



**DEPARTMENT OF LAND, HOUSING, PHYSICAL PLANNING, MUNICIPAL
ADMINISTRATION AND URBAN DEVELOPMENT.**

JUJA MUNICIPALITY

**INTEGRATED DEVELOPMENT PLAN(IDEP)
2023-2028**



Prepared for the

**COUNTY GOVERNMENT OF KIAMBU
2023**

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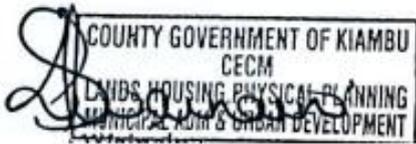
PREFACE

The Constitution of Kenya (2010) establishes two levels of government: the National Government and the County Governments. The Urban Areas and Cities Act (2011, amended, 2019) provides the framework for classifying urban areas. Juja Municipality was gazetted in 2018, after meeting the criteria for this classification. The municipality has taken steps to develop instruments to guide its operations, with one key initiative being the preparation of the Integrated Development Plan (IDeP).

The IDeP for Juja Municipality addresses significant urban challenges, including rapid urbanization, inadequate housing, informal settlements, lack of infrastructure, and absence of a cohesive growth framework. This plan is a crucial step in ensuring coordinated urban development and provides a model that other municipalities in the county can follow. The preparation process was participatory, involving the public, the County Government, and stakeholders from all wards of the Municipality.

The IDeP aims to guide the municipality's economic, infrastructural, and socio-economic development, aligning with the vision for the County Government of Kiambu's transformation.

The Municipal leadership is committed to securing funding for its implementation and encourages all stakeholders to support the plan, which is expected to revitalize the municipality by spearheading for sustainable development initiatives.

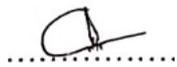


C.E.C.M- Lands, Housing, Physical Planning, Municipal Administration and Urban Development

FORWARD

The preparation of the Integrated Development Plan for the Municipality of Juja 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.

A handwritten signature in black ink, consisting of a stylized 'D' followed by a horizontal line, positioned above a dotted line.

Chairperson, The Municipality Board of Juja

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

1.1. Background

The Municipality covers an area of approximately 32,309.49 hectares with its headquarters in Juja town Central Business District at the current Juja Sub-County offices.

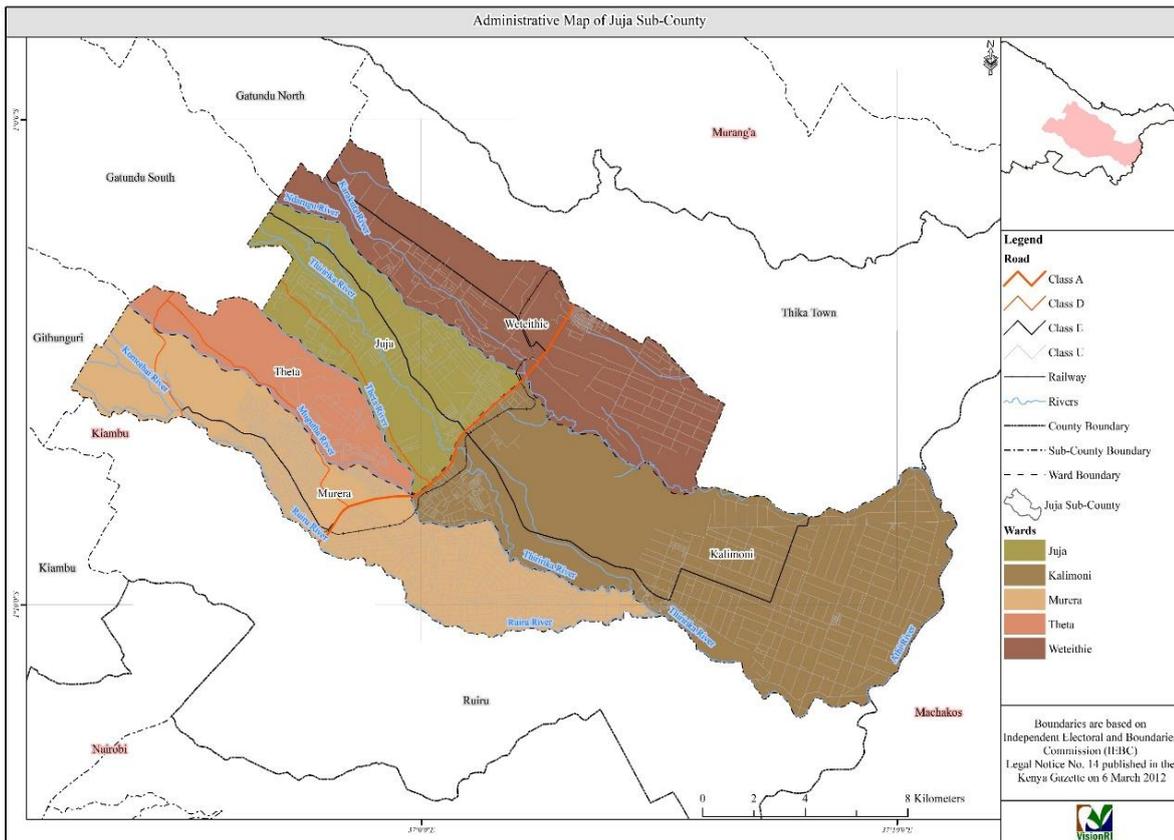
Juja Municipality comprises of five wards including Juja, Murera, Theta, Kalimoni, and Witithie. It borders Thika Sub-County to the north, Gatundu South on the west, Ruiru on the south and Machakos County to the east. The major urban centre is Juja Town which is about 10 km southeast of Thika Town, 12 km northwest of Ruiru, and about 30 km north of Nairobi. The main access to the municipality is through the A2 (Nairobi – Thika Superhighway) and the Nairobi-Nanyuki railway line. Some of the major features include Komu river, Theta-Thiririka rivers, and Nairobi-Athi rivers which form the northern, southern and eastern boundaries, respectively. Map 2 below shows the location of the municipality as defined by the neighbouring Counties/Sub Counties.

Table 1: Sub-location and wards units

Ward	Sub-location	Area in Hectares		Share in %
		Ward	Sub-location	
Juja		4,411.00		13.54%
	Kiaora		2,393.00	
	Marimaini		2,018.00	
Kalimoni		12,175.00		37.36%
	Kalimoni		12,175.00	
Murera		6,668.00		20.46%
	Mugutha		6,668.00	
Theta		2,540.00		7.79%
	Theta		2,540.00	
Witeithie		6,792.00		20.46%
	Komu		2,979.00	
	Witeithie		3,813.00	
Total		32,309.49	32,309.49	100%

SOURCE: Directorate of land Survey, County Government of Kiambu, 2023.

Municipal Map



Map 1: Ward Boundaries within the Municipality

SOURCE: Directorate of land Survey, County Government of Kiambu, 2023.

Vision

To preserve the welcoming, small-town character and community well-being of our municipality by ensuring strong local leadership, financial responsibility, and effective management.

Mission

We are committed to providing the best possible quality of life and livability for our community, residents, businesses and visitors.

Core Values

Integrity

Inclusivity

Innovativeness

Unity of purpose

Professionalism

Trust

1.2 Overview

The Integrated Development Plan (IDEP) outlines the Juja Municipality's direction and priorities. The mission, vision, values, and goals are laid out to serve and cater for Kiambu 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.

Juja Municipality is continually faced with demands of growth on budgets, infrastructure, and staffing and the need for a comprehensive and clear Integrated 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 Integrated 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

It's almost considered a suburb of Nairobi with most middle class residing in Kiambu 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.

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.

STRATEGIC FOCUS AREA	STRATEGIC PRIORITY AREAS / OBJECTIVES
Promote a stable, progressive, resilient and self-sufficient community	<ol style="list-style-type: none">1. Infrastructure2. Economic Growth3. Revenue Generation
Facilitate an empowered citizenry	<ol style="list-style-type: none">1. Public Participation2. Appropriate Policy and Legal Framework
Build a sustainable Environment	<ol style="list-style-type: none">1. Sustainable Land use Planning2. Solid and Liquid Waste Management3. Strong and vibrant neighbourhoods
Create and maintain a competent and Dynamic Workforce	<ol style="list-style-type: none">1 Well-managed government2. Corruption Free Municipality3. Diversity and Inclusivity

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

2.1 Overview

This Integrated Development Plan (IDEP) is linked with other Plans namely: The Juja Municipality Integrated Strategic Urban 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 an Integrated 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 Integrated 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 municipality had an estimated population of 300,948 persons (2019, KHPC).

This population is estimated to rise to approximately 1,183,119 persons by 2030 using the annual population growth rate formula as per the National Spatial Plan (2015-2045).

The municipality has a cosmopolitan population which has created the need for more urban services, hence the need for better planning of the urban area.

Table 3.1: Population Projections for Juja Municipality

Wards	2009	2019	2025	2030
Juja	33,540	37,859	39,629	41,962
Kalimoni	19,572	49,973	86,489	138,868
Murera	15,846	21,310	25,690	30,390
Theta	22,420	63,512	118,431	200,404
Witeithie	25,760	128,294	340,982	771,495
Total	117,138	300,948	611,221	1,183,119

Source: Based on KNBS, 2009 & 2019 Census Reports

3.2. Physical Infrastructure and Access

3.2.1 Roads, parking facilities, and public transport.

Juja Sub-County is well connected to the major national trunk road A2 Thika Superhighway also known as part of the Great North Road. The road is the gateway of Kenya to Ethiopia and Somalia after joining the A3 Road. In Kenya, it links the capital city Nairobi with counties of Muranga, Kirinyaga, Nyeri, Laikipia, Isiolo and Marsabit.

There are other intra-county roads of lower hierarchy that connect different neighbourhoods within Juja such as Witeithie, Kenyatta road, and Gachororo, amongst others.

Notes:

ADT – Average Daily Traffic

NMT – Non- motorised Transport

MT – Motorised Transport

Road Name	Link	Surface Type	Condition	Average daily trip Volumes (both directions)	
				NMT	MT
Kenyatta Road	A2 to Gatundu	Bituminous	Fair	503	2756
Juja - Gatundu Road	A2 (Juja) to Gatundu	Gravel	Fair	5303	4275
JKUAT Entry	A2-JKUAT	Bituminous	Good	2847	5453
Bob Halice Road	A2 to Quarry	Gravel	Fair	-	-
A-2	Nairobi to Moyale	Bituminous	Very good	-	-
Murera Road	A2 to Murera	Gravel	Fair	-	-
Kiganjo Road (D395)	A2 to Kiganjo	Bituminous	Good	-	-
Witeithie- Maraba Road	A2 to Witeithie	Gravel	Fair	-	-
Nyachaba Road	A2 to Ndarugo quarries	Gravel	Poor	-	-
Juja Farm Road	A2 to Juja Farm	Bituminous	Poor	3839	3930
Mwiga-ini Road	A2 to Mwiga-ini	Gravel	Fair	-	-

3.2.2 Storm Water Facilities

In the Fourth schedule, Part 2 of the Constitution of Kenya 2010, the County Government is mandated to provide County public works and services including water and sanitation services, and storm water drainage. Urban storm water management is becoming increasingly important for towns especially in developing countries. The extent of the issue becomes particularly apparent when there is heavy rainfall that floods the settlements situated in the lowest parts of towns and the large number of urban development issues. Storm water is all the water that runs off the land after a rainfall or snowmelt incident. This is a natural process but in urban areas, proper infrastructure needs to be put in place.

Figure 1: Storm Water Drainage in Juja Municipality



Source: Field survey, 2023

Juja Municipality has capacity to provide storm water drainage for its township. The County Government through the Department of Roads, Transport and Public Works has outlined the areas that need investment in storm water management in built-up areas. So far, Juja has a sewer collection network of 45 km serving the following areas: Mugutha, Kenyatta Road, Juja CBD and Murera areas.

There is an ongoing maintenance of all storm water drains within the municipality.

The prevalent flooding causes extensive damage to housing and other infrastructure such as roads, water pipe lines and underground electric cables, which generally disrupts both residential and commercial activities in the town. It also creates social effects like population displacement and makes the environment unpleasant. The lack of public awareness, improper demarcation and protection of storm water drains/ditches and their proximity to residential / informal settlements has led to several negative impacts on the bio-physical and social environment.

Global climate change has affected weather events including rainfall patterns so that there are unpredictable seasons and rainfall intensity which cause flooding and their ultimate effects.

This calls for investigation into effective storm water management practices which are resilient and adaptive to changing climate especially in dealing with urban storm water runoffs. More investment in storm water management in built up areas is needed in Juja.

3.2.3 Electricity, Reticulation and Street Lighting.

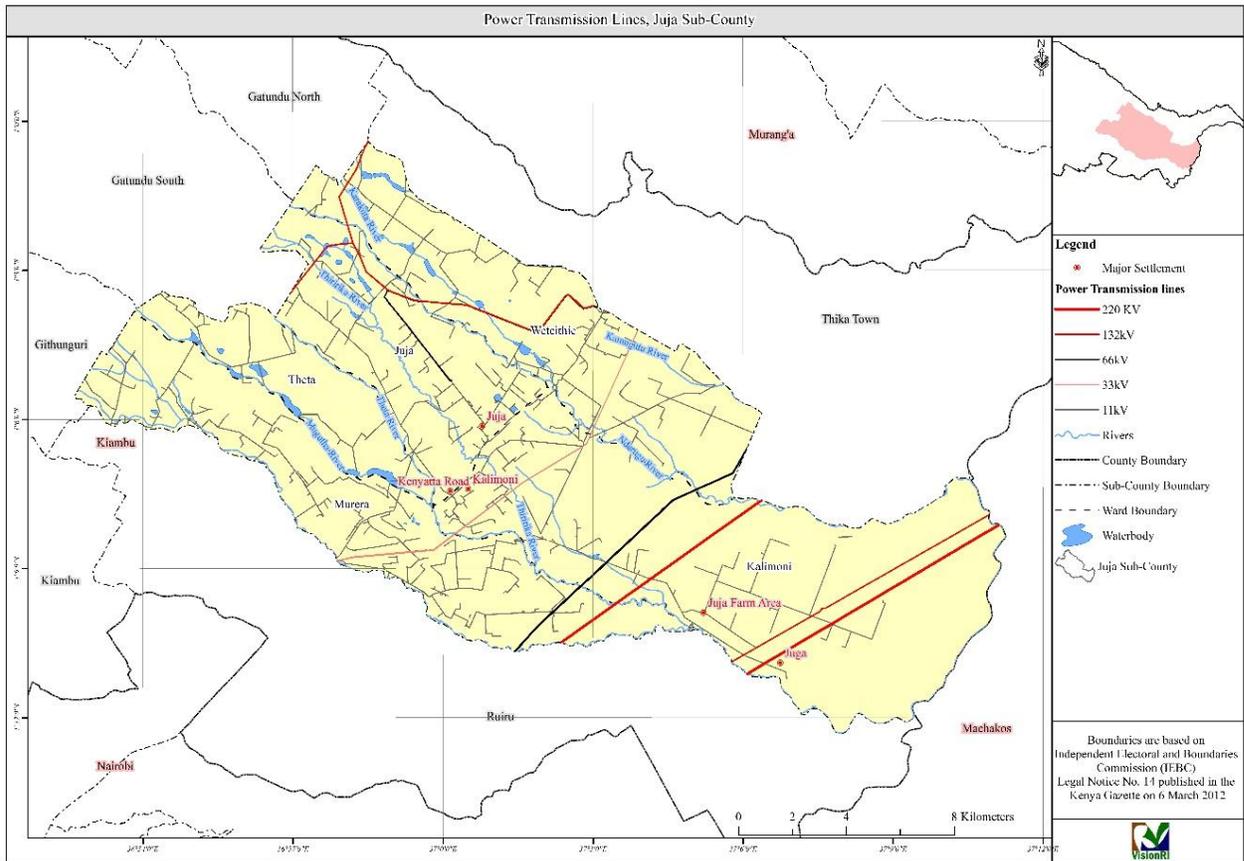
According to Kenya Power 2023 report, there is a power substation within the Juja and Witeithie areas that supplies electricity within Juja and its environs. About 47.3% of consumers in the Sub-County are within the power grid and have been connected. However, the percentage is lower in the rural areas while in urban areas the connection is almost 90%. Solar energy has less than 5 percent coverage, while Biogas use is at 0% percent within the municipality.

Figure 2: Electricity, Reticulation and Street Lighting in Juja Municipality



Source: Field Survey, 2023

Kenya Power has also played a key role in providing other street lighting masts which are 30M high. However, there is still a shortage of streetlights, and most of the existing ones are often not functional. Poor lighting in most areas has led to an increase in crime rates, mostly emanating from the unemployed youth. Shopkeepers and other businesspersons usually shut businesses before sunset due to the insecurity associated with late hour operations. Electricity reticulation within the proposed municipality is shown in map 4 below.



Source: Kenya Power and Lightening Company (KPLC)

3.2.4 Fire-fighting and Disaster Management.

Fourth schedule, Part 2 of the Constitution of Kenya, stipulates that the County Government should provide for Firefighting and disaster management services to its residents. Further the Kiambu County Emergency Fund Act 2013 was enacted in December 2013. In each financial year, monies contained in the fund are 0.5% of the Counties budget. The purpose of the fund is to enable payments to be made in respect of a County when an urgent and unforeseen need for expenditure arises for which there is no specific legislative authority and it is for public interest. This payment may be necessary to alleviate the damage, loss, hardship or suffering which may be directly caused by unforeseen event.

The Directorate of Public Works and Utilities has put in place measures for emergency fires and accident in fire and rescue section. There are plans underway to build capacity within Juja Town to ensure timely fire response. Fires commonly occur in built-up residential, commercial, and industrial establishments. These result from accidents or deliberate arson. The County Fire Brigade generally responds to fires within the Sub-County. However, the response is sometimes hampered by inaccessibility in informal settlements where narrow roads impede the entry of fire engines. The Sub-County also lacks a fire station.

The collapse of buildings in Juja is mainly caused by the use of substandard building materials, poor structural design, and poor workmanship. Inadequate enforcement on non-compliant buildings further exacerbates the situation.

Figure 3: Collapsed building in Juja and fire outbreak.



Source: Field Survey, 2023

3.2.5 Water and Sewer Facilities

The growth of Nairobi towards Juja town has been unstoppable due to the Thika Superhighway. This however has not been matched by a similar provision of infrastructure services. Unplanned rapid growth and informal settlement fueled by Nairobi's urban sprawl have placed high pressure on public services, notably on water and sanitation delivery in Juja Sub-County. The Municipality is served by the Ruiru/Juja Water and Sewerage Company (RUJWASCO) which was established as a private company under the Companies Act, Cap 486. It is wholly owned by the Kiambu County and services both Ruiru and Juja Sub-Counties.

RUJWASCO operates two main water supply systems in Ruiru and Juja, with a combined production capacity of 24,000 m³/day. Juja water supply system produces 7,500 m³/day of treated water. The total area of water supply coverage as provided by the Water Services Regulatory Board (WASREB) is 528 km² and water coverage is at 70%. The company is currently connected to 2,000 households and institutions. Water demand over the plan period is based on analysis of the current consumption patterns in the planning area, observed patterns in the County as well as the projected changes in demographic patterns.

The system also comprises of a wastewater treatment plant designed for 10,500 m³/day and sewer collection network of 45 km serving the following areas: Mugutha, Kenyatta Road, Juja CBD and Murera areas. Despite the project, the majority of the residents are not connected to the public sewer system which has resulted to discharge of dirty water on road reserves and drainage systems. Other modes of waste liquid disposal within the Sub-County include septic tanks and Pit latrines. This has led to the pollution of major rivers such as Ndarugo, Thiririka, Ruiru, Athi, and Theta.



Figure 4: Juja Sewerage Treatment Works

Source: Field survey, 2023

3.3 Quarrying

The extraction and sale of construction stones has become one of the most significant economic activities in Juja, primarily driven by the increasing demand for construction materials due to the booming real estate development in the area. As real estate projects continue to expand in and around Juja, the need for construction materials has surged, resulting in heightened competition among construction companies for limited quarrying resources. This competition, combined with the scarcity of land available for quarrying, has led to rising prices for construction stones. In response to this economic shift, many of the region's farmers have turned to quarrying as a means of livelihood. While individual profits from quarrying may be higher than those from farming, widespread quarrying can result in large areas of land becoming unusable for extended periods, creating a situation reminiscent of the "Tragedy of the Commons." In such cases, the collective overuse of shared resources ultimately leads to suboptimal outcomes for society as a whole.

In an effort to address the environmental challenges posed by quarrying, the County, in collaboration with the National Environment Management Authority (NEMA), has been actively working to enforce the Environmental Management and Co-ordination (Amendment) Act of 2015 and the Environmental Impact Assessment and Audit Regulations of 2003. The County has also been encouraging private quarry owners to engage in responsible practices, such as backfilling abandoned quarries and planting trees, in order to mitigate potential environmental disasters. Furthermore, an Environmental and Social Impact Assessment (ESIA) Evaluation Committee has been established to review quarry ESIA reports submitted through NEMA. This committee ensures that all social and environmental concerns are properly addressed in accordance with the relevant environmental regulations.

Looking ahead, the County is planning to develop a Natural Resource Management Policy, which will include comprehensive regulations on quarrying activities. These regulations will cover not only the management of quarries during their operational phase but also the procedures for their decommissioning, aiming to balance economic benefits with environmental sustainability.



Figure 3: Quarrying activities in Ndarugo

Source: Field Survey, 2023

4.0 SWOT Analysis

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

Strength, Weaknesses, Opportunities & Threats	
Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Its proximity to Nairobi City hence serving as a gate/exit to Nairobi. 2. Has a reliable transport connectivity network to the city and other municipalities (Nairobi-Thika Superhighway) 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 attracting real estate investment due to proximity to NMR. 7. Presence of manufacturing industries (plastics, bags, vegetable products, alcohol, coffee, Jua kali). 	<ol style="list-style-type: none"> 1. Poor urban planning and enforcement, Uncontrolled urban growth, leading to inefficient land use, environmental degradation, and lack of infrastructure. 2. Insufficient budget, budget plans and development plans. 3. Few staff and personnel to run all function (secretariat). 4. Unskilled work force 5. Death 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 supply, waste management, roads, internet and recreational centres, and essential services like health and education 9. Weak transport infrastructure/road conditions (apart from Nairobi-Thika Superhighway), limiting economic activities and mobility. 10. High Value of Land
Opportunities	Threats

<ol style="list-style-type: none"> 1. Inclusivity to the Nairobi Metropolitan 2. Expansion of education sector which aligns with Vision 2030's goal of making NMR a global education hub. 3. Availability of land for Real estate investment 4. Existing suitable locations for dams construction 5. Ability to increase Revenue collection (building approvals, parking fees, market levies, licenses fees, encroachment etc) 6. Creation of public private partnerships 7. Grow public ownership and confidence through public participation forums 8. More areas opening up for investment due to the ongoing road network expansion 9. Existing development plans at county and national level. 10. Indigenous industry expansion: Leveraging existing manufacturing base to foster economic growth and job creation. 	<ol style="list-style-type: none"> 1. High rate of unemployment leading to increased insecurity 2. Generation of high volume of solid /liquid waste 3. Narrow road corridors due to poor land demarcations 4. Poor road conditions may hinder further development and growth, especially in remote areas. 5. Lack of PDPs and other 6. Political Interference 7. Environmental Degradation: Inadequate infrastructure leading to pollution, poor urban environment, and health hazards. 8. Continued leapfrogging urban development could result in an unplanned sprawl, worsening traffic congestion and placing strain on local government resources.
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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 town.
- 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 Juja 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	Provide efficient infrastructure networks and services

for the region	
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 Juja 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 livability 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

Coming up with effective zoning policies and regulations to safeguard the agricultural hinterland and manage urbanization of the planning area. The overall land management policies will include:

Proposed land use and management policies

SECTOR	PROPOSED POLICIES
ENVIRONMENT	<p>Restriction of development around rivers and wetlands.</p> <p>Restriction of development to approved uses only along immediate boundaries of fragile site buffers</p> <p>Control of development on steep slopes to reduce soil erosion</p> <p>Increase in forest cover</p>
TRANSPORTATION	<p>Appropriate transportation networks provision per zone as per the structure plan.</p> <p>Non-approval of encroachment/ encroaching use on transportation way</p> <p>leaves.</p>
INFRASTRUCTURE	<p>Non-approval of encroachment/ encroaching use on infrastructure way leaves.</p> <p>Restriction of development to approved uses within the vicinity of social infrastructure facilities. Widening of the narrow roads</p>
AGRICULTURE	<p>Curbing land fragmentation through restrictions on uneconomical sub- division of agricultural land. Non-approval of encroachment/ encroaching urban settlements use of the highly capable agricultural land areas.</p> <p>Promotion of intensive agriculture</p>
TRADE AND INDUSTRY	<p>Development of a designated agro-industrial zone</p> <p>Restrictions on location of industries near densely populated zones. Encouraging compact market development</p>
TOURISM	<p>Restriction of development around scenic sites to eco- tourism developments only.</p>
URBANIZATION	<p>Compacting of the urban core to prevent urban sprawl and town convergence.</p> <p>Development control measure on minimum floors Enforcement of the urban fringe/ edge using agricultural belts.</p>

PUBLIC LAND

Immediate inventorying and periodical review of the state all public land in Juja Town.

Retention of all public lands under the respective government ownership

unless their disposal will serve an overarching County/ national interest.

4.4 Development Strategies

This section deals with the development strategies and interventions that will be used to achieve the development objectives for this Juja Town IDEP. These strategies include transportation, environmental, economic & social infrastructure, housing and revenue enhancement strategies.

4.5 Transportation Strategy

4.5.1 Regional Connectivity and Integration

Regional connectivity and integration refer to how well the town is integrated with and linked to surrounding areas. The goal is to create physical and functional networks that will ensure mutual interactions between the town and surrounding areas. The intention is therefore to address the town as part of a larger region, “since both the problems of the area and the desired improvements result, to some extent, from conditions in other parts of the region. “Since spatial integration is predominantly dependent on linkages, the development objectives and interventions will focus on improving movement linkages.

Objective

- To improve regional connectivity, in particular with Nairobi and other major centers and markets.

Development proposals and interventions

The following interventions should be implemented:

- Construction of a direct access road (overpass) from the integrated terminus to JKUAT and CBD;
- Construction of a link road linking Juja South Road to Gatundu-Juja road (Juja farm road) to Kalimoni side around the former Cordage industrial area;
- Construction of identified missing links in the road sector such as Juja Farm and Matangini Road, Juja and Thika via Witeithie;
- Construction of a loop from Centurion Hotel through Gachororo to CBD;
- Upgrading and maintenance of feeder roads such as Gatongoro access road; Gacege Gakoe road; Matangi-Kimbo road; Ebenezer-Matangi road;
- Upgrade and renovating Juja Farm road, Juja-Gatundu road, Ndarugo-Tora road; Gachororo road and old Juja road;
- Improve public transport services between Juja and surrounding towns as indicated above.

4.5.2 Improved Accessibility and Connectivity

While the planning area has a small footprint, accessibility between different areas is weak. Neighborhoods are isolated by poorly maintained and unsafe open spaces with inadequate linkages between them. The mono-functional character intensifies this poor accessibility and increases levels of spatial inequity in the town. While there is a functioning road network, the

streets of the town have been designed and planned with cars and not people in mind. Great towns have great streets and great street spaces attract private sector investment and convey a sense of dignity and pride to residents. They are the most public and visible face of the town and their quality, cleanliness and levels of activity can inspire confidence and investment or detract from these. This strategy deals with the location, design and function of a proposed movement network, which includes the upgrading of existing streets and linkages, as well as the development of new linkages where necessary.

Objectives

The following are the development objectives from a movement and connectivity perspective:

- To ensure a clear hierarchy of roads that connect all the different parts of town;
- To improve local movement networks through additional linkages;
- To improve public transport facilities and networks;
- To improve movement for pedestrians and cyclists;
- To improve the condition of roads; and
- To transform the street network into attractive, safe, vibrant, comfortable, landscaped spaces.

Development proposals, interventions and guidelines

The following are the development interventions required to improve accessibility and connectivity in Juja Town:

- There must be a clear hierarchy of roads. The primary and secondary roads should be upgraded in terms of width, surfacing and street scaping to (i) clearly distinguish them from local roads and (ii) accommodate the level of traffic and nature of functions that are associated with these roads in terms of the spatial development concept.
- To improve accessibility and connectivity in the planning area, a number of new secondary and local link roads are proposed. The intention is to allow residents greater convenience in terms of movement through the study area, but in particular towards existing and proposed nodes and corridors.
- Development of a transportation master plan for the entire Sub-County and enforcement of development control (Physical Planning) guidelines on all roads to reduce encroachment and to ensure subdivisions are providing adequate road reserves. All roads in Juja must be upgraded to facilitate greater ease of regional movement to and from the planning area, which will have a positive impact from an economic perspective.
- All Primary and Secondary Routes must be developed as pedestrian and cycling priority routes. This requires the development of dedicated paved sidewalks and/or cycling paths of sufficient width along these routes.

Guidelines

In order to establish a multimodal transportation system to efficiently, effectively, and safely move people, goods and services, the following should be considered.

- The design and layout of internal movement in the town should promote an open, permeable and legible movement network that allows for ease of vehicular and pedestrian movement.
- Well-located and well-managed road based public transport facilities, linked to the business and employment areas, must be available and accessible throughout town
- Development of linkage roads between residential areas to enhance integration and accessibility
- As far as possible avoid dead-end streets and roads
- Limit block sizes to a maximum length of 150m for ease of pedestrian movement
- Maintain a road hierarchy that readily distinguishes between routes of local and regional importance

Further for the planning area to be more walkable and bicycle friendly, in particular, improving and extending pedestrian and bikeway amenities to better connect residential areas, activity centres, and employment zones, the following guidelines should apply

- Improve and expand facilities for pedestrians and cyclists, initially focusing investment in urban corridors and activity streets.
- Make streets safe by providing enhanced crosswalks, sufficiently wide sidewalks, shade trees, and other street furniture (e.g., benches and pedestrian-scale light fixtures) throughout the community, most importantly along proposed urban corridors and activity streets.
- Introduce a network of off-street pathways and routes, encompassing shared use paths that are integrated with the study area's green network.
- Require bicycle parking in conjunction with public amenities and commercial development projects that will attract a significant number of users, including the provision of bicycle lockers at major transit hubs.
- Ensure that a minimum sidewalk width of 1,5m is provided on all identified pedestrian and cycling priority routes
- Ensure that safe pedestrian crossing points are provided at a minimum of 75m intervals within the street network

4.6 Environmental Strategy

The development strategy for the environment deals with the designation, protection and management of biodiversity and important ecosystems. This is done in part by creating a natural open space system. This generally comprises rivers, dams, riparian zones, wetlands, ridges and other environmentally sensitive areas. Sensitive ecological environments on the one hand pose a constraint to development as these parcels of land must remain free of development. In addition, movement linkages across these areas are limited (due to cost and the need to minimise any form of intrusion into these areas) which in turn limits the urban structuring possibilities. Ecologically sensitive areas however provide immense opportunities and value from an ecological, identity, place- making, attractiveness and property value perspective. Wetlands in particular perform a number of critical ecological functions. They moderate impacts from flooding, control erosion, purify water and provide habitat for fish and wildlife. The IDEP therefore aims to safeguard the functionality of the planning area's life-supporting ecosystem services and to ensure development around natural open spaces is appropriate and sensitive.

Objectives

The following are the objectives for protecting the environment:

- To establish a continuous ecological and open space system;
- To introduce policies that will restrict degradation and promote the preservation of the environment;
- To improve water quality in rivers and water courses through the management of solid waste, waste water and industrial effluent; and
- To prevent illegal dumping in open spaces and rivers.

Development proposals, interventions and guidelines

There are three main types of sensitive natural environments in Juja Town that must be protected as natural systems with sensitive ecological characteristics, namely (i) watercourses, (ii) wetlands and (ii) ridges.

- Watercourses and the wetland must be rehabilitated to restore the ecological integrity of these natural environments.
- Watercourses must be protected from pollution resulting from development through the creation of open space buffers along watercourses. These buffers can be utilized for public green open spaces such as public parks.
- Kamuguti springs/wetland must be protected from development through the introduction of a buffer around the wetland. The

acceptable minimum standard is a 30 meters buffer along the edge of the wetlands which will provide additional habitat for indigenous fauna and flora.

- Steep slope areas that exceed 25 degrees should be protected as ridges in accordance with the prescriptions of the Kenya Planning Handbook.
- The issues of focus in developing the environmental protection strategies included; storm water drainage, soil erosion, riparian reserves, ecosystems, water sources, solid waste management, sewerage systems, proposed buffers and forests.

Measures

Rivers and Riparian Reserves

- Natural flow of rivers and tributaries should be preserved and conserved. River reserves should become green networks (buffer zones to control pollution, surface erosion, squatters' intrusion): An action plan of the rehabilitation of the quarries along a section of Ndarugo river has been prepared
- Sanitation services must be provided to settlements located within the catchments of water sources to avoid pollution due to surface run-off and groundwater seepage of sewerage and other harmful effluents
- Development along the Riparian Reserve should only be considered if strict measures for riverbank protection, wastewater treatment plants, storm water control and erosion control are put in place and enforced. No development shall take place directly adjacent to the Riparian Reserve without an Environmental Management Framework indicating measures for the conservation of the ecological integrity of the shoreline as well as measures to repair damage to the shoreline and its vegetation caused by construction.
- The natural drainage channels and banks of rivers must be protected up to the 100-year flood line. No development may be permitted within the 100-year flood line from rivers, streams and wetlands without the written consent of the relevant environmental and water authorities.

Steep slopes

- Development in hill areas requires several conditions that must be observed not to endanger stability, balance and the harmony of the natural environment
- Between 5 degrees to 15 degrees are considered as medium slopes and could be developed with the implementation of slope control measures
- Between 15 degrees to 25 degrees could be developed with the implementation of control measures
- Areas with slopes that exceed 25 degrees are not allowed any development from a safety perspective

- Natural vegetation should be preserved on steep slopes to prevent soil erosion
- All scenic vistas should be protected from development 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

Development and Design Guidelines for the Environment

Environmental Feature	Definition	Guidelines
Riparian (River) Reserve	Land on each side of a watercourse as defined. Has a minimum of 3m, or equal to the full width of the river as measured between the banks of the river course up to a maximum of 30m for seasonal and perennial rivers	Every development must provide 3%-5% of the area for water retention reservoir
		Natural flow of rivers and tributaries should be preserved and conserved. River reserves should become green networks (buffer zones to control pollution, surface erosion, squatters’ intrusion)
		Sanitation services must be provided to settlements located within the catchments of water sources to avoid pollution due to surface runoff and groundwater seepage of sewerage and other harmful effluents

			<p>Development along the Riparian Reserve should only be considered if strict measures for riverbank protection, wastewater treatment plants, storm water control and erosion control are put in place and enforced. No development shall take place directly adjacent to the Riparian Reserve without an Environmental Management Framework indicating measures for the conservation of the ecological integrity of the shoreline as well as measures to repair damage to the shoreline and its vegetation caused by construction.</p>
			<p>The natural drainage channels and banks of rivers must be protected up to the 100-year flood line. No development may be permitted within the 100-year flood line from rivers, streams and wetlands without the written consent of the relevant environmental and water authorities.</p>
Slope	0 to 2%	Area where slope does not constrain development	<p>Development in hill areas requires several conditions that must be observed not to endanger stability, balance and the harmony of the natural environment</p>
	2 to 9%	Medium slopes which are developable although slope should be considered in site development plan and storm water management	<p>Between 5 degrees to 15 degrees are considered as medium slopes and could be developed with the implementation of slope control measures</p> <p>Between 15 degrees to 25 degrees could be developed with the implementation of control measures</p>
	9 to 21%	Maximum slopes for motor vehicle access provided that all	<p>Areas with slopes that exceed 25</p>

		weather paved surfaces are available	degrees are not allowed any development from a safety perspective Natural vegetation should be preserved on steep slopes to prevent soil erosion A slope analysis should be conducted on all ridges and mountains in order to determine development restriction areas All scenic vistas should be protected from development
	21 to 27%	Urban development is seriously constrained, and slopes of more than 21% do not allow for motor vehicle access	
	27 - 45%	No development allowed	
Natural Open Space System	The natural open space system comprises rivers, dams, riparian zones, wetlands, ridges and environmentally sensitive areas		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 privatised 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

4.7 Economic and Social Infrastructure Strategy

The economic and social infrastructure strategy will be achieved through the economic and social network. This network refers to those areas where economic activity and community facilities are or should be concentrated in town. In Juja Town the spatial structure includes nodes and linear activity areas such as:

- Regional Node (or Central Business District) (CBD);
- Neighborhood Nodes;
- Urban Corridors;
- Activity Streets;
- Clusters of civic and community facilities;
- Designated industrial areas; and
- Agricultural focus areas.

Nodes and linear activity zones serve as the main structuring elements for the town, and the location of the activity network must be such that everyone can access an activity node within a comfortable walking distance of 800 meters (equal to 10 minutes walking time). These nodes are located at the most accessible points within an integrated network of connecting routes and provide a hierarchical framework or logic for locating public facilities, community facilities and economic opportunity as well as access to transport services over time.

The grouping of facilities (including social, education, economic, recreational and transport facilities) ensures convenience for users, reduces trip numbers, creates focal points for development and infrastructure provision and enables the sharing of resources and management capacity. These clusters in turn generate higher flows of foot-traffic that generate the thresholds of support required for successful business activities including retail, personal services and small-scale production of goods for sale. They are good places for entrepreneurial development hubs.

Objectives

The following are the objectives for the development of an economic and social network:

- To channel development into a system of nodes and development corridors supporting the development concept;
- To consolidate and strengthen mixed-use economic nodes;
- To consolidate and strengthen neighborhood nodes;
- To protect and regenerate the Regional Node (CBD) as the primary business development area;
- To optimize the location of social and community facilities by clustering them together in neighborhood nodes;
- To create and/or improve opportunities for the informal sector within the designated activity network; and
- To consolidate and strengthen industrial areas.

Development proposals, interventions and guidelines

The proposed hierarchy and distribution of the network of nodes, urban corridors and activity streets in the planning area is shown on the map in the ISUDP.

- The main node within the planning area is Juja Town. This node has a regional function and should therefore comprise the highest order business, civic and social activities and services. This node also presents an opportunity of Transit Oriented Development. Other emerging nodes include Kenyatta Road, Toll station, Kimbo (Thika superhighway and Kiganjo road junction), Gwa-kairu at the border between Juja and Ruiru, Nyacaba, and Kuraiha.
- The urban nodes are physically connected to the hinterlands and peri-urban areas by existing roads and functionally as they are the service areas where the latter obtain their low and high order goods.
- The Primary Routes should be developed as Urban Corridors comprising higher order business development for a depth of approximately 50m directly adjacent to the road.
- Routes indicated on the map above should be developed as local Activity Streets, comprising lower order business opportunities that are more focused on serving local neighborhoods. Similar to the urban corridor, the depth of the Activity Street zone extends approximately 50m from the road reserve boundary.
- Demarcated Neighborhood Nodes are predominantly located at intersections on the primary and secondary road network, in order to ensure the highest degree of accessibility for surrounding communities.
- Industrial development is restricted to existing industrial areas that should be consolidated and strengthened rather than creating new industrial areas.
- Large-scale agricultural activities in the eastern part of the study area should be protected from development for as long as these activities remain economically viable. In the long term however, this land can be utilized for infill residential development.
- The development of new social and community facilities such as education and health should be restricted to existing neighborhood nodes or existing Civic and Community clusters.
- To improve the housing development in the township; various strategies were developed. The focus of these strategies was; uneven building lines and setbacks, urban informality, urban decay,

housing conditions, land tenure, persons with disability friendly urban designs and social facilities adequacy.

- The Highest residential densities are restricted to part of Juja CBD, Ali Juja Kalimoni, Wakigwe and Gwakairu. The proposed area to be densified includes Juja farm, Malaba, Turco, High Point and Waroma. The rationale is that these nodes have the highest concentration of employment activities or close to Nairobi.
 - Medium density residential development should be supported along the Urban Corridors. The existing areas under medium density residential include Milimani, Komo, Nyacaba, Kalimoni, Muigaini Estate, Theta, Matangini, Mugutha, Daykio, and Twiga, amongst others. The proposed area to be of medium density residential include Mugutha, Matangini, Theta, and along Kenyatta road.
 - Low density residential development comprises the areas or locations furthest away from the major nodes and urban corridors. The current area under low-density residential development includes Kuraihia, Bustani and Twiga Estates. The proposed low-density residential zones include Kuraihia and part of Juja Farm.
 - Low density residential development also includes small-scale farming activities as are currently found on the majority of residential properties in the planning area. The concept of low-density residential development (and the associated densities) is relevant in the case of redevelopment and formalization of properties from small-scale agriculture to urban development.
 - The existing large-scale agricultural activities in the eastern part of the planning area can be utilized for infill residential development if it is no longer required for agricultural activities. Should these land parcels be developed, it should be done in accordance with a proper Master Plan as opposed to haphazard subdivision into smaller properties.

Guidelines

Attract and accommodate high order and regional land uses to the Regional Node (CBD)

- Accommodate land uses that attract large numbers of people and that will extend the activity of the area.
- Higher order and regional land uses should be located, as far as possible, in the Regional Node (CBD).
- The Regional Node (CBD) must comprise high quality public environments, and all developments should interact with and relate to adjacent public environments (e.g. streets, squares, parks etc.) to ensure a vibrant, attractive, convenient and safe environment.
- Informal trading must be accommodated in well-designed and well-located market areas where the necessary facilities such as trading stalls, ablution facilities and refuse bins are available to the traders.
- Development is typically fine grained, multi-storied and mixed use and must comprise the highest architectural standards.
- Reduce visual blight, encouraging rehabilitation of deteriorating structures, demolition of severely dilapidated buildings, and removal of demonstrably non-conforming uses and structures.

- Encourage infill development to activate commercial sites and promote the highest and best use of land
- Protect the Central Business District by not approving out of town, mono-functional shopping malls that will draw large retailers out of the town centre

Develop vibrant and community-oriented neighborhood nodes that serve all the needs of the local population

- The majority of social and community facilities and local businesses should be clustered together in neighborhood nodes or streets (as opposed to being dispersed throughout a neighborhood).
- The general character of the neighborhood node should be public, extroverted environments, with an open street pattern, relatively short street block lengths (to facilitate pedestrian movement), on-street parking, public spaces and the clustering of compatible land uses in a compact manner.
- All neighborhood nodes must be pedestrian- and cycling-friendly environments with safe, convenient and quality movement infrastructure to, from and within the node
- Neighborhood nodes should preferably be developed around a public open space that can serve as a meeting and recreational space for the community
- Informal trading must be accommodated in well-designed and well-located market areas, where the necessary facilities such as trading stalls, ablution facilities and refuse bins are available to the traders.
- Neighborhood nodes should comprise a public transport stop, where a public transport service exists
- Neighborhood nodes should where possible be located in such a way that all residents have access to a node within a maximum walking distance of 800m

4.8 Housing Strategy

This development strategy deals with residential development and comprises two parts, namely;

i. The development of good quality residential neighborhoods that promote residential densification in appropriate locations. Residential development is an opportunity to restructure the form of the settlement as a whole, by creating high-quality, integrated sustainable living environments that provide equitable access to opportunities, amenity and services, and are diverse, locally appropriate, compact and efficient.

A diversity of dwelling options is required to accommodate the varied need for housing over a lifetime, and to meet varied income levels and circumstances. A variety of housing types enables

different types of people to live together in the same neighborhood, and it helps people to find housing that suits their circumstances and means.

Objectives

The following are the objectives for residential development:

- To encourage densification in strategic locations;
- To identify priority areas for new housing development;
- To introduce different housing typologies to provide in the needs of different residents;
- To promote infill development over development on the periphery of the town; and
- To create convenient, safe and attractive residential neighborhoods.

Development proposals, interventions and guidelines

The spatial development proposals for Juja Town make provision for three categories of residential development, namely

- i. Low Density Residential,
- ii. Medium Density Residential,
- iii. High Density Residential.

Densities are linked to distance to employment opportunities, social and community services and public transport services. The closer a particular property is situated to the above and the higher the order of services and facilities provided in that location, the higher the densities that should be promoted and allowed on that particular property.

- The Highest residential densities are restricted to the identified Nodes
- Medium density residential development should be supported along the Urban Corridors.
- Low density residential development comprises the areas in between at the locations furthest away from the major nodes and urban corridors.
- Low density residential development also includes small-scale farming activities as are currently found on the majority of residential properties in the planning area. The concept of low-density residential development (and the associated densities) is relevant in the case of redevelopment and formalization of properties from small-scale agriculture to urban development.
- The existing large-scale agricultural activities in the eastern part of the study area can be utilized for infill residential development if it is no longer required for agricultural activities Should these

land parcels be developed; it should be done in accordance with a proper Master Plan as opposed to haphazard subdivision into smaller properties.

The following development and design guidelines shall apply to residential neighborhoods and densification:

Ensure sustainable residential growth

- A range of housing typologies and densities must be developed, catering for different income groups, lifestyles and life stages within each settlement
- New settlement development must occur contiguous to existing urban or settlement development. Leapfrog development should not be permitted
- Residential development should as far as possible focus primarily on infill development and densification rather than continuous outward expansion of residential areas beyond the boundaries of the precinct.
- Higher densities should be provided closer to the town centers/community clusters and/or public transport stops.

Promote the development of sustainable, convenient and liveable residential neighbourhoods

- All land uses must contribute to the creation of pleasant, safe, convenient and sustainable neighborhoods.
- All development must support safe and convenient pedestrian movement, especially for children.
- Residential development must comprise the bulk of land uses, complemented by community and social facilities (community and social facilities should ideally be developed as part of demarcated neighborhood nodes) and recreation areas such as parks, sports fields and playgrounds.
- Regional community facilities (i.e. hospitals, large regional church congregations, universities, colleges etc.) should not be provided within residential neighborhoods but as part of the Regional Node (Central Business District)
- Businesses in the neighborhood should be restricted to home businesses and local convenience businesses
- No land uses that attract large volumes of foreign traffic to the area or generate excessive activity and noise should be permitted.
- In higher density residential neighborhoods, emphasis should be placed on the public realm and the interface between private development and the public space.
- Improve the attractiveness of residential neighborhoods by taking measures to eliminate nuisances and redevelop problem properties, as well as to enforce standards of maintenance.

- Fencing that is visually penetrable should be promoted. This includes palisades or palisades with walled sections.

4.9 Revenue Enhancement Strategy

For Juja Sub- County Government to function effectively and provide service to its residents and clients, it needs enough revenue. The revenue collected by the County can be from:

- The National Government
- Fees from services provided
- Land rent/rates from Kiambu Government Land
- Money (cess fees) collected from mining activities

Juja Town, like the rest of the County has revenue collection challenges. These are addressed in table 36 by the actions in the adjacent columns:

Revenue Collection Challenges with Actions for Solutions

ISSUE	ACTION
Build adequate human resources capacity and systems;	<ul style="list-style-type: none"> a) Asses current human resource in relation to job description, qualification and job performance b) Replace/train staff to build capacity
Introduce a more productive property tax regime;	Perform a land valuation exercise and attach the correct taxes after the exercise
Automate all accounting and finance activities;	<ul style="list-style-type: none"> a) All revenue collection exercises should be cashless, apps can be used to collect revenue for fees such as parking, market stalls, cess
Digitize land records;	A GIS based program should be used to keep a record of all the land. This should have the land valuation roll attached to it for land tax and land rents purpose.
Strategically and comprehensively address integrity issues;	Do random audits at revenue collection points and take disciplinary action on officers found to have integrity issues.
Expand revenue base.	<ul style="list-style-type: none"> a) Create/increase parking spaces for private vehicles, trucks, public services vehicles. b) Process land documents for areas that are commercial and industrial so as to collect land rates

5.0 Disaster Management

A disaster is defined as a serious disruption of the functioning of a community or a society. Disasters involve widespread human, material, economic or environmental impacts, which exceed the ability of the affected community or society to cope using its own resources.

Disaster Management can be defined as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters

Disasters are generally classified into 2 major categories: Natural and human made as follows:

1. Natural: Bush fires, epidemics on human beings and animals, pests on crops, forests and livestock; geologic and climatic disasters (e.g droughts, floods, landslides, cyclones, storm surges, coastal erosions, earthquakes, invasive plants.); Land degradation due to quarrying.
2. Human-made: Terrorism, Industrial accidents, quarrying, fires, transport accidents, civil, resource-based and political conflicts, collapsed infrastructure, food poisoning, invasive plants, drug and substance abuse, human trafficking, industrial sabotage, environmental degradation and other emerging disasters.

There is the National Disaster Management Authority Bill, 2019 that established the National Disaster Management Authority and gave it functions and powers.

According to this bill, the following shall be the way in which disaster management shall be implement in Kenya as a whole and in county governments (Juja Sub-County in this case.)

5. This National Disaster Management Authority shall in liaison with the county governments, perform the following functions

- a) Co-ordinate and control response to and management of disasters
- b) Build capacity at both levels of government in crisis response and disaster resilience
- c) Serve as a command centre for all communication and information relating to response operations
- d) Co-ordinate disaster management efforts between various government agencies to ensure there is a seamless response to disasters
- e) Undertake public awareness on disaster preparedness and response
- f) Establish and operate an effective and efficient National Early Warning Disaster Monitoring Information System
- g) Facilitate disaster management contingency process that will result in the formulation of contingency plans to be updated regularly

- h) Document, publish and disseminate all relevant disaster management data and information to all stakeholders
- i) Operate a functional and effective monitoring and evaluation system for programming and management of activities in disaster management
- j) Perform such other functions as may be necessary for the exercise of its powers and functions under this act.

26. The roles for disaster management for the national and county governments are:

- 1) The national government shall in accordance with Part 1 of the Fourth Schedule to the Constitution, be responsible for disaster management in the country
- 2) Each county government shall within its area of jurisdiction be responsible for disaster management in accordance with Part 2 of the Fourth Schedule to the Constitution.
- 3) The Cabinet Secretary shall, on the advice of the Authority, and in consultation with the county governments, develop a national policy on disaster management.
- 4) Each county government shall for the purpose of ensuring uniformity and national standards, through its legislation and administrative actions, implement and act in accordance with the national policy guidelines developed under subsection (3)

27. Each county government may establish a County Government Emergency Fund in accordance with the provisions of the Public Finance Management Act.

Juja sub- county is in the process of developing a disaster management policy, and it will link the sub-county hospitals with the fire department so that casualties can be rescued from the scene of the disaster and taken to the nearest health facility. It is advisable for the county government to set aside funds for the purpose of implementing the policy.

So far, administrative units that can be used in disaster management include the fire department, the police, administrative police, chiefs and Juja Hospitals.

CHAPTER 5: PLAN IMPLEMENTATION, MONITORING AND EVALUATION

5.1 Overview

This chapter outlines the importance of ensuring that the IDEP is implemented in a way that supports long-term urban structure, form, and spatial transformation goals. The success of IDEP hinges on two main factors, including consistent decision-making, which must align with the established long-term vision of urban growth, ensuring that growth occurs in designated areas and follows a cohesive and planned structure. This requires clear guidelines on where and what type of development should occur to meet broader urban goals. Besides, development should be managed in line with the spatial transformation agenda, addressing not only *what* growth occurs but also *when* and *how*. This involves prioritizing development initiatives based on their potential to contribute to desired spatial outcomes, while considering available resources, timelines, and stakeholder input. To monitor and evaluate the implementation of these proposals effectively, the planning system must remain committed to executing the policies and plans laid out in the IDEP. This means continuously assessing whether the goals of the IDEP are being met and making necessary adjustments based on performance feedback.

5.2 Plan Implementation and Capital Investment Plan

The implementation of the Juja Municipality plan will require a structured and systematic approach to ensure its successful execution. This can be achieved through a plan implementation matrix, with funding allocated in the Capital Investment Plan, and be monitored to ensure that deliverables are met using a monitoring and evaluation matrix. The Implementation and Capital Investment Plan outlines the projects to be implemented, the responsible actors, the estimated costs, and the timelines for completion. Regular evaluations should be conducted to assess whether key indicators, which will guide the County Government in achieving its vision, are being met. To adjust the program activities, a review should be carried out every 5 years. Additionally, the progress of the program should be reported to stakeholders at regular intervals.

5.3 Implementation and Capital Investment Matrix

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
Water supply	Extending piped water coverage to the unserved area such as; Matangini; Komo; Tora; Nyacaba Hakairu and Jacaranda.	ST	Water, Environment, Energy and Natural Resources	WRA NEMA	Juja ward; Murera ward; Witeithie ward	800 M
	Juja farm distribution system - Phased construction of distribution network in Juja rural areas of DN 160 mm-63 mm for 100 km.				Kalimoni Ward	100 M
	Jacaranda –Juja water project. Construction of DN350mm HDPE transmission pipeline from Jacaranda to Juja Gachororo of 35 km Construction of masonry storage tank in Juja capacity 300CM.				Juja Ward	200 M
	Construction of water pants at Nyacaba area and Kalimoni areas.				Nyacaba and Kariaini area	
	Carry out a safety audit of existing dams and water reservoirs such as dam in				All Wards	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Murera; Theta areas and Kariaini.					
	Review existing water company policy in line with pro-poor strategies, i.e., affordability					
	Construction of dam at Theta; Juja Farm, etc.					
	Adopt modern technology to support in monitoring unaccounted water due to illegal connection, spillage and vandalism.	MT	Water, Environment, Energy and Natural Resources	KWCL/RUJWASCO Development Partners	All Wards	
Sanitation and wastewater	Extending and improve the current sewer trunk to cover an unserved area such as Juja Farm; Mirimaini; Witeithie; Kenyatta Road.	ST	Water, Environment, Energy and Natural Resources	WRA NEMA Private Sector	Juja Farm; Mirimaini; Witeithie; Kenyatta Road	150 M
	Promote affordable and sustainable sanitation technologies at both household and commercial areas e.g., bio-digesters, etc.					
	Enforcing mandatory connections to main sewer trunk systems for high rise development.					
	Construction of wastewater treatment plant at Juja Farm.	MT	Water, Environment, Energy and	KWCL/RUJWASCO Development Partners	Entire Sub-County	500 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
			Natural Resources			
Solid Waste Management	Establish waste incinerators for hazardous waste e.g., medical and other biochemicals.	ST	Water, Environment, Energy and Natural Resources Health Services	NEMA	Juja, Kimbo, Kenyatta Road, Juja Farm and Witeithie	1.5 B
	Increase the waste collection services to cover the entire Sub-County.					
	Provide waste transfer stations at all urban centres.					
	Setting up waste receptacles and waste bins in all urban centres such as Juja, Kimbo, and Witeithie, etc.					
	Enhancing PPPs in the waste collection through licensing and training small waste enterprises in the Sub-County.					
	Creating public awareness of the importance of waste separation and 3Rs through regular solid waste clinics seminars.					
Energy	Promotion the use and adoption of clean energy sources for cooking and lighting such as solar.	ST	Roads, Public Works & Infrastructure	EPRC NEMA Kenya Power	Juja Town; Witeithie; Juja Farm	150 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)	
	Creating awareness of electricity connection through the last mile connectivity by organising public forums.	ST MT	Land, Housing, Physical Planning & Urban Development				
	Development Control guidelines to ensure enforcement of ERC energy policy and Act on renewable energy.				Entire Sub-County		
ICT Infrastructure	Connect all TVET Institutions to ICT infrastructure to promote innovations.	ST	Youth Affairs, Sports, ICT & Communication	Land, Housing, Physical Planning & Urban Development	All wards	400 M	
	Connect all Government facilities with ICT infrastructure to enhance service delivery and efficiency.	ST					Roads, Public Works & Infrastructure Development Partners
	Expand internet coverage and access using fibre optic lines across the Sub-County.	MT					
Roads and Transport	Development of a transportation master plan for the entire Sub-County.	MT	Land, Housing, Physical Planning & Urban Development	KeRRA KeNHA KURA Police NLC	Murera ward and Kalimoni ward	200 M	
	Construction of identified missing links in the road sector such as Juja Farm					30 M	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	and Matangini Road, Juja and Thika via Witeithie.		Roads, Public Works & Infrastructure			
	Reclaiming encroached road reserves and provide walkways; stormwater drainage.	ST			Entire Sub-County	1 M
	Enforcement of traffic management guidelines through retrain road users and enforce set traffic laws and regulations.	MT		KeRRA KURA Police	Entire Sub-County	1 M
	Construction of a bus terminus for public service vehicle in Juja Town.	ST			Juja town	100 M
	Integrating BRT along Thika Superhighway.	ST			Juja, Witeithie, Kimbo	30 M
	Enforcement of development control (Physical Planning) guidelines on all roads to reduce encroachment and to ensure subdivisions are providing adequate road reserves. Permit nothing below 9 m.	MT			Entire Sub-County	1 M
	Upgrade and renovating Juja Farm road, Juja-Gatundu road, Ndarugo-Tora road; Gachororo road and old Juja road.	LT		KeRRA KeNHA KURA NLC	Juja ward; Kalimoni ward; Witeithie ward;	20 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Upgrading and maintenance of feeder roads such as Gatongoro access road; Gacege Gakoe road; Matangi-Kimbo road; Ebenezer-Matangi road.	ST	Roads, Public Works & Infrastructure County Gov. of Kiambu	KeRRA Kenya Power KURA	Ndarugo ward Theta ward Murera Ward	20 M
	Installation of streetlights and floodlights mast in key Sub-County roads and market centres.	MT			Kibii, Murem, Riverside, Highpoint; Avenue 1&2, Orion	100 M
	Upgrading all feeder's road in Juja CBD to bitumen standards.	ST		KURA	Juja town	15 M
	Revive commuter rail transport and modernise the station at Juja town.	MT		KRC	Juja town	50 M
Stormwater drainage	Repairing and maintain the existing drainage channels within urban areas and areas which are flood prone.	ST	Roads, Public Works & Infrastructure	County Government of Kiambu KURA	All wards	100 M
	Designing and covering all the drainage systems along the major roads.					100 M
Education	Construction of special schools within the Sub-County.	MT	Education, Vocational Training & ICT	National Government Development Partners	Juja town	300 M
	Construction and enhance the performance of ECDEs, Primary, Secondary and Tertiary Institutions.	MT			In all Wards	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Construct and equip a national status technical and vocational institute at Juja Farm and Witeithie (TVETS).	ST			Juja; Witeithie; Juja farm	
Housing	Preparation of County housing policy to guide the provision of affordable housing in the Sub-County.	ST	Land, Housing, Physical Planning & Urban Development	Roads, Public Works & Infrastructure UN-Habitat Development partners	Juja; Witeithie; Kimbo; Toll;14	200 M
	Develop a social housing masterplan and strategy for the Sub-County.	ST				100 M
	Rezoning urban areas to promote densification of residential developments (high rise development) and lowering the approval period in urban areas such; Juja; Witeithie; Kimbo; Toll.	MT				50 M
	Servicing the undeveloped land to promote investment by the private sector such as Juja Farm.	MT				150 M
	Adoption of appropriate and affordable building technologies.	MT				
	Review the housing approval process in terms of time and cost.	ST				

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Extension of essential services to informal settlement areas such as sewer trunk systems and water reticulation.	MT			Gachororo; Dekonia	100 M
Health Services	Construction of a Level 4 hospital in Juja ward.	MT	Health Services	KEMSA	Serving the entire Sub-County	100 M
	Equipping and staffing Gachororo health dispensary and Kalimoni health centre.	ST				
	Construction of health centre at Murera; Juja farm and Nyacaba area.	MT			Murera; Juja farm; Nyacaba	
	Introduction of mobile clinics in all sub-location with village health officer.	LT		KEMSA	All Wards	
	Construction of modern rehabilitation centre for drug addicts at Juja.	MT		NACADA	Juja Town	
Cemeteries	Identify land and set aside for cemeteries, and where necessary acquire land in Juja Farm.	ST	Land, Housing, Physical Planning & Urban Development	Health Services KEMSA	At least one in the Sub-County	50 M
	Establishment of the crematorium at Mugutha.	MT	Land, Housing, Physical Planning & Urban Development	Health Services NEMA	Mugutha	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
Social amenities and facilities	Construction of sports and recreational park in Juja Ward and Juja Farm.	ST	Youth, Sports & Culture	Development Partners	Juja ward; Kalimoni ward	50 M
	Construction of a cultural centre and modern social halls.	LT	Youth, Sports & Culture	Development Partners	Mugutha; Witeithie; Juja Farm; Juja; Theta	10 M
	Construction of the Sub-County library, Amphitheatre and an ICT resource centre.	LT	Education, Vocational Training & ICT	Youth, Sports & Culture Development Partners	Juja and Kalimoni ward	5 M
	Construction of Cultural Museum and historical monument within Ndarugo area.	LT	Youth, Sports & Culture	Education, Vocational Training & ICT Development Partners	Ndarugo area Kalimoni	10 M
Abattoirs	Construction of pig abattoir.	MT	Agriculture, Livestock & Fisheries	Trade, Tourism, Industry, Cooperatives Development Partners	Serving the entire Sub-County	5 M
Tourism and Hospitality industry	Promote and support events grounds.	ST	Trade, Tourism, Industry, Cooperatives	Youth, Sports & Culture Development Partners	Serving the entire Sub-County	50 M
	Hotels, guest houses and homestays.	LT	Trade, Tourism, Industry, Cooperatives	-	Serving the entire Sub-County	50 M
	Conference facilities.	LT	Trade, Tourism, Industry, Cooperatives	-	Serving the entire Sub-County	100 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
Promote trade, commerce and cottage industries	Construction of modern market at Juja town, Witeithie, Mirimaini and Juja farm.	ST	Trade, Tourism, Industry, Cooperatives	Agriculture, Livestock & Fisheries	Juja town; Witeithie; Mirimaini and Juja farm	100 M
	Construct Curios/handicraft.	ST	Trade, Tourism, Industry, Cooperatives	Agriculture, Livestock & Fisheries	Juja town, Witeithie; Mirimaini and Kimbo area	10 M
	Construct Jua-kali sheds.	ST	Trade, Tourism, Industry, Cooperatives	Youth, Sports & Culture	Juja town	10 M
	Development of agri-business cooperative societies in all wards.	ST	Trade, Tourism, Industry, Cooperatives	Agriculture, Livestock & Fisheries	All Wards	1 M
	Promoting urban agriculture; greenhouses technology and irrigation.	ST	Agriculture, Livestock & Fisheries	Development partners	At Juja Farm and parts of Ndarugo area and Kiaora area	10 M
Urban Services	Preparing detailed local urban plans and urban limits delineation.	ST	Land, Housing, Physical Planning & Urban Development	Private Consultants	Juja Town; Witeithie; Juja Farm; Kimbo; Kenyatta Road; Hakairu	1.2 B
	Informal settlements upgrading through planning, surveying and titling and provision of basic infrastructure.	ST	Land, Housing, Physical Planning & Urban Development	Development partners	Gachororo Dekonia	
	Data capture for Land Information Management System (land	ST	Land, Housing, Physical Planning &	Development partners	Sub-County	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	administration, valuation and development control).		Urban Development			
	Strengthen Municipal Board structures as defined in UACA.	ST				
	Institutionalise urban services in Juja Sub-County as defined in the UACA Schedule 1.	ST	Land, Housing, Physical Planning & Urban Development	Public Service & Admin	Sub-County	
	Data capture for Land Valuation and Taxation.	ST	Land, Housing, Physical Planning & Urban Development	Public Service & Admin	Sub-County	
	Equipping development control and enforcement section in each ward.	ST	Land, Housing, Physical Planning & Urban Development	Public Service & Admin	Sub-County	
	Capacity enhancement through staffing, skills training and performance management.	ST	Public Service & Admin	National Government Land, Housing, Physical Planning & Urban Development partners	Sub-County	
Urban Public Spaces and	Improvements of public parks, streetscape, outdoor	MT	Environment, Water & Sanitation	Corporate entities	Sub-County	10 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
recreational grounds	furniture, monuments & heritage sites.					
Regulation of Outdoor adverts and trade promotional activities	Develop a comprehensive policy on outdoor advertisements and signage.	ST	Land, Housing, Physical Planning & Urban Development		Sub-County	1 M
Street Naming and Address Systems	Develop guidelines on street naming and identify zones for street address systems in partnerships with the neighbourhood associations, etc.	MT	Public Service & Admin Land, Housing, Physical Planning & Urban Development Roads, Public Works & Infrastructure	Development partners	Sub-County	1 M
Natural Resources	Mapping and surveying the riparian reserves along the following rivers; Theta River, Ndarugo River, Thirikika River, Mugutha River and Athi River.	ST	Environment, Water & Sanitation	Development partners NEMA	Sub-County	500 M
	Enforcing the riparian wayleaves as per the guidelines during the development application stage by hiring more enforcement officers.	ST	Environment, Water & Sanitation	NEMA KFS	Sub-County	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Formation of Environmental Conservation Forums at wards level to create awareness on the need to protect rivers.	MT	Environment, Water & Sanitation	Development partners	Sub-County	
	Planting of trees along the riverbanks to reduce soil erosion.	MT	Environment, Water & Sanitation Land, Housing, Physical Planning & Urban Development	Development partners	Sub-County	
	Rehabilitating the unused quarry site as recreational parks, animal orphanage, urban agriculture, housing, etc.	MT	Environment, Water & Sanitation	NEMA	At Juja ward; Ndarugo	
	Preparing an inventory of Quarry Management System with spatial data for all the quarry sites and owners in the Sub-County.	ST	Environment, Water & Sanitation	WRA NEMA National Government Development partners	Sub-County	
	Develop a policy on sustainable extraction of natural resources e.g., building materials, etc.	MT	Public Service & Admin Land, Housing, Physical Planning &	NEMA Development partners	Sub-County	

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
			Urban Development Finance & Economic planning Environment, Water & Sanitation			
Disaster Risk Reduction	Carry out a safety audit of all buildings and issue a compliance certificate.	ST	Public Service & Admin	0	Sub-County	10 M
	Periodic inspection of public, institutions and industrial facilities for fire and occupational safety.	ST	Public Service & Admin Trade, Tourism, Industry, Cooperatives Land, Housing, Physical Planning & Urban Development	WRA NEMA National Government	Sub-County	10 M
			Environment, Water & Sanitation			
	Rehabilitation of firefighting equipment (fire engines, hydrants, etc.).	ST	Roads, Public Works & Infrastructure	National Government Development partners	Sub-County	2 M

Programmes	Project	Timeframe	Driving Department	Other Implementing actors	Benefiting Ward/Towns/Market	Estimated Cost (Kshs.)
	Routine inspection of dams.	ST	Roads, Public Works & Infrastructure	National Government	Sub-County	1 M
			Environment, Water & Sanitation	Development partners		
Noise, water and air Pollution	Noise pollution control in construction sites, public places and residential neighbourhoods.	ST	Public Service & Admin Environment, Water & Sanitation	NEMA Development partners	Sub-County	10 M
	Water quality monitoring.	ST	Environment, Water & Sanitation	Water & Sanitation Utility Company WRA NEMA Development partners	Sub-County	
	Air quality monitoring in public places (transport termini, industries, etc.).	ST	Environment, Water & Sanitation	WRA NEMA Development partners	Sub-County	

5.4 PLAN MONITORING AND EVALUATION

SECTOR	NATURE OF PROJECTS	MONITORING INSTITUTIONS	EXPECTED OURCOMES	SUCCESS INDICATORS
TRANSPORTATION	Road construction projects Road expansion Tarmacking projects NMT provision Street scaping/Street lighting Storm water drains Construction of modern Bus parks Bus stops Construction of a parking silos	KeNHA/KURA/KeRR A and County Government	Improved road transport system Enhanced movement of people and goods improved traffic movement and road safety Enhanced ease of movement of pedestrians Increased parking spaces	Adequacy of road network Ease of traffic circulation Level of road safety Quality of transport services No of Streetlights NMT infrastructure
HOUSING	Prioritization of areas for County new housing Development control regulations	County Government	Increased housing stock in the planning area Improved living environment	Sufficiency of housing Adherence to development control DC applications and approvals
WATER AND SANITATION	Water and sewerage network projects Solid waste management	RUJWASCO/AWSB	Improved water supply Better sanitation in the planning area	Level of access to water and sewerage services Level of sanitation

COMMERCE AND INDUSTRY	Upgrading markets Industrial development s* Hawkers square	Ministry of Industrialization & trade / County government	Increased employment opportunities Improved household income Improved government revenue	Production levels in the industry Employment levels in the industry Income levels of workers Amount of revenue
SOCIAL INFRASTRUCTURE	Constructing of social halls in all wards, the Sub-County library, Amphitheatre and an ICT resource centre. Constructing a Cultural Museum and historical monument within Ndarugo area. Construct a new fire station Construction of health facilities: level 4 hospital and other health centers Locate water/fire hydrants	National Government County Government FBO Private Sector	Improved access to basic facilities Improved response to fire outbreaks Easy access to affordable and high-quality health facilities	

RECREATION	Construction of a stadium Construction of a sports and recreational park in Juja Ward and Juja Farm. Public spaces	County Government	Ensure efficient function and convenience of users Promote environmental sustainability	
AGRICULTURE	Conservation projects Juja Farm Green zones: agricultural and agro-industrial parks Construction of pig abattoir.	Ministry of Agriculture, Livestock and Fisheries; County Gov't; County Government Development Partners	Enhanced agricultural productivity Improved income for farmers	Agricultural productivity levels Farmers' income levels
ENVIRONMENT	Green spaces projects Controlled Quarrying activities at Ndarugo river	County Government	<ul style="list-style-type: none"> ▪ Improve the aesthetic value of Juja town ▪ Enhanced environmental sustainability and conservation of natural resources 	<ul style="list-style-type: none"> ▪ Extent of green areas in the town

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