



KARURI MUNICIPALITY

INTERGRATED DEVELOPMENT PLAN (IDEP)

2023-2028



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PREFACE

The Constitution of Kenya 2010 provides for two levels of government, the National Government and the County Governments. The Urban Areas and Cities Act of 2011 (Revised 2022) gives the classification of Urban areas. The Karuri Municipality was Gazetted in 2018 after meeting the requisite criteria provided in the Urban Areas and Cities Act. The Municipality has made the necessary preparations to formulate instruments to guide its operations.

The Preparation of the Integrated Development Plan (IDeP) is one such efforts of ensuring the Municipality's operations are well planned and coordinated. The Integrated Urban Development Plan for the Municipality of Karuri being one of the major urban centre in the county, presents a major milestone in the operationalization of municipalities and other urban areas in the county. It comes against the backdrop of a myriad of urban challenges including rapid and uncontrolled urbanization, inadequate housing, uncontrolled informal settlements, inadequate services and infrastructure and lack of an appropriate framework to guide urban growth. The IDeP provides a clear road map which other municipalities in the County may emulate.

The process of preparation of the IDeP was participatory as per the statutory requirements. The process involved representation from the public, the County Government, and stakeholders from all wards of the Municipality. The Plan will be an important pillar in guiding economic growth, infrastructural, and social-economic development within the Municipality as it aims to achieve its Vision. I take this opportunity to rally the residents and all actors within the Karuri Municipality to support the implementation of this Plan in line with our desired transformation agenda of our Municipality and hereby commit myself together with the municipal board to appropriate funding for its implementation. I look forward to the Plan's revitalization of the Municipality.

CECM, Lands, Physical Planning and Urban Development

FORWARD

The preparation of the Integrated Development Plan for the Municipality of Karuri has been the top agenda of the Board as the IDeP will guide the Municipality Board in discharging its mandate. The IDeP is the blueprint that the board will use to ensure that services are provided to the residents of the municipality.

The process of preparation of the IDeP was participatory with the involvement of representation from the public, the County Government and stakeholders from all wards within the Municipality. I share my sincere appreciation to the Board members and all other stakeholders who ensured the successful preparation of the Plan. I urge all the residents of the municipality to join hands with the board for the successful implementation of programs and projects proposed in the Integrated Development Plan.

Chairperson, The Municipality of Karuri

CHAPTER ONE: THE BASIS OF THE INTERGRATED DEVELOPMENT PLAN (IDEP)

1.1. Background

The Karuri Municipality covers an area of 81.08 KM² with a population of 236,400 (2019 census). It will be defined by the boundaries of the current Kiambaa Sub County comprising of Cianda, Karuri, Ndenderu, Muchatha and Kihara Wards. The headquarter for the municipality will be within Karuri ward which previously hosted the offices for the defunct Karuri Town Council.

Karuri (also known as Kiambaa) is located in the southern portion of Kiambu County and lies directly Northwest of the city of Nairobi which defines its Eastern and South-Eastern boundaries. It borders the city of Nairobi to the south for about 20 km from Nairobi City, Karuri Town Council to the West, Limuru Municipal Council to the north and Kiambu Municipal Council to the east. The municipality falls within the former Karuri Town Council and was established as a meeting center in the pre-colonial era where Karuri paramount chiefs would meet for deliberations. The town derives its name from the principal chief Karuri Wa Gakure who would travel from Tuthu in the slopes of Aberdare Ranges to meet his counterparts like Kinyanjui Wa Gathirimu.

Its name was derived from the name of a famous elder from Murang'a County called Karuri Wa Gakure who lived in the 18th century. It is said that, men of his time used to pass through this area from their home in the highlands of Mt. Kenya on their way to Maasai land to purchase livestock around 1866 - 1890. He had marked a place where they used to stop over on their long journey and they eventually made it a meeting point where the farming traders would come from the East with their farm produce and meet the pastoralists from the West where they would exchange their produce with livestock in barter trade.

Vision

A Sustainable urban development, transforming lives and offering innovative possibilities

Mission

Deliver world class urban services-

Attract investors

Sustainability

Core Values

- Stewardship
- Integrity
- Inclusivity
- Accessibility
- Reliability
- Professionalism
- Trust

Motto

1. Nyumbani kwa wote
2. Tujenge pamoja
3. The city's gate

1.2 Overview

The Intergrated Development Plan (IDEP) outlines the Karuri Municipality's direction and priorities. The mission, vision, values, and goals are laid out to serve and cater for Karuri residents, visitors, businesses and neighborhoods. The plan sets goals to maintain those aspects of the community that residents, businesses, and employees are most proud of and strives to achieve the new goals articulated by residents and Municipality leaders.

Karuri Municipality is continually faced with demands of growth on budgets, infrastructure, and staffing and the need for a comprehensive and clear Intergrated Development Plan (IDEP). This plan must reconcile the needs of a community with a diverse service offering, as it is challenging to focus on citizens, leaders, and staff in one direction. Therefore, this Intergrated Development Plan (IDEP) aims to facilitate the successful growth of the urban area, and provide a platform to purposefully advance the Municipality as an organization.

1.3 Economy

Karuri Municipality is an commercial an administrative municipality covering an area of 81.08 KM². Due to its proximity to the City of Nairobi (19.1 kilometers), the town enjoys the trickle-down effects of the City. It's almost considered a suburb of Nairobi with most middle class residing in Karuri while they make daily commutes to Nairobi for work. The town is witnessing rapid growth with major road infrastructure and complex real estate developments taking place around and neighboring environs as tabled below.

Ward	Sub-location
Karuri	Kiambaa Njiku
	Karuri
Muchatha	Gathanga
	Muchatha
	Njoro
Ndenderu	Ndenderu
	Karura
	Wangunyu
	Ruaka
Kihara	Mahindi
	Kihara
	Gachie

1.4 Strategic Focus/Agenda for our People

A world class municipality with a stable, progressive, resilient and self-sufficient community with empowered citizenry living in a sustainable environment governed by a competent and dynamic work force with first class residential hub.

STRATEGIC FOCUS AREA

Promote a stable, progressive, resilient and self-sufficient community

Facilitate an empowered citizenry

Build a sustainable Environment

STRATEGIC PRIORITY AREAS / OBJECTIVES

1. Infrastructure
2. Economic Growth
3. Revenue Generation

1. Public Participation
2. Appropriate Policy and Legal Framework

1. Sustainable Land use Planning
2. Solid and Liquid Waste Management

**Create and maintain a competent and
Dynamic Workforce**

3.Strong and vibrant neighbourhoods

1 Well-managed government

2.Corruption Free Municipality

3.Diversity and Inclusivity

CHAPTER 2: CHAPTER TWO: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

2.1 Overview

This Intergrated Development Plan (IDEP) is linked with other Plans namely: The Karuri Municipality Integrated Development Plan, the CIDP III, the Kenya Vision 2030 and its medium-term Plans. The plan also aims to eliminate duplication of efforts and promotion of further integrations of the mentioned plans.

2.2 Linkage with the Kiambu County Integrated Development Plan

Kiambu County CIDP 2023-2027 has programs that are geared towards achieving urban development and urban area management.

Urban Areas and Cities Act (2011) puts emphasis on the need for integrated development planning and the need to align annual budgeting to the plan. In Section 36 (2), it states that “an integrated urban or city development plan shall bind, guide, and inform all planning for development and decision-making and ensure comprehensive inclusion of functions.” These plans should be aligned to the development plans and strategies of the county government (section 37(1)).

The sector plans, urban areas plans are therefore an integral part of the CIDP, and it is in view of this that the CIDP has taken into consideration inputs from the sector plans put in place by the various county departments and the urban areas plans. The CIDP linkage with the sector plans will thus facilitate the implementation of the projects and programmes as planned in those plans.

2.3 Linkage with the Kenya Vision 2030 and its medium-term plans

The Kenya Vision 2030 is the national long-term development policy that aims to transform Kenya into a globally competitive nation with a high quality of life to all its citizens by the year 2030 in a clean and secure environment. The Vision is anchored on three key pillars: economic; social; and political. The Kenya Vision 2030 is phased to be implemented in successive five year Medium Term Plans.

The first, second and third plans covered the period 2008-2012, 2013- 2017 & 2023-2022 respectively and was in a series of successive 5-year plans under which the Kenya Vision 2030

is to be implemented. Like its three predecessors, the fourth medium term plan (MTP 2023-2027) will be guided by Kenya Vision 2030 and the constitution of Kenya and incorporate the priorities outlined in the Manifesto of the incoming government.

2.4. Linkage to Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a set of 17 goals, the world will use over the next 15 years to end extreme poverty, fight inequality and injustice, and fix climate change. Formed through extensive consultation with all levels of society, the SDGs are a comprehensive development plan to leave no person behind. As the excerpt from the 2030 Agenda describes, the SDGs and targets are aspirational and global with each government called to:

- a) Decide how the SDGs should be incorporated into national/County/Municipality planning processes, policies and strategies;
- b) Set their own national/County/Municipality targets guided by the global level of ambition, but taking into account national/County/Municipality circumstances; and
- c) In the implementation of the agenda built on existing commitments and in accordance with international human rights standards for the full benefit of all.

The municipality will focus on SDG no. 11 which is to ‘make cities and human settlements inclusive, safe, resilient and sustainable urban areas which will ensure effective urban development and management.

2.5 Urban Areas and Cities Act. – 2011 amended 2019

Section 20(1)(c) of the Urban Areas and Cities Act 2011 makes it clear that, a board of a city or municipality – including a town; (section 20(2)) shall formulate and implement a Intergrated Development Plan (IDEP). This is not at the discretion (or gift) of the Municipality. It is a mandatory “urban management” responsibility. Section 39 (1) then states: “A board or town committee shall, within the first year of its election, adopt a single, inclusive Intergrated Development Plan (IDEP) for the development of the city or urban area for which it is responsible”.

CHAPTER 3: SITUATION ANALYSIS

3.1 . Population

The current population of Karuri Municipality stands at 234,600 as per the 2019 census. This represents a growth of 55.6% from the 2009 population of 145,053. This growth is mainly driven by rapid urbanisation and increase in human settlements in the Ruaka, Ndenderu and Karura areas. The Municipality continues to experience increased demand for residential land use leading to the uncontrolled conversion of previous agricultural lands (large coffee farms). This phenomenon is common along the Ruaka-Ndenderu-Limuru Road and on the Ruaka, Banana Hill to Kiambaa Road.

Wards	Population		Percentage Change
	2009	2019	
Karuri	30,660	41,879	73.5%
Ndenderu	35,853	67,071	27.7%
Muchatha	26,544	53,168	55%
Kihara	36,877	53,474	69.4%
Cianda	15,119	20,808	63.6%
Total	145, 053	236,400	55.6%

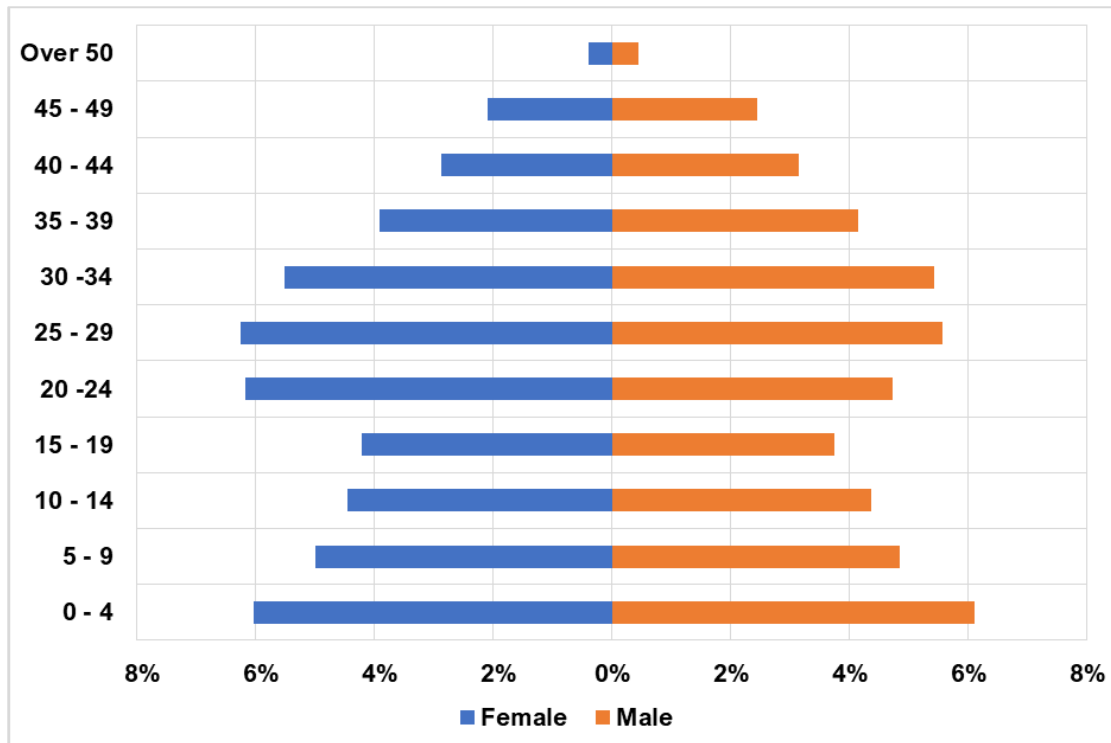
Source: Kenya National Bureau of Statistics (KNBS) Kenya Population & Housing Census 2019

Population density: The population densities for the various wards in the planning area are shown in the table below.

Wards	Population	Area (sq. Km)	Density (pop. Per sq. km)
Cianda	20,808	36.7	567.1
Karuri	41,879	14.5	2,898.2
Ndenderu	67,071	15.0	4,486.4
Muchatha	53,168	11.8	4,521.1
Kihara	53,474	5.4	9,976.5
Total	234,600	83.2	2,819.4

The bulk of the population of both sexes is largely youthful. As per the 2019 census, 38% of the population is below the age of 20. Another 33% is between 20 and 35 years of age. The population between the age of 35-50 years accounts for 18%. Only 9.6% is above the age of 50 years. This is also an indication on the need for facilities that directly provide services for the

youth such as schools, colleges, and healthcare for under-fives, as well as adequate housing for new families as this is the childbearing age



3.2. Physical Infrastructure and Access

3.2.1 Roads, parking facilities, and public transport.

Kiambaa Municipality enjoys good network connectivity to other neighbouring towns and counties. The Municipality is directly linked to Nairobi county, and Kabete, Kikuyu, Limuru, Kiambu, Githunguri Sub-Counties.

At the international level, the Municipality is well connected to Jomo Kenyatta International Airport (JKIA) via the Northern Bypass road which connects to the Eastern Bypass road that is a direct route to the airport. Once complete, the Nairobi Expressway will have a major positive impact since it will link the Municipality and the airport via Red Hill-Waiyaki Way link road.

The Northern By-Pass road and Redhill-Waiyaki Way link road links the Municipality to international roads such as Nairobi-Nakuru Highway (A104) and Thika Super Highway also known as the Great North Road (A2) which are the gateway to other major towns and cities in Kenya and Africa at large.

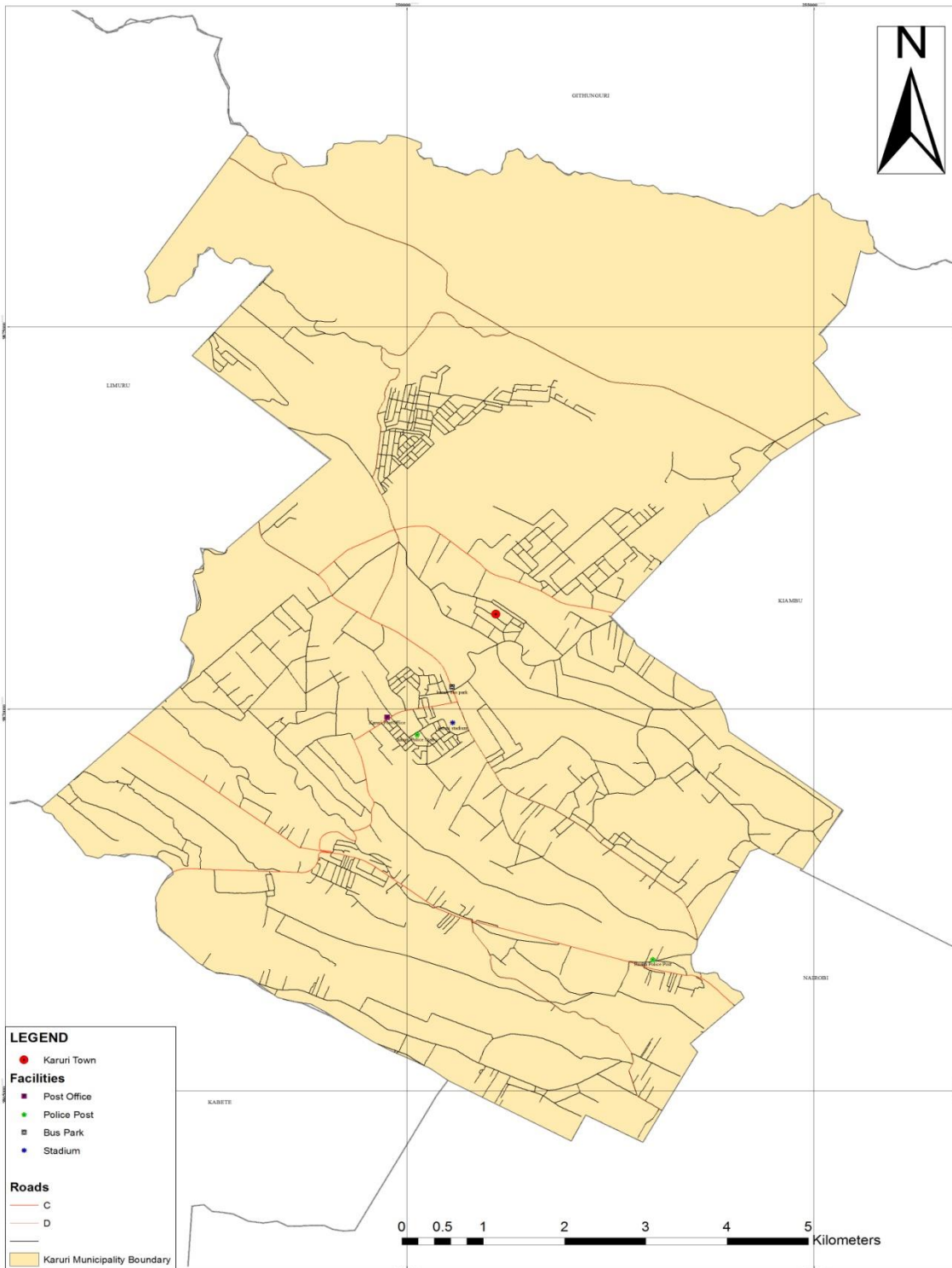
Main roads in Karuri Municipality

Road name	Link	Length within the planning area (km)	Surface type	Condition	Average Daily Trip volumes (both directions)	
					NMT	MT
Banana-Raini Road (D407)	Ruaka to Kiambu through Karuri and Raini.	30	Paved	Fair to the poor (presence of many potholes)	5,141	6,122
Kigwaru-Gathanga Road	Kigwaru (along Banana Raini road) to Gathanga shopping Centre.	4	Paved	Good	-	-
Muchatha-Gathanga Road (E1519)	Muchatha to Gathanga shopping Centre and finally connects to Kiambu road.	4	Gravel	Poor	-	-
Mombasa Road	Mombasa bus stop to the Police Station.	2	Gravel	Fair to poor (poorest during rainy seasons)	-	-
Karuri-Kiamba-Kanunga Road	Karuri to Kanunga through Kiambaa.	6	Paved	Very poor (bitumen is completely worn out)	2,838	4,736
Four Road-Gathanga Road	Karuri to Gathanga.	3	The road is being upgraded to gravel standards	Ranges from fair to poor	-	-
Karuri Shopping Centre Road	Karuri to Banana-Raini road.	5	Gravel	Fair to bad (during rainy seasons)	-	-
Rudi Mashambani/ Nazarene Hospital Road	Raini to Nazarene hospital road.	5	Paved	Good	-	-
Police Station Road	Karuri-Ndenderu	3	Paved	Good	-	-

Road name	Link	Length within the planning area (km)	Surface type	Condition	Average Daily Trip volumes (both directions)	
					NMT	MT
	road to the Police Station.					
Karuri-Ndenderu Road	Karuri to Ndenderu.	10	Paved	Good	7355	11, 035
Muthurwa-Njoro Road	Muthurwa to Njiku.	4	Paved	Poor-bitumen is completely worn out.	-	-
Njoro-Muchatha Road	Njoro to Muchatha then Ruaka.	6	Gravel	Fair	-	-
Ndenderu-Gitaru Road (C63)	Ndenderu to Gitaru through Wangige.	10	Paved	Fair	-	-
Karura-Wangunyu Road	Karura-Wangunyu-Gachie.	15	Gravel	Poor	-	-
Karura Kanyugu-Kihara Road (E425)	Karura Kanyungu-Kihara-Gachie.	25	Paved	Fair	-	-
Kihara Hospital Road	E425-Kihara Hospital-E425(loop)	2.5	Paved	Fair (has potholes)	-	-
Gachie-Gacharage Road	Gachie to Limuru road (at Gacharage).	7	Paved	Fair	-	-
Redhill Road	Gigiri to Gachie.	5	Paved	Fair (has potholes)	-	-
Ruaka River Road (E1517)	Gacharage road to Limuru road.	3	Gravel	Fair to poor (especially during the rainy season)	-	-
Limuru Road	Nairobi-Ruaka-Ndenderu-A104.	15	Paved	Fair (has potholes in some areas)	5,060	9,933
Northern Bypass	Ruaka to Eastern Bypass.	5	Paved	Good	-	-

Source Kiambu County Roads Department

KARURI MUNICIPALITY TRANSPORT FACILITIES



3.2.2 Storm Water Facilities

In urban areas, stormwater management is a challenge due to developments happening in unserved areas hence increasing surface run-off after rains. In Karuri Municipality, stormwater drainage is only found in the urban areas of Karuri, Ruaka, Muchatha, Gachie and Ndenderu.

The systems are, however, inadequate as evidenced by ponding along roadsides and on-road pavements, amongst others. Most of the other areas lack drainage systems.

Storm drainage infrastructure in Karuri.



Source: Field Survey, May 2023

3.2.3 Electricity, Reticulation and Street Lighting.

The main sources of energy used in the municipality of Karuri are:

Main Sources of Energy

Cooking	Lighting
Gas	Electricity
Charcoal	Generator
Firewood	Kerosene

Source: Karuri ISUDP

Electricity provided by KPLC is the main source of energy reaching about 85% of its population. The municipality has a sub-station along the C63(Limuru Road) road at Ndenderu, Gachie and Banana. The Directorate of Public Works and Utility services had, by the FY2022/2023, installed flood masts as follows:

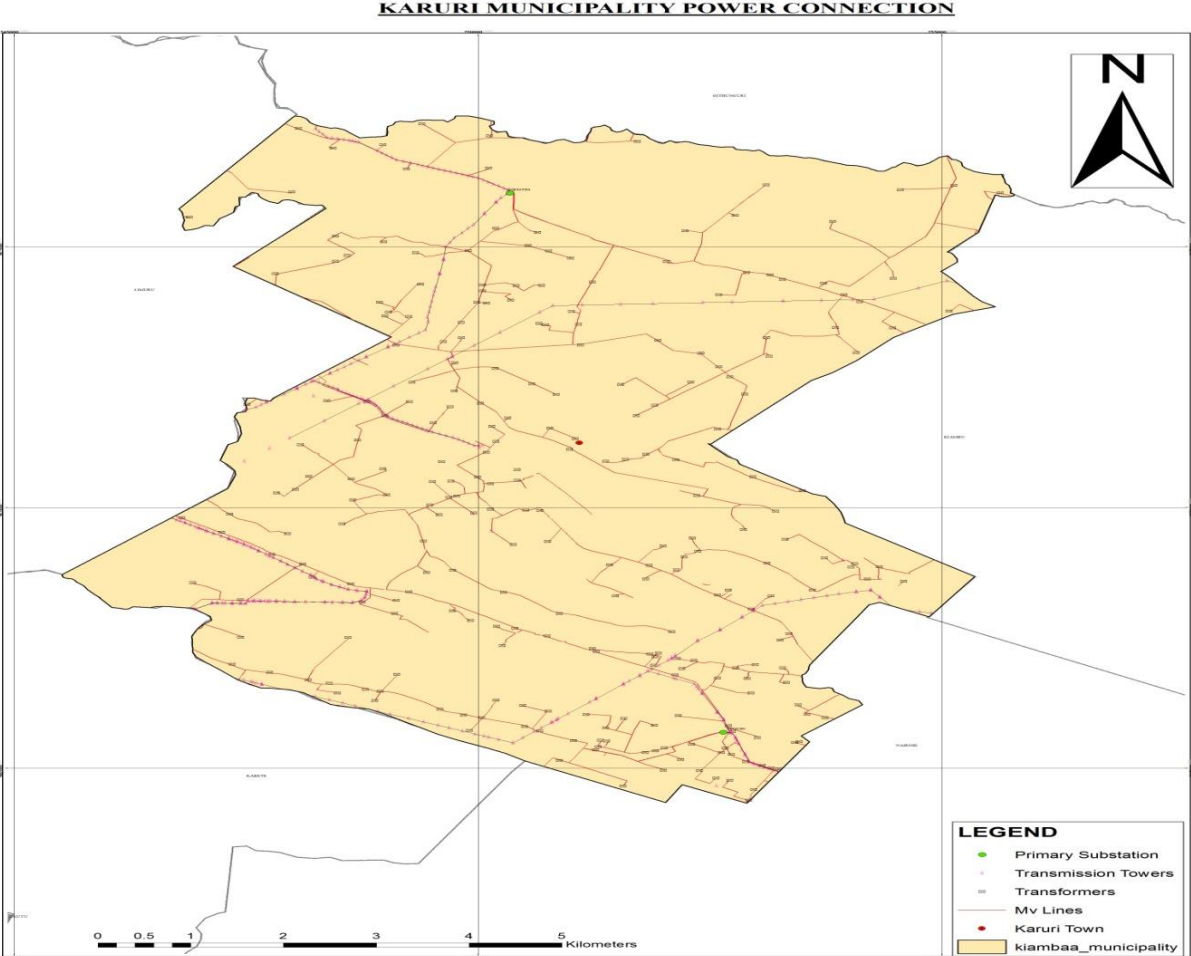
- 1masts of 30M high,
- 1masts of 20M high
- 16 masts of 15M high

Kenya Power has also played a key role in providing 9 other street lighting masts which are 30M high.

KPLC substation at Gachie; and electricity connections within Gachie



Source: Field Survey, May 2024



Source: department of Roads, Transport, Public Works and Utility Services

3.2.4 Fire-fighting and Disaster Management.

There is one fire station in the Banana which is operational throughout; it is supported by 11 firefighters.

Other achievements of the fire and rescue department include: reduction of emergency response time, fire safety and audit, training of fire officers and installation of fire hydrants.

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3.2.5 Water and Sewer Facilities

The main sources of water in Karuri are:

- Underground water (Boreholes) supplying 1,667m³/day
- NCWSC from Sasumua pipeline and provided by Kiambu Water and Sewerage Company) supplying 1,100m³/day; and,
- Rain water

According to the county department of water and sanitation, the Karuri municipality has a population of 73,423 served by the Kiambu water and sewerage company. There are 5,461 connections of which 5001 are active. The total production capacity of the present sources is 1199 m³/day. The year 2035 water demand for Karuri Area is estimated at 28,566m³/day. The future source to augment the present sources and meet the ultimate water demand for Karuri Area is Ruiru 2 Dam with a capacity of 13.2Mm³ to supply 39,744m³/day.

Other sources of water are through Community Water Projects, private boreholes and water vendors.

Kiambu Water and Sewerage Company is expected to be more efficient in water services provision to mitigate waste water disposal challenges. The County Government of Kiambu has engaged the services of technical experts to design for the construction of a sewer line to serve Karuri town. The sewerage collection and conveyance system has been designed for to carry sewage mainly composed of:

- a) Domestic wastewater (includes residential, commercial and institutional wastewater),
- b) Industrial wastewater, and
- c) Unauthorized but unavoidable groundwater infiltration and storm water inflows.

The treatment works has been designed to deal with medium strength sewage with industrial wastewater expected to be pre-treated before draining to the system.

4.0 SWOT Analysis

The table below illustrates a SWOT Analysis to determine the strengths, weaknesses, opportunities and threats in Karuri Municipality, Kiambu County.

Strength, Weaknesses, Opportunities & Threats

Strength

1. Its proximity to Nairobi City hence serving as a gate/exist to Nairobi.
2. Has a reliable transport connectivity network to the city and other municipalities
3. Good arable land
4. Well-developed institutions such as schools and hospitals and tertiary.
5. Sufficient labour force from its high youthful population.
6. Well-developed housing and real estate sector
7. Close proximity to international agencies i.e UN and Embassy's
8. Established municipal structures with a board in place

Weaknesses

1. Poor urban planning and enforcement
2. Insufficient budget, budget plans and development plans.
3. Few staff and personnel to run all function (secretariat).
4. Unskilled work force
5. Dearth of data for planning and decision making
6. Absence of management systems and technology
7. Lack of defined roles and functions to govern the municipality
8. Insufficient urban amenities such as sewer, water, roads, internet and recreational centres

Opportunities

1. Inclusivity to the Nairobi Metropolitan
2. Availability of land for Real estate investment
3. Existing suitable locations for dams construction
4. Ability to increase Revenue collection (building approvals, parking fees, market levies, licenses fees, encroachment etc)
5. Creation of public private partnerships
6. Grow public ownership and confidence through public participation forums

Threats

1. Presence of By-passes lead to social barriers to kins' mates
2. High rate of unemployment leading to increased insecurity
3. Generation of high volume of solid /liquid waste
4. Narrow road corridors due poor land demarcations
5. Lack of PDPs and other
6. Politics

7. More areas opening up for investment due to the ongoing road network expansion
8. Existing development plans at county and national level

CHAPTER 4: DEVELOPMENT PROPOSALS, STRATEGIES AND MEASURES

4.1 Overview

From analysis and synthesis of the primary and secondary data, the various problems and opportunities are identified. In order to bring sustainability among other desired aspects, the plan proposes the following interventions to improve, rectify, and prevent the occurrence of undesirable growth and development in the town. An addendum of the concepts, strategies and proposals together with their remarks.

The main objectives of this plan are to:

- Provide a basis for infrastructure and service provision for present and projected population over the plan period,
- Tackle environmental issues and concerns affecting the towns.
- Propose development potentials of the planning area (social, economic).
- Provide a basis for development control and investment decisions.
- Allocate sufficient space for various land uses to ensure efficient function and convenience of users and accommodate future growth.
- Uphold innovative civic and urban design that enhances the character and form of the town.

4.2 Development Goals

The main goal is to achieve the objectives of this plan through strategies that will give guidelines and policies which if implement result in the attainment of Karuri municipality Vision.

The main goal can be broken down and related to the Nairobi Metro 2030 Strategy as seen in the table below.

Key Result Areas Nairobi Metro 2030 Strategy	Local Development Goals
	Protect the integrity and sustainability of the natural environment. Protect productive agricultural land

Building an internationally competitive and inclusive economy for prosperity	Support economic and social development and growth and the creation of employment opportunities
Deploying world class infrastructure and utilities for the region	Provide efficient infrastructure networks and services
Optimizing mobility and accessibility	Improve movement and connectivity
Enhancing the quality of life and inclusiveness in the region	Create an efficient and integrated urban environment
Delivering a unique image and identity through effective place branding	Create a recognizable identity for the town
Ensuring a safe and secure region	Create an attractive and safe town
Building world class governance systems	Strengthen the capacity of the land management system

4.3 Guiding principles

This section sets out the overarching guiding development principles that inform the Integrated Development Plan for Kiambu Town. Principles are the fundamental norms, rules, or values that represent what is desirable and positive for the development of the planning area, and act as yardsticks for determining what is right and what is wrong.

4.3.1 Sustainability

Sustainability refers to the preservation of renewable and non-renewable environmental resources, while at the same time promoting economic and social sustainability. A sustainable town reduces the impact on the environment through reducing the use of resources and the production of waste while improving the liveability of the settlement.

4.3.2 Resilience

Resilience is about the town's capacity to withstand shocks and disturbances such as climate change or economic crises, and to use such events to catalyse renewal and innovation. Resilient towns are those places that are able to quickly adapt to changing circumstances, albeit economic, climate or social conditions. Resilience is about the protection of natural

infrastructure (rivers, wetlands etc.) but also about how we design and build the man-made environment to allow for (i) protection against outside shocks as far as possible, but also (ii) flexibility and addictiveness in the face of change.

4.3.3 Equity

A town that is equitable is one where all residents enjoy (i) fair access to livelihood, education, and resources, (ii) full participation in the political and cultural life of the community, and (iii) self-determination in meeting fundamental needs.

4.3.4 Integration

Integration, whether spatial, sectoral or socio-economic, is fundamental to sustainable development, i.e.

- Spatial integration refers to the proximities and functional relationships between different functions and elements within a particular area, with the aim of creating the greatest degree of synergy.
- Socio-economic integration refers to the proximity of different socio-economic groups so as to create a socially cohesive community.
- Sectoral integration refers to the vertical and horizontal integration among the various levels of government and agencies involved in spatial governance.

Development proposals need to ensure integration of all development issues including transport, planning, economic development etc.

4.3.5 Accessibility

Accessibility can be defined as the ease with which a building, place, facility or service can be reached by people. An accessible town is one where there is equitable physical and functional access to services, facilities, employment, training and recreation, including a choice of safe and efficient transport modes (e.g. public transport, private vehicle, bicycle, walking and wheelchair). Accessibility also comprises of convenient and dignified access to private and public spaces.

4.3.6 Safety

Residents, businesses and visitors must feel safe and secure in the area. Active policing and surveillance is important, but the spatial structure and functionality of the town should also allow for passive security measures. Safety is supported when people can see potential threats, judge risks, escape if a threat is perceived, seek assistance and give aid if needed. This is supported by views into and through spaces; by multiple access routes into and out of spaces; by mixed land uses that mean other people are around all the time; and by windows and activities in buildings located to overlook streets and other public spaces.

4.3.7 Sense of place

Sense of place refers to an appreciation for the distinct character of a town. This distinct character is a result of a combination of all aspects of a place that together makes this place distinct from anywhere else. Places are valued because of the individual qualities that make them distinctive from other places, i.e. because of their character and identity.

4.3.8 Spatial development concept

The spatial development concept indicates the development approach (or model) that will be followed in the development of the town and provides a spatial interpretation of the development vision and goals by means of a high-level desired spatial structure for the planning area comprising the major structuring elements.

4.3.9 Land Use and Management Policies

The municipality continues to witness high rates of conversion of agricultural lands to urban developments such as residential and commercial uses. Most of these developments may be observed in the ribbon pattern of urban developments along Ruaka-Limuru road, Banana-Raini road and Kihara-Gachie-Karura road. This may be attributed to the increased demand for housing. This has led to an increase in land prices which is, in turn, encouraging the subdivision and conversion of land without due consideration to planning and development standards. The subdivision of land into narrow strip parcels and small plots presents an economic threat to land use. There are also few public spaces for recreation and other services, hence the need to enforce planning standards when subdivisions are being carried out.

4.4.1 Human Settlements and Housing

Human settlements in the Municipality are mainly along major road corridors and clustered settlements within specific nodes namely, Karuri, Ruaka, Muchatha, Ndenderu, Gachie and Kawaida. The urban limits for these nodes are not well defined due to urban sprawl into peri-urban areas. To control these, the urban edges need to be defined through appropriate planning and development control.

About 70% of the population in the municipality live in rented housing. The housing sector is private-led with private individuals contributing 99% of the housing stock in the area. The relevant authorities can encourage this by creating a conducive environment for more and continued investments in this sector.

4.4.2 Physical Infrastructure

In terms of regional connectivity, the Municipality is well connected with good roads making it attractive for investments in real estate. However, the feeder roads in the Municipality interior areas are in fair to poor condition hence encouraging development to concentrate along transportation corridors.

About half of the households in the do not have piped water and are forced to rely on other sources such as shallow wells that may not be safe due to contamination by pit latrines. In addition, waste collection is still low at 35%. Residents are forced to rely on unsafe methods of waste disposal.

The Municipality enjoys almost 90% connection to the national grid in terms of energy. There is still low adoption of green sources of energy like solar and biomass. Major ICT companies provide their services in the Municipality thus increasing opportunities for businesses and innovations.

4.4.3 Social Infrastructure

The Municipality is endowed with good coverage of education facilities for both primary and secondary school levels. Private sector investment stands at 60% of both ECDEs and primary schools. Notably, these are market-driven and may not be accessible to all segments of the population, especially the poor households. Thus, there is a need to provide and improve public facilities within the Sub-County. It is important to note that the Municipality has only two vocational institutions forcing students to seek training in the neighbouring sub-counties or counties. The Municipality has only one stadium in Muchatha hence the need to provide more recreational facilities.

4.4.4 Economic Analysis

The agriculture sector continues to face threats from urbanisation as more conversion of land is undertaken to respond to the demands of a thriving real estate sector. Coupled with uncompetitive prices for farm produce, more farmers are being discouraged from investing in the sector. This is despite the area having fertile soils and a favourable climate.

Other key emerging economic sectors include trade and commerce, transport, light industries mainly in ‘jua kali’ sub-sector. The area has few agro-based industries in the tea and dairy sector.

4.5: Stakeholders Priority Projects

During the various stakeholders' workshops some of the concerns and projects which they raised are summarised in the table below:

Sector	Goal	Proposed Projects
Environment	To ensure there is a clean environment in the entire Sub-County.	<ul style="list-style-type: none"> • Provide bio-digesters in places where septic tanks and sewer lines are not adequately provided; • Provide clean and safe drinking water to the residents; and • Planting of trees in the entire Sub-County.
Local Economy	To provide a safe and secure environment, and enabling economic infrastructure for business undertakings	<ul style="list-style-type: none"> • Allocate land for new agro-industrial areas in Raini and Kawaida; and • Construction of modern markets in the major centres within the Sub-county.
Education	To improve education quality and equip youth with technical skills.	<ul style="list-style-type: none"> • Improve the infrastructure in the existing schools; • Enhance human resources to deliver quality education; and • Construct more schools and technical training colleges in the area.
Health	To provide quality essential health services.	<ul style="list-style-type: none"> • Construct Level III facilities in every ward; and • Construct a teaching and referral hospital in Kiambaa Sub-County.
Housing	To provide quality and affordable housing.	<ul style="list-style-type: none"> • Construction of affordable and quality houses.
Water Supply	To ensure there is adequate, reliable and clean water supply in the entire Sub-County.	<ul style="list-style-type: none"> • Construction of a reservoir for storm and rainwater to cushion against water shortage; • Put up a dam in the area for irrigation; • Educate the community on water storage; and • Ensure there is piped water in all households within the Sub-County.
Parks & social halls	To provide adequate public parks and playgrounds.	<ul style="list-style-type: none"> • Construct modern stadiums and public parks; and • Build at least one community hall in all wards.
Transport	To provide quality, affordable and safe transport infrastructure and transport services which will ensure there is seamless connectivity within the Sub-County.	<ul style="list-style-type: none"> • Maintenance of all roads; • Construct matatus/bus termini in Karuri, Ruaka, and Muchatha; • Construct boda-boda sheds in strategic locations; • Provide lighting along roads; • Provide all roads with good drainage system; and • Provide urban areas with good NMT facilities.

Sector	Goal	Proposed Projects
Energy	Access to affordable, reliable, and clean energy for all residents.	<ul style="list-style-type: none"> • Connect all households, businesses, and markets with electricity for promotion of a 24-hour economy; • Carry out maintenance work on power lines; • Erect high fly masts in security risk spots in the Sub-County; • Construct additional power sub-stations; and • Provide streetlights on all major roads and other security risk hotspots.
ICT	Ensure there is proper network coverage, which is reliable, fast and affordable to all Kiambaa residents.	<ul style="list-style-type: none"> • Construct ICT centres in every ward and liaise with the service provider for connectivity; • Provide Wi-Fi connections in public institutions and places; • Establish an ICT village in every urban area/ward; • Provide fast systems/speed systems for use i.e., 4G Network; and • Connect homes/institutions by fibre optics.

4.6 Strategic interventions

Strategic development in the context of the planning area refers to management activities that are used in Karuri municipality to set priorities, focus energy and resources, strengthen operations, and ensure that all stakeholders are working toward common goals.

4.6.1 Urban Growth Nodes

Nodes are zones of intensified human activities with significant levels and tangible trends of development. According to Regulation 1315/2013 of the European Union, an urban node is an area where transport infrastructure such as ports including passenger terminals, airports, railway stations, logistic platforms and freight terminals located in and around an urban area, is connected with other parts of that infrastructure and with the infrastructure for regional and local traffic. Growth nodes have great potential as the main hub for connecting the regions to the core/principal towns and they determine the direction of growth of a region.

In the municipality the major growth nodes are Ruaka, Gachie, Ndenderu, and Karuri/Banana due to their strategic locations, centrality and economic capacity and potential. In terms of land-use, these nodes are mainly residential in nature with central zones being commercial. Banana,

also known as Karuri, is the largest commercial and administrative node within the area hosting municipality headquarter offices. It has major public facilities and infrastructure offering services to the residents.

Other mixed-use and commercial zones include Ruaka, Gachie, Muchatha and Nnderu which are predominantly residential. Considering that they are centres of attraction to people, the nodes should be properly planned to enhance the quality of life amongst the residents of the municipality.

4.6.2 Protect Environmentally Sensitive Areas

Environmentally sensitive areas are those which need special protection because of their landscape, wildlife, or historical value. They include rivers, forests, and rocks. In the municipality, rivers are the main environmentally sensitive areas and are prone to encroachment and pollution. This Idep therefore, seeks to ensure that all rivers are buffered according to existing legal provisions to enable their conservation. The table below shows the Environmental Social Management Plan for Karuri municipality Idep.

Environmental Issues

Types	Causes	Effects
Water pollution	<ul style="list-style-type: none"> • Disposal of household, commercial and industrial effluent into the rivers like Rui-Ruaka, Ruini and Karura; • The use of septic tanks for liquid waste disposal leads to contamination of underground water; • Use of inorganic fertilisers in agricultural practices; and • Dumping of solid waste such as plastics as well as food waste in water bodies. 	<ul style="list-style-type: none"> • Waterborne diseases such as typhoid, cholera and bilharzia; and • Loss of flora and fauna in the water bodies.
Air Pollution	<ul style="list-style-type: none"> • Vehicular emissions; • Indoor pollution due to use of fossil fuels and biomass (charcoal, firewood and kerosene); • Dust from construction sites; • Bush burning in the upper parts of the Sub-County; and • Illegal dumping of solid and liquid waste causing a foul smell. 	<ul style="list-style-type: none"> • Respiratory diseases; • Eye infection due to indoor pollution; • Withering of crops and vegetation especially along the roads; and • Contribution to depletion of the ozone layer (global warming).
Land Pollution	<ul style="list-style-type: none"> • Intensive use of farm inputs such as fertilisers, chemicals and pesticides; • Dumping of chemicals hazardous waste mainly in the light industries; and 	<ul style="list-style-type: none"> • Decline in land productivity and value; and • Unsightliness.

	<ul style="list-style-type: none"> • Unregulated disposal of construction and industrial waste. 	
Encroachment of fragile ecosystems	<ul style="list-style-type: none"> • Cultivation on riparian land; • Construction along the riparian reserve; • Deforestation; and • Quarries and extraction. 	<ul style="list-style-type: none"> • Flooding; • Loss of flora; and • Pollution of rivers.
Soil erosion	<ul style="list-style-type: none"> • Human activities on steep slopes. 	<ul style="list-style-type: none"> • Loss of fertile agricultural land; and • Siltation.
Flooding	<ul style="list-style-type: none"> • Lack of drainage channels in some areas; and • Blockage of drainage channels as a result of poor solid waste management and lack of routine maintenance. 	<ul style="list-style-type: none"> • Destruction of property.

4.6.3 Enhance the Comparative Advantage of Ecological Zones

Ecological zones are defined as large bio-geographical units of land and water that are characterised by their distinct species and communities. The major eco-zones in the municipality may be divided into smaller eco-regions which share similar natural communities, climate, meteorological factors, topography, elevation, soil types, edaphic factors, and/or other physical characteristics. For example, high lying areas of Cianda support tea plantation while the beautiful greenery and scenery promote ecological tourism. These areas should be protected and valued through enriched use of the land and promotion of tourism activities on the beautiful sceneries.

On natural open spaces;

- All-natural open spaces should as far as possible be linked to form a continuous system of green open space through the demarcation of green corridors throughout the urban environment, which are then linked to public open spaces
- The natural open space system must be kept visible and “public” and not be privatized in development enclaves. This is important from both a social equity perspective (i.e. that members of the community and visitors can have the visual enjoyment of the open spaces) and from a safety perspective (i.e. that these areas which could potentially become dangerous areas can always be monitored by the public)
- All land uses along green open spaces must face onto the open space with active facades including windows and/or balconies and visually permeable fencing. No high walls may be permitted.

- Pedestrian and cycling paths should as far as possible be incorporated into linear open space systems to increase the recreational value of the open space system and also to enhance safety through increased activity in or along the open space system

4.6.4 Transit-Oriented Development (TOD)

Ndenderu town, located at the junction of Limuru Kikuyu/Gitaru road, and Banana/Karuri town situated at the junction of Banana-Raini and Kanunga-Karuri roads are appropriate cases for applying TOD in the municipality. Developments within these intersections should be intensified to improve accessibility and convenience of the users. The TOD model will lead to guided densification and development control around key mass transit stations such as Ndenderu, Karuri/Banana, Gachie, Ruaka and Muchatha thus enhancing the economic and social viability of businesses and commercial activities in the municipality.

4.6.5 Decentralised Planning

Decentralised planning is a type of planning based on devolution of functions and resources to the lower levels of society and at the same time ensure that the decision-making process is distributed to grass-root levels to facilitate easier access to public goods and services. Decentralised planning in the municipality would mean devolution of more resources ranging from human, financial and technical resources to enhance administration, implementation, and improved planning to the ward/village levels. Zoning plans, action plans, resource area plans, renewal/redevelopment plans, and infrastructure plans are types of plans relevant to interpret, articulate and guide this process. According to the Constitution of Kenya (2010), devolution of services is a right to all citizens and refer to the distribution of services from the national government to counties, wards, and villages. This strategy is, therefore, consistent with the Constitution and should be the hallmark for all development initiatives in the municipality.

4.6.6. Compatible Mixed-use Development

Mixed-use development is characterised as pedestrian-friendly development that blends two or more land uses such as residential, commercial, cultural, institutional, and/or industrial uses. Compatibility ensures that development is orderly and harmonious. Mixed-use is one of the ten principles of Smart Growth, a planning strategy that seeks to foster community design and development that serves the economy, community, public health, and environment. The municipality should embrace a compatible mixed-use development strategy that facilitates design and development that will guarantee an enhanced economy, community well-being, public health, and a dignified physical environment.

4.6.7 Control of Urban Sprawl

Urban sprawl or suburban growth describes the expansion of human populations away from central urban areas into low-density, mono-functional, and usually car-dependent communities, in a process called sub-urbanisation. Controlled urban sprawl ensures that development, particularly along major roads, and highways are orderly and regulated. The municipality currently is witnessing ribbon development along its major roads. Future un-controlled development can ruin the ambience of the municipality. In order to curb such development, the proposal is that a peripheral green belt is maintained wherever possible unless land conversion is warranted under special circumstances.

4.6.8 Conservation of Agricultural Land

According to the Food and Agricultural Organisation (FAO), conservation of agricultural land is a concept for resource-saving agricultural production that strives to achieve acceptable profits together with high and sustained production levels while concurrently conserving the environment (FAO 2007). Agriculture is the main economic activity within the municipality, and this means that development is closely linked to the agricultural sector. It is, therefore, important for the existing tea and coffee farms in the municipality to be preserved and conserved to boost more sustained development, while at the same time supporting subsistence/small scale agricultural activities.

4.6.9 Quality Living

Quality living is the general well-being of individuals and societies, outlining negative and positive features of life. It observes life satisfaction, including aspects such as physical health, family, education, employment, wealth, safety, and security to freedom, religious beliefs, and the environment. The planning of Kiambaa Sub-County will take into account not only the physical layout and architecture of housing blocks but also how schools, shops, medical facilities, parks, places of worship, and offices are within easy access. Designated residential areas will be well-served by proposed public transport and road networks. There will be more ground level open spaces and parks, and community spaces at intermediate levels to facilitate community bonding.

4.7 PRIORITIZATION OF PROJECTS PER WARD

Upgrading Karuri CBD

Components	Cost (Kshs)	Lead agency
1. Expansion and re-organisation of the Banana town bus park.	20,000,000	CGK
2. Pedestrianisation of selected streets in the town.	15,000,000	CGK
3. Installation of waste receptacles in Karuri.	3,000,000	CGK
4. Establishment of NMT facilities including pedestrian walks and bike lanes.	50,000,000	CGK
5. Redesign and construct selected streets as one-way streets.	60,000,000	CGK

Upgrading of Ruaka CBD

Components	Cost (Kshs)	Lead agency
1. Mapping, rehabilitation, and greening of Rui-ruaka riparian reserve	15,000,000	CGK, NEMA
2. Provision of road signage	3,000,000	CGK, KURA
3. Provision of streetlights	10,000,000	CGK
4. Provision of NMT facilities - walkways and a footbridge	50,000,000	CGK
5. Construction of a bus park	30,000,000	CGK
6. Construction of market	100,000,000	CGK

Kawaida, Ndenderu, Muchatha, and Gachie

Components	Cost (Kshs)	Lead agency
1. Construct a bus park in Kawaida	20,000,000	CGK
2. Construction of market in Kawaida	10,000,000	CGK
3. Provision of NMT facilities in Gachie, Muchatha, Ndenderu, etc.	50,000,000	CGK
4. Provision of solid waste transfer stations in Banana, Karuri, Ruaka, Gachie, Kawaida, Cianda, Ndenderu, Kihara	10,000,000 per station = total (80,000,000)	CGK

CHAPTER 5: PLAN IMPLEMENTATION, MONITORING AND EVALUATION

5.1 Overview

The integrity and impact of the idep will be determined by consistent decision-making supporting the agreed long-term urban structure and form (what growth and where?) and managed in terms of prioritizing development based on the spatial transformation agenda and approach (when and how?). The most important test of its success is the planning system's willingness to implement policies and plans. To this purpose, this chapter aims to carry out a road map for successful implementation monitoring and evaluation of proposals.

5.2 Plan Implementation

The implementation of the plan should be done by following a plan implementation matrix, with the funding budgeted for in the Capital Investment Plan, and monitored to ensure that deliverables are being achieved with the monitoring and evaluation matrix. Evaluations should be carried out to also ensure that indicators that will help the County Government to achieve their visions are being attained. And in order to restructure the programme activities, it will be necessary to carry out a review after 5 years. The programme's progress should, at reasonable intervals, be reported to the stakeholders.

5.2.1 Implementation Matrix

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
Natural Resources & Environment <ul style="list-style-type: none"> • Sustainable use and management of natural and environmental resources; and • Climate change adaption and negative environmental impacts mitigation. 	Optimisation of natural and artificial water sources.	Rainwater harvesting in schools, homes, and dispensaries (water tanks).	1-2 years	20,000,000	CGK Community, Private sector NGOs, CBOs
	Promotion of renewable energy.	Biogas, solar etc.	1-2 years	50,000,000	CGK Households Private sector
	Education awareness on waste management.	Workshops, radio, and print media.	1 year	10,000,000	CGK NGOs, CBOs, Community,
	Conservation programme on the development of natural features.	Establishment of tree nurseries and tree planting in Kiambaa Sub-County Wards.	1-2 years	5,000,000	CGK Community, CBOs, NGOs
	Preservation of open spaces, agricultural areas, and landscaped recreational areas.	Designation of agricultural land buffer in Cianda tea and coffee plantations. Designation of riparian buffer on River Ruini, RuiRuaka, Karura and Thigiril.	1-2 years	10,000,000	CGK National Government, NEMA, Farmers,

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
Social Infrastructure <ul style="list-style-type: none"> • Accessible and affordable social services and infrastructure; and • Foster cultural relations and conducive social environment. 	Establishment of social halls and furnishing the halls.	Construct and equip 3 social halls in the Sub-County.	Year 3	30,000,000	CGK Community, Development Partners
	Rehabilitation of sports ground.	Rehabilitate the stadium in Muchatha. Upgrading of Kawaida playground to become a public stadium.	Year 3	30,000,000	CGK, Community, CBOs, NGOs,
	Construction of police station and police residence.	Police station and police residence in Muchatha and Police station and police residence in Muchatha and Cianda.	Year 2	50,000,000	NG CGK, Financial Institutions
	Installation of streetlights.	Installation of street lights in Kawaida, Ruaka Nderu road, Ndutas, Gatono, Nazareth and Cianda junction, Muchatha primary, Karuri Bishop road, Muchatha trading centre, Gathanga trading centre, Power Kiuna road, Mugacha, Jakai, Kihara Hospital, Kawaida Milimani, Kawaida Njoro, Kirihinya Kaspas and Kaspas main road.	Continuous	100,000,000	CGK Kenya Power and Lighting Company (KPLC)
	Construction of village polytechnics and equipping the polytechnics.	3 vocational training centres.	2-3	300,000,000	NG, CGK Development Partners,
	Construction of a library.	1 library (Karuri Community Library).	3	50,000,000	CGK Development Partners
	Construction of children's home.	Children's home establishment in Kiambaa.	2	20,000,000	CGK CBOs, NGOs,
	Densification of schools.	Increase the number of classrooms in the existing schools.	2,3,4 and 5	100,000,000	CGK NG-CDF
	Construction of a fire station and a disaster rescue centre.	Fire station and disaster rescue centre in Karuri.	1	30,000,000	CGK.

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
	Upgrading and expansion of health facilities.	<ul style="list-style-type: none"> Provision of a dispensary in Kawaida, equipping the existing health facilities; Construct and fully equip labs; and Constructing a modern maternity wing in Karuri, Ruaka, Raini, Ndenderu and Muchatha. 	2, 3	250,000,000	CGK
	Construction of ICT facility.	Establishment and equipping of an ICT centre in Karuri, Cianda, Kihara, Muchatha, Ndenderu Wards.	3-4	50,000,000	CGK
	Water accessibility.	Installation of piped water connection in households in all Kiambaa Wards.	5	300,000,000	KAWSCO, CGK Athi Water
	Provision of cemeteries as burial grounds.	Addition of two cemeteries. One in Kihara Ward and the other in Cianda Ward.	3	20,000,000	CGK
Local Economy <ul style="list-style-type: none"> Promote the local economy through the provision of environmentally sustainable infrastructure; Attract investment from other parts of the counties and abroad; and Reduce economic disparities. 	Provision of new industrial and commercial areas.	<ul style="list-style-type: none"> Allocate land for new agro-industrial areas in Raini and Kawaida; Allocate land for new commercial areas in Kiambaa; 	3	200,000,000	CGK, NLC Private sector
	Initiation of an Investment Strategy.	<ul style="list-style-type: none"> Create a conducive environment for trade and investment; Develop the Business Information Centre; Youth Enterprise Development Fund; Provide entrepreneurial training to youth; and Encourage mixed development. Give incentives to investors in Export Processing Zone & Special Economic Zone. Tax-free incentives to SMEs. 	2-3	30,000,000	NG CGK

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
	Investment in attraction sites and rehabilitation of Mau Mau Caves.	<ul style="list-style-type: none"> Provision of the paved footpath to the waterfall; Construction of a viewing pavilion at Kihururu waterfall attraction site in Gathanga in Cianda; and Pave foot path to Mau Mau caves in Cianda. 	4-5	10,000,000	CGK
	Fishponds construction and construction of a modern fish market.	<ul style="list-style-type: none"> Construct ponds and train residence on how to rear fish in Muchatha; and Fish market in Muchatha equipped with adequate cooling facilities. 	5		CGK
	<i>Jua Kali</i> sheds construction.	<ul style="list-style-type: none"> Construction of <i>Jua Kali</i> sheds in Kawaida and Karuri; and 	5	10,000,000	CGK,
	Increment in dairy processing branches and construction of cooling plants.	<ul style="list-style-type: none"> Establishment of a milk cooling and processing plant in Cianda and Kawaida wards. 	2-5	500,000,000	CGK NG Private sector
Urban and Rural Development <ul style="list-style-type: none"> Promote urban and rural land development in the local economy; and To promote coordinated institutional approaches to rural and urban development. 	Provision of water for irrigation and use.	<ul style="list-style-type: none"> Purchase hydro pump for Njiku for local Members; Water Reticulation for Irrigation in Karuri Ward; and Water harvesting by use of gutters in all households. 	3-5	50,000,000	KAWSCO, CGK NGOs, CBOs
	Establishment of agro-tourism sites.	Establish tourist visits in coffee and tea plantation sites.	3-5	15,000,000	CGK Kenya Tourism Board,
	Upgrade of the road for connectivity in coffee and tea sites and trading centres.	Tarmac roads in Kawaida and Cianda, the ring road around the trading centre, and Ndenderu trading centre Ring Road.	3-5	30,000,000	CGK
	Establishment of SMEs.	Establish tailored training Institutes for SMEs and SMEs oriented financial institutions in all Kiambaa Wards.	2-4	30,000,000	CGK, NG CBOs, NGOs
Urban Design <ul style="list-style-type: none"> Provide an urban design and management context that will cater for 	Design of gateway in combination with raised pedestrian crossings.	Design of gateway in combination with raised pedestrian crossings on arrival and departure along Limuru Road and Banana- Raini Road.	3	50,000,000	CGK NG KURA KeRRA KeNHA

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
Kiambaa's growth and development; and <ul style="list-style-type: none"> Contribute towards creating an urban environment that entices people to want to live, work, play, visit and invest here. 	Beautification programme.	Greening along the streetscape on major roads Limuru Road, Banana-Raini Road, Karuri-Kiambaa-Kanunga Road, Kiambu Road and Banana-Kanunga Road, Karuri-Ndenderu Road and in existing the landscapes with the inclusion of riparian reserves.	2-3	30,000,000	CGK KURA KeRRA KeNHA
	Lane narrowing	<ul style="list-style-type: none"> Minimise vehicle travel lane width to prioritise pedestrians; and Provide sidewalks on both sides of the street on major roads in Kiambaa: Limuru, Banana-Raini, Karuri-Ndenderu Road Banana- Kanunga and Kiambu Road. 	2-3	60,000,000	CGK KURA KeRRA KeNHA
	Advertisement	Integrating advertisement billboards and signboards in Kiambaa strategically in line with the urban form and landscape for blending and aesthetic appeal.	Continuous	-	CGK
	Built urban environment regeneration	Renovation of buildings with paintings and providing appropriate width for buildings and land use function within Kiambaa Wards.	Continuous	-	CGK
	Open spaces regeneration.	Proving street furniture such as public benches and beautifying existing recreational spaces with trees and flowers within Kiambaa Wards.	1-5	50,000,000	CGK
Multi-Modal Transportation Strategies <ul style="list-style-type: none"> Develop sustainable urban environments; 	Construction of boda-boda sheds.	Boda-boda sheds in Kawaida, Ruaka, Karura, Kihara, Ndenderu and Muchatha thus increasing the number of operators.	2	20,000,000	CGK

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
<ul style="list-style-type: none"> Provide, efficient and reliable connectivity to all areas; and Practice and encourage joint planning in transportation planning. 	Development of various activities like housing, schools, commercial and public places around the nodes.	Intensified land use within a radius of 400m to 800m around transit nodes of Ruaka, Karuri, Gachie, Raini, Kanunga and Muchatha.	2-5	500,000,000	CGK Government of Kenya (GOK) MTIHUD
	Introduction of buffer to prevent encroachment of open space, agricultural land, and riparian reserve.	About 1500-1800m Ruaka, Karuri, Gachie, Raini, Kanunga and Muchatha extent. Minimum of 6m and a maximum of 30 m on rivers as buffers for growth and development.	2-5		CGK GOK NEMA
Housing <ul style="list-style-type: none"> Guarantee delivery of quality, sustainable, accessible, and affordable housing, and Ensure shelter for all people in Kiambaa Sub-County. 	Mixed re-densification of housing.	Replacement of detached and semi-detached permanent and temporary houses in Karuri, Gachie, Muchatha, Kawaida, Kanunga and Ndenderu.	1-5	-	CGK NG
	Upgrading of houses and increase of supporting social amenities.	Housing re-development and increase in excess of roads, health, education, storm and sewer drainage and security services in Karuri, Gachie, Muchatha, Kawaida, Kanunga and Ndenderu.	1-5	-	CGK
	Production of housing for high and medium densities.	Creation of adequate housing stock in Karuri, Gachie, Muchatha, Kawaida, Kihara and Ndenderu.	Continuous	-	CGK
	Provision of affordable social services for housing.	Electricity supply, water supply, street lighting and better road connectors to households in all Kiambaa Wards.	Continuous	500,000,000	CGK KPLC KAWSO Athi Water Services Board
	Maintenance of boreholes, construction of boreholes and construction of water tanks.	Household water connection in the planning area.	1-5	100,000,000	CGK KAWSO Athi Water

Sector/Goal(s)	Programs	Projects	Duration	Estimated Cost	Actors
	Provision stormwater drainage system.	Construction of concrete stormwater drains in Karuri, Gachie, Muchatha, Kihara, Kanunga, Ndenderu and Kawaida.	Continuous	100,000,000	CGK KURA
	Construction of sewerage plant and sewer lines.	Sewerage system in Kihara, Cianda, Karuri, Muchatha and Ndenderu Wards.	3-8	1 billion	CGK Athi Water Services Board

5.4 Capital Investment Plan

The Karuri Municipality Capital Investment Plan provides the numbers that the projects are expected cost, and the timeframe in which the projects will be implemented.

Upgrading Karuri CBD

Components	Cost (Kshs)	Lead agency
6. Expansion and re-organisation of the Banana town bus park.	20,000,000	CGK
7. Pedestrianisation of selected streets in the town.	15,000,000	CGK
8. Installation of waste receptacles in Karuri.	3,000,000	CGK
9. Establishment of NMT facilities including pedestrian walks and bike lanes.	50,000,000	CGK
10. Redesign and construct selected streets as one-way streets.	60,000,000	CGK

Upgrading of Ruaka CBD

Components	Cost (Kshs)	Lead agency
7. Mapping, rehabilitation, and greening of Rui-ruaka riparian reserve	15,000,000	CGK, NEMA
8. Provision of road signage	3,000,000	CGK, KURA
9. Provision of streetlights	10,000,000	CGK
10. Provision of NMT facilities - walkways and a footbridge	50,000,000	CGK
11. Construction of a bus park	30,000,000	CGK
12. Construction of market	100,000,000	CGK

Kawaida, Ndenderu, Muchatha, and Gachie

Components	Cost (Kshs)	Lead agency
5. Construct a bus park in Kawaida	20,000,000	CGK
6. Construction of market in Kawaida	10,000,000	CGK
7. Provision of NMT facilities in Gachie, Muchatha, Ndenderu, etc.	50,000,000	CGK
8. Provision of solid waste transfer stations in Banana, Karuri, Ruaka, Gachie, Kawaida, Cianda, Ndenderu, Kihara	10,000,000 per station = total (80,000,000)	CGK

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