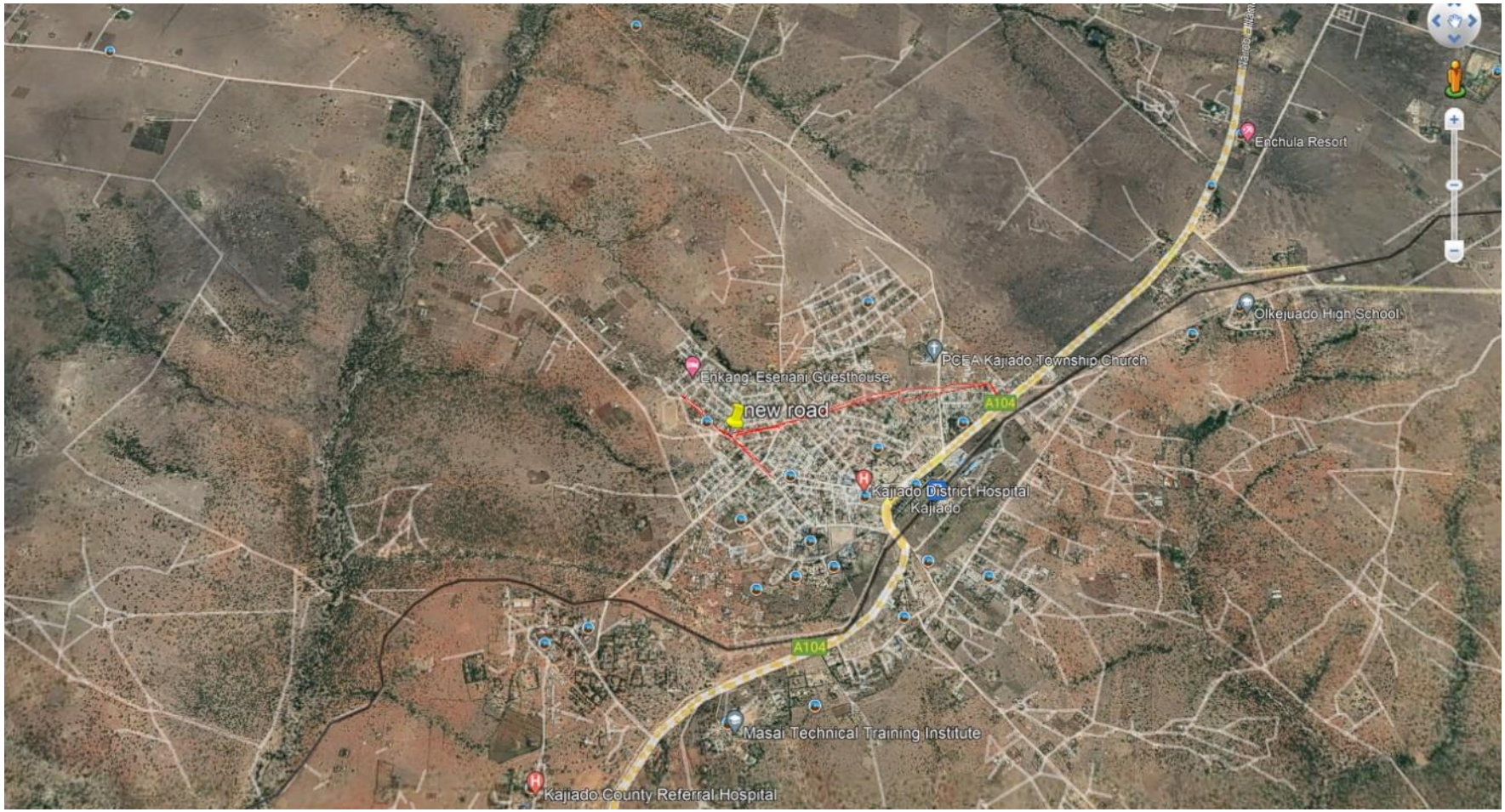
Figure 5.20: Challenges on Road Infrastructure



The study established that dusty roads were the main challenge on road infrastructure at 3% followed by poor state of roads at 26%, impassable roads during the rainy season accounted for 19 % poor tarmacking and many potholes accounted for 14%, un tarmacked roads accounted for 5%, lack of sufficient funds from the county government and lack of road development accounted for 2% each.

Plate 5.5: Eroded Road with a poor drainage system

Map showing the tarmacked road under the Kajiado County government.



Map 5.2: Tarmacked Road under the Kajiado County government *Source: Field Survey, 2022*

The only access road under construction are the ones within the CBD (Municipality) and are under construction by the Kajiado County government. The only kilometers to be done are 34km.

5.3 CHALLENGES IN PROVISION OF URBAN BASIC SERVICES

5.3.1 Political interference

It is imperative at the start to recognize that political association in direction may be either legitimate or disgraceful. Appropriate political inclusion incorporates engagements that give controllers with imperative data with respect to the impacts of administrative choices, hold controllers responsible for their choices beneath the law, give lawmakers with data that they may utilize for making approach choices and illuminating constituents, and take after acknowledged methods with adequate straightforwardness to guarantee that the open is certain that direction is authentically executing setup laws and approaches without partner predisposition.

The utilization of infrastructure presents an opportunity for politicians to cater to the needs of their constituents, creating a motivation for them to intervene in regulatory matters inappropriately. Consequently, a natural conflict arises between political processes and the efficient provision of utility services. Political processes often encourage elected officials to prioritize immediate benefits, while effective infrastructure provision necessitates long-term planning. This long-term aspect of planning renders infrastructure susceptible to opportunistic actions driven by political motives. Given that infrastructure services impact almost every individual, encompassing areas such as water, power, communications, and transportation, people generally desire access to affordable, high-quality service providers.

A perfect example of political interference, is the lack of consultation of the Maasai community residing in Delalekutuh and Ildamat areas to build the Oloolotikoshi Dam and a sewer plant which was expected to lie on the Olkejuado River. The residents declined approving the project from fear of seepage from the facility into a nearby river and well which the people depended on. Farmers from the Dalalekutuk and Ildamat communities living within 100 acres of watering point claimed no proper consultation was done between them and the government.

5.3.2 Funding Constraints

It was evident from the responses by the county officials and the landowners and interviewed during the study, that innumerable challenges have been associated with the low levels of funds allocated for infrastructural service provision. From the field study in 2022, it revealed that the unavailability of funding for infrastructural service provision is a critical challenge. In response to the challenge, the literature review ascertained that the Kenyan government had instituted diverse programs and initiatives to expand infrastructure especially in the Big 4 agenda vision.

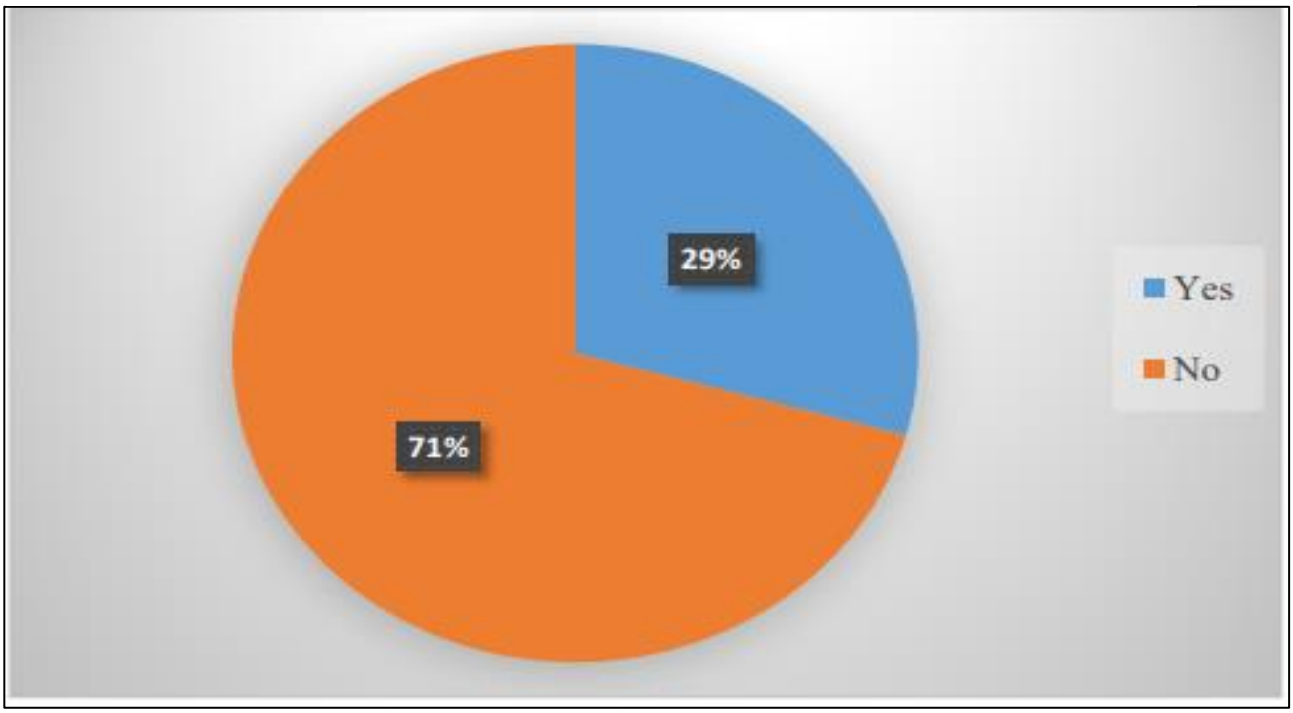
5.3.3 Rapid Urban Developments Way Ahead of Planning.

Infrastructure and service availability, usability, and quality are essential factors in development. By giving communities easier access to healthcare, education, social services, and employment prospects, improvements in these areas can significantly raise their standard of living (Alonso and Sánchez, 2012). County officials discussed a variety of issues related to the poor delivery of urban basic services to the people of Ildamat, where developers have exceeded the county's planners. The field study conducted in 2022 highlighted the practice of prioritizing housing construction by landowners and developers over the development of essential urban services. This has posed a significant challenge for the Kajiado county government in delivering these required infrastructure services. According to Sanchez and others (2017), the Sustainable Development Goals (SDGs) acknowledge the urgent necessity to give basic infrastructural services first priority.

5.3.4 Unavailability of land for Affordable housing

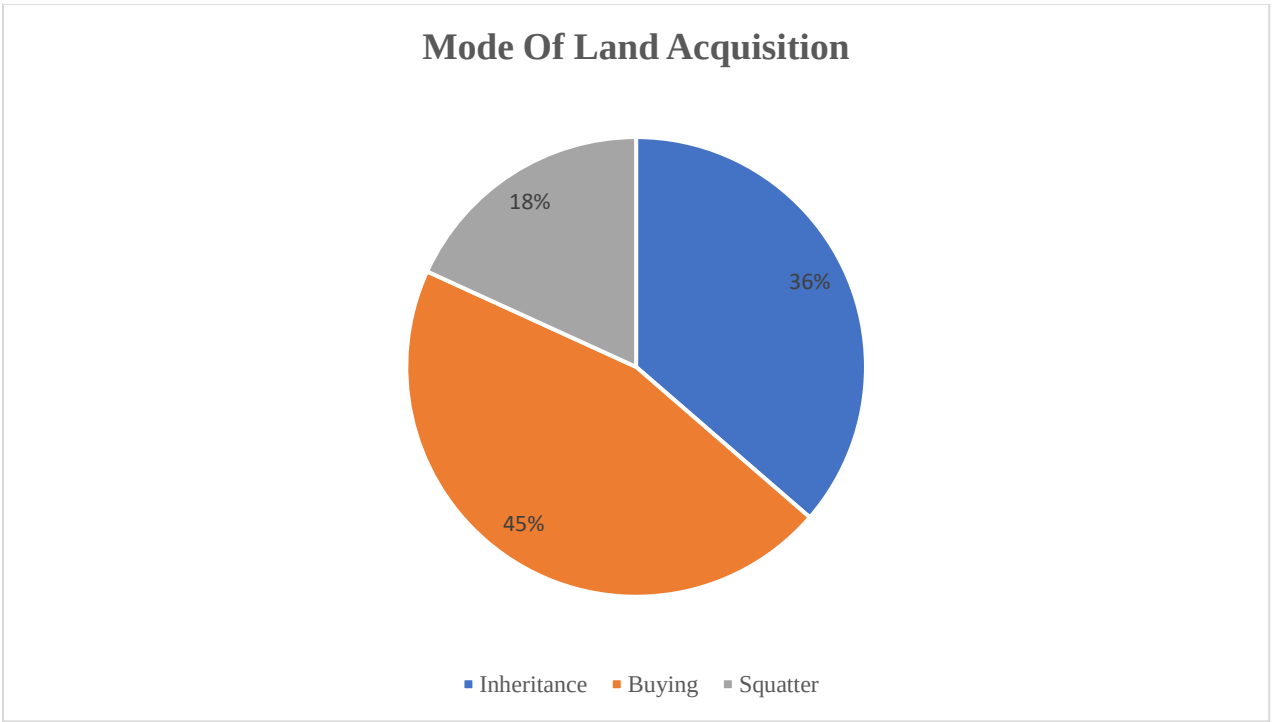
In Ildamat land is under a freehold tenure system. When asked whether they own or rent the houses they live in, only 29% owned houses while 71% have either rented, leased or have been allocated by the government as shown in figure 5.21. This can be interpreted that most of the respondents being tenants who had rented in the area. The finding reveals that land tenure in the area is freehold, and developers must buy land to set up affordable housing projects. According to the field survey, 36% of respondents received their land through inheritance, 45% of respondents purchased their land, and 18% of respondents squatted. As a result, the government must set up various ways to acquire land for the construction of affordable homes in the area.

Figure 5.22: Type of house ownership (rented)



Source: Field survey,

Figure 5.21:Mode of land acquisition

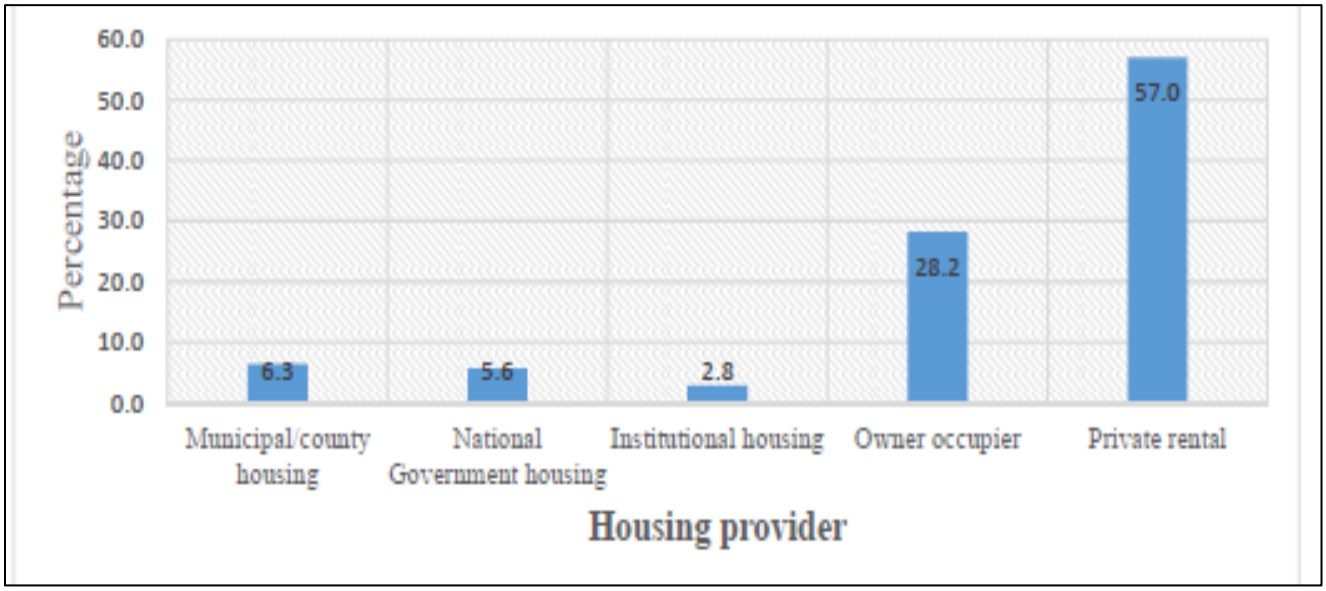


Source: Field survey, 2022

5.3.5 Proportion of housing providers

According to a field research conducted in 2022, the private sector provides the majority of the housing (57%) while owner-occupiers make up 28.2%. the rest of the houses is supplied by institutions which include KCG, national government and other institutions. From the bar graph, the study established that most houses are majorly provided by private owners. This comes as an opportunity to the town residents and from the surrounding areas who may wish to work or reside within Kajiado Town.

Figure 5.23: Proportion of housing providers



Source: Field survey, 2022

5.4 PLANNING AND POLICY INTERVENTIONS THAT WILL ENHANCE PROVISION OF ESSENTIAL URBAN BASIC SERVICES IN RESIDENTIAL NEIGHBORHOODS.

Based on the literature and survey findings, it has been observed that developers tend to develop their lands without waiting for the provision of necessary urban basic services. The County planner has suggested a critical focus on the advancement of institutional frameworks and policies for increasing equal access to urban basic services and raising the general living standards in urban areas in order to address this issue. To achieve this goal, policy and technical assistance are extended to partner cities, as well as regional and national authorities, with the following objectives: firstly, to rehabilitate and expand urban infrastructure and services in line with the increasing demand; secondly, to ensure efficient and effective institutional practices in service provision; and thirdly, to ensure adequate service levels for the urban underprivileged population.

The county government officials offered suggestions in addition to the existing policies for policies that can direct the delivery of urban basic services toward affordable housing. The interviewees opposed the initial suggestion regarding finance. Based on the findings, a policy was developed to ensure that the Kajiado county administration and the federal government collaborated to implement the agenda four plan.

6 CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 SYNTHESIS OF THE FINDINGS

According to the study's findings, there are two categories that may be used to categorize the influence of policy and population growth on the provision of fundamental urban services for affordable housing.

The study's conclusions showed that Ildamat people have a strong need for decent and reasonably priced housing as a result of the region's rapid population expansion. Because of this, the landowners and developers have built homes without first considering the necessities of urban basic services. According to the findings, Ildamat's people lack access to piped water systems, sewage hookups, and a reliable waste management system. The study's findings also show that the majority of household heads in the area spend between Ksh. 2000 and Ksh. 3000 on water purchases for domestic usage. Findings of the study show that most households are not connected to palatable water, the sewer system, and most households use pit latrines. Solid waste collection in the area remains poor and which is characterized by open dumping.

6.2 CONCLUSION

In conclusion, it is evident that the provision of housing is not significantly impacted by the availability of fundamental urban services, particularly water connection and waste management. Other alternative solutions, such boreholes as a supply of water, have been given by the developers and property owners. The study proves that development especially the raw housing and semi structures are ahead of essential basic services provision which need to be provided by the county government. Management is the main challenge with solid waste rather than of lack of resources. Therefore, implementing better policies will help solve this problem thus regulating the way collectors carry out the collection process and handle waste, and the way individuals dispose of the waste.

The development of infrastructure is crucial for overall progress as it establishes the essential prerequisites for a good quality of life, including healthcare, education, water and sanitation, and transportation, among other vital aspects. However, if infrastructure development fails to align

with the needs of the population, it can lead to social tensions and conflicts. To effectively manage the construction of new infrastructure, it is important to enhance infrastructure governance and introduce policy and regulatory changes that promote better integration. Encouraging greater coordination among the government, private sector, and civil society is a key approach to achieving positive impacts on social development and the environment. Other services such as access road are not adequately provided. The roads for accessing the housing areas are in dilapidated state.

Different governments have taken several approaches in provision of Affordable Housing and Delivery Processes of Basic Urban Services. Some of the approaches that have been taken are Direct Government Housing and indirect hosing provision where the government provides services and settlement upgrading. The government have also encouraged the private sector to provide affordable housing by providing them with incentives, they also engage in private public partnerships and joint ventures. All of these have faced difficulties, some of which include a lack of land; Increasing rural-urban migration, high infrastructural costs, and insufficient financing options for low-income housing; housing plans with integrated planning and a time-consuming regulatory approval process Housing information systems are inadequate, and building houses is inefficient.

There are manifold laws that encourage the provision of housing and social services in Kenya. These laws retaliate the importance of these services to the citizens and elaborate on the importance of these services. Several models have been created and adopted to ensure the success of this provisions in Kenya.

6.3 RECOMMENDATIONS

The presence of numerous policies that encourage provision of housing and social services has not been of much benefit. There is need to ensure their implementation and ensure that they are adoptable to different areas that may require different approaches to implement. Kajiado county for instance falls in an area predominantly occupied by pastoralists and with several wildlife corridors. The county needs to formulate laws that conform to these characteristics and specific to different areas in the county.

According to the literature review, the county government of Kajiado should adopt a variety of conceptual models for improving the delivery of basic urban services, including the bottom-up approach, approach-based, decentralized approach, bottom-down approach, and collaborative housing.

Plans made to guide development need to be fully implemented for coordinated development around the municipality. Densification of the core to ensure a compact development is created in the municipality should be implemented to ensure well organized neighborhoods that are self-sufficient and able to support the increase in population in the area as the municipality continues urbanizing as projected by the it is projected that more than 50 percent will live in urban areas by 2030 (Kenya Common Country Analysis, 2018).

It will be possible to stimulate these communities and lower their cost of living if essential urban amenities are provided in strategic locations as outlined in plans. In turn, this will raise the value of the land there and make the area more livable. They will lower the cost of housing provision and make it possible for developers to build affordable housing units.

6.4 AREAS FOR FURTHER RESEARCH

- Land use dynamics

The rapid expansion of informal settlements in sub-Saharan countries, coupled with economic stagnation, has raised concerns about an impending urban crisis. The continued urban sprawl, rising rates of poverty, and the deterioration of the built environment—which includes the lack of basic infrastructural services within the quickly expanding informal settlements—are the root causes of this catastrophe (Kombe & Kreibich, 2000).

- Rapid Urbanization

In the coming decades, there will likely be tremendous expansion in a number of places that already have serious sanitation problems. Peri-urban areas, which are physically and institutionally situated on the periphery of well-established urban centers, are where individuals frequently choose to settle as a result of urban migration. The progressive blending of rural villages into

growing cities or the establishment of squatter communities as a result of incoming immigrants may be examples of these places.

- Landscapes in Peri-urban areas.

Due to their geographic proximity to and interdependence with urban and rural areas, peri-urban zones exhibit complex environmental, economic, and social dynamics. Within these areas, agriculture is vital to preserving the balance and improving the standard of both urban and rural ecosystems. As a result, studying phenomena related to urban expansion and the toughness of agricultural zones is important in understanding the significance of peri-urban areas. These areas serve as spaces where urban and rural dimensions converge, intertwining through trade and reciprocal interactions in both physical and practical aspects of daily life.

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APPENDIXES

Declaration

As part fulfilment for award of a degree of Master of Arts in planning at the Department of Urban and Regional Planning a student is required to conduct a research and write a thesis. I, Mike Karani Reg. No. B63/11959/2018 is conducting research on the topic of "*assessing the provision of basic urban services towards affordable housing: a case of kajiado town, kajiado county*.". This is therefore to confirm that the data being collected is purely for academic purposes and will be treated with strict confidence. Your co-operation is highly appreciated.

APPENDIX I

QUESTIONAIRE FOR HOUSEHOLD

(1) Questionnaire No…… **(2)** Name of the sub location…….

(3) Date of Interview…… **(4)** Contact of the Interviewer……

A. Respondent Information

(5) Gender of the Respondent…… (a) Male (b) Female

(6) Age of the Respondent …….

(7) Marital Status (a)Married (b)Divorced (c) Widow (d)Widower (e) Single

(8) Relationship of the Respondent to Household Head... (a) Self (b) spouse (c) Other, specify……

(9) Highest level of education attained by Household Head

1=No formal Education, 2=Completed primary, 3=Not completed primary, 4=Completed Secondary, 5=Not completed Secondary, 6=Completed College, 7=Not completed College, 8=Completed University, 9=Not completed University

(10) Household size 1=below 5years, 2= 7years, 3=9years, 4= above 10years

(11) What is your main source of income?

i. Employment
ii. Self-employment
iii. Un-employed

(12) 20. What is your income level?

(a)0-10000, (b)10000-20000, (c)20000-30000, (d)30000-40000, (e)40000-50000, (f)50000 and above

(13) If employed, what type of employment?

i. Formal
ii. Informal

(14) How much do you earn every month……..?

(15) Do you own this house YES… NO….

If No what's the status……..

(16) What type of house do you live in?

(a)Single room (b)Double room (c) Bedsitter (d)One bedroom (e) Two bedroom (f) Any other specify……

(17) Where did you get the funds to build the house?

(a)Mortgage (b) Sacco (c) Savings (d) Family (e) others

(18) Do you own the land which the house is built? YES….NO….

(19) How do you acquire the land?

(a) Inheritance (b) Allocation by local authority(c) Buying (d) Other, Specify……

(20) How much did you buy the land?

(21) When did you acquire the land?

(23) When did you construct your house?

(24) Do you pay any rates to the County government?

C. Type of building

Landlord

Type	Tick (appropriately)	Number of bedrooms	Cost
Maisonette(s)			
Bungalow			
Semi-permanent			
Flats			
Raw housing			
Other, specify			

(17) What are the challenges you encountered in acquiring the house?

(18) What are the challenges you encountered during construction?

(19) What do you think can be done to ease and make acquisition cheaper?

(20) What do you think can be done to ease make construction of the house cheaper?

Tenant

(21) Type of housing

(a)Single room (b)Double room (c) Bedsitter (d)One bedroom (e) Two bedroom (f) Any other specify……

(22) How much is your rent……..?

a) Does the rent include other services-waste disposal, water, electricity?

YES……..NO…….

(23) How do you consider your rent (a)affordable (b)very high

(24) What is your main source of income?

iv. Employment
v. Self-employment
vi. Un-employed

(25) 20. What is your income level?

(a)0-10000, (b)10000-20000, (c)20000-30000, (d)30000-40000, (e)40000-50000, (f)50000 and above

(26) If employed, what type of employment?

iii. Formal
iv. Informal

(27) How much do you earn every month……..?

INFRASTRUCTURE SERVICES AND FACILITIES

28. Is your house served by?

Facility/service	Yes/No(for Yes use 1,for No use 2)	If No what is in place
Sewer		
Clean drinking water		

Waste collection and disposal		
Electricity		

29. What is the state of road infrastructure?

(a) Excellent

(b) Good

(c) Fair

(d) Poor

30. Any challenges in state of road infrastructure

……
……

APPENDIX II

THE DIRECTOR PHYSICAL PLANNING KEY INFORMANT GUIDE

Name of Respondent……Date of Interview……

1. Do you have a physical plan for Kajiado town? How current is the plan?

……
……

2. Does the County have a zoning policy?

……
……
……

3. How is the county government addressing the provision of basic services in Kajiado town?

……
……
……

4. Are there challenges experienced in provision of basic services in Kajiado town?

……
……

5. What challenges are you facing in carrying out development control in particular residential areas?

……
……

6. What's the state of service provision and infrastructure (access, water connectivity, sewer, electricity connectivity and waste management) in Kajiado municipality?

……
……
……

7. Which challenges are you facing in service and infrastructure (access, water connectivity, sewer, electricity connectivity and waste management) in these areas?

……
……

8. In your opinion how do you think we can address the challenge of service and infrastructure?

……

9.How was the land availed and developed in urban area?

……

……

10.What can be done to ensure there is effective provision of basic urban services?

……

……

……

11. Kajiado county is keen on implementation of big four agenda

Where is the Location of Affordable housing projects?

……

……

……

……

APPENDIX III

DIRECTOR –COUNTY GOVERNMENT ROADS DEPARTMENT

1. How many kilometers are under the Kajiado County Government? (Ildamat and Delalekutuk)

   ……

   ……

   ……

2. Are there access roads specific for residential areas?

   ……

   ……

3. What are the factors affecting accessibility in terms of road provision?

   ……

   ……

   ……

4. Are there existing programs for opening new roads plus maintenance?

   ……

   ……

   ……

5. What new proposals would you recommend to overcome the accessibility challenges?

   ……

   ……

   ……

   What new proposals would you recommend to overcome the accessibility challenges?

……

……

……

APPENDIX IV

DIRECTOR –KURA KAJIADO COUNTY GOVERNMENT

1. How many kilometers are under the KURA?
   ……
   ……
   ……
2. Where do you source for funds?
   ……
   ……
3. What are the factors affecting accessibility in terms of road provision?
   ……
   ……
4. Are there existing programs for opening new roads plus maintenance?
   ……
   ……
5. What new proposals would you recommend to overcome the accessibility challenges?
   ……
   ……
   ……
6. Are there plans /programs recommend in Kajiado?

……
……
……

APPENDIX V

DIRECTOR KAJIAADO WATER AND SANITATION COMPANY KEY INFORMANT GUIDE

Name …… Date of the interview…….

1. What are the other sources of water within this area and where are they located?

   ……

   ……

2. Are households connected to the supply? Yes No

   ……

   ……

3. What are the planned water reticulation systems to augment the existing supply infrastructure?

   ……

   ……

4. What are the challenges in the water sector within this area?

   ……

   ……

5. What are the possible solutions to these challenges?

   ……

   ……

APPENDIX VI

Authorization letter

University of Nairobi
Department of Urban and Regional Planning
School of the Built Environment
P.O. Box 30197, 00100 GPO Nairobi, Kenya
e-mail:durp@uonbi.ac.ke
Tel. 020 4913526

October 19, 2020

TO WHOM IT MAY CONCERN

RE: KARANI MIKE – B63/11959/2018

This is to confirm that the above named is a Master of Arts (Planning) 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.

We wish to request you to allow him/her collect data from your institutions/households for his/her Masters Project title ***"Provision of Affordable Housing: A case of Kajiado Municipality".***

Any assistance accorded to him/her will be highly appreciated.

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

University Of Nairobi
Department Of Urban and Regional Planning
CHAIRMAN
P.O. Box 30197 - 00100 Nairobi