



KERUGOYA/KUTUS MUNICIPALITY LOCAL PHYSICAL AND LAND USE DEVELOPMENT PLAN (2020 - 2030)



Kerugoya Town Cabros



Kutus Fire Station

Kerugoya Market



Kerugoya Fruit Market



FINAL PLAN REPORT

“A model municipality that is properly managed and capable of offering quality living standards.”


APPROVAL

CERTIFICATE


I certify that the Plan has been prepared as per section 45 of the Physical and Land Use Planning Act, 2019 and physical planning standards and guidelines.

Name DAVID K. GICHUKI Signature  Date 14th February 2024
Physical Planner No: **RPP: 0152**

CERTIFIED

Name MURUGE MURAGURI Signature  Date 14th February 2024
County Director of Physical Planning **RPP: 0265**

RECOMMENDED

Name Rev. Samuel Kariuki Signature  Date 14th February 2024
County Executive Committee Member of Lands, Physical Planning & Urban Development

APPROVAL

Hansard No. CAK/2024/0024 Date 6th May 2024

County Assembly

FOREWORD



Urbanization is a global phenomenon that has largely influenced human settlement and governance. To align the country with this phenomenon, the Kenyan people have provided structures and systems which are intended to harness the opportunities of urbanization and sustainably manage the challenges associated with unplanned urbanization. The Kenyan structure of urbanization is guided

by the Constitution of Kenya, 2010, the County Governments Act, 2012, the Urban Areas and Cities Act, 2011 and the Physical and Land Use Planning Act, 2019 as the key legislations.

The County Government of Kirinyaga has established the Department of Lands, Physical Planning and Urban Development which is responsible for all matters related to urban development. In addition, we have operationalized the Kerugoya/Kutus Municipality to ensure effective delivery of services to the residents of the Municipality.

The Kerugoya/Kutus Municipality Local Physical and Land Use Development Plan provides the municipality with the appropriate framework for guiding development by setting out the Vision, guidelines and regulations and broad pattern of land uses within the municipality. In addition, the Plan has specific land use and development guidelines and projects which sets the municipality on a transformative agenda. The Plan has provided strategies for addressing the challenges of uncontrolled urbanization, poor access roads, informal activities, lack of adequate space for businesses and industrial activities, shrinking agricultural land, and limited access to infrastructural services have all been.

The LPLUDP is intended to become the main reference document for all Departments in guiding growth and development of Kerugoya/Kutus Municipality for the next ten years and its philosophy is going to guide us in how we manage the upcoming new municipalities and towns.

I look forward to adequate and overwhelming support in the implementation of this Plan.

A handwritten signature in blue ink, appearing to read 'Anne Waiguru', written over a dashed line.

H.E Anne Waiguru E.G.H,
Governor, Kirinyaga County

ACKNOWLEDGMENTS

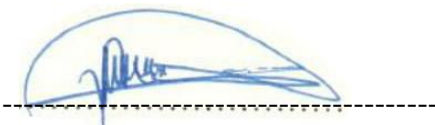
Kerugoya/Kutus Local Physical and Land Use Development Plan is a result of a participatory process between the County Government of Kirinyaga, residents, and stakeholders under the guidance of the Consultant – Geodev (K) Ltd. The community members and the executive made far-reaching support and contributions that led to this Plan as an output.

Efforts by the County Department of Lands, Housing and Urban Development, the municipal board members, and staff to ensure this project was successful are laudable. Under the supervision and effective coordination of all county departments, from the Chief Officer to the Department of Lands, Housing and Urban Development, the planning process is termed a success.

Gratitude goes to the County Assembly of Kirinyaga for their role in unlocking this process through budgetary approval so that the planning process could continue.

I'm grateful to the Governor of Kirinyaga County because this project was conceived under her leadership, and in goodwill, the objective is achieved signified by this Plan.

Finally, to the municipality's people, it is our delight to thank you for your support and contribution to defining a shared future for Kerugoya/Kutus Municipality.



**CPA Paul Muchiri Muchira,
The Municipal Manager,
Kerugoya/Kutus Municipality.**

EXECUTIVE SUMMARY

The main purpose of the Kerugoya/Kutus Municipality Local Physical and Land Use Development Plan (LPLUDP), 2020-2030, is to guide the development of the urban area and its environs for 10 years. The plan has been prepared in the context of policy and legal requirements in the country to support the drive towards the realization of global, regional, and local goals as well as the aspirations of the people. It draws its mandate from the Constitution of Kenya (2010) and the attendant legislation that guides land use development and service provision which include the Physical and Land Use Planning Act, 2019, County Governments Act, 2012, Urban Areas and Cities Act, 2011 (Amended in 2019) among other related laws and policies. Section 45 of the Physical and Land Use Planning Act, 2019 provides for the purpose, preparation, content, approvals, and publication of Local Physical and Land Use Development Plans. The County Government through its programs is responsible for coordinating the sustainable development agenda of the entire county.

The plan aims to achieve a habitable and sustainable urban area and integrate various aspects of urbanization, including but not limited to physical infrastructure development and economic, social, cultural, environmental, and institutional aspects. The Plan focuses on the underlying challenges and opportunities within the planning area to offer solutions that are within the Kenyan legal framework and based on best and attainable practices. The municipality majorly plays the role of commercial, transportation, residential, and administrative functions at the local and regional levels.

The preparation of the Plan embraced a participatory planning approach. Specifically, the exercise engaged the local community to contribute to the planning process by giving their views and expectations of the plan. The participatory approach aimed at creating a base for acceptance, ownership, and resource mobilization for plan implementation.

The plan has been prepared using a procedural process to understand the scope and activities that are supposed to be undertaken. They include:

- i. Mapping of the stakeholders
- ii. Identification of issues through analysis of the planning area and visioning exercises through workshops and interviews with stakeholders
- iii. Digital mapping of the area and

- iv. Synthesis of the identified development opportunities and constraints to develop a possible development concept that addresses the vision of the stakeholders.

Development concepts were then presented to the stakeholders for validation. The concepts were refined, and land use proposals, development strategies, and implementation mechanisms were formulated.

This plan encapsulates the vision of the people of Kerugoya/Kutus Municipality. It envisions a model municipality that is properly managed and capable of offering quality living standards to its population. To realize this vision, the development strategies and projects proposed in the plan must be implemented effectively and within the set timelines. This plan has far-reaching benefits that are not only limited to the municipality but the county as a whole in terms of social and economic transformation. Effective plan implementation will be vital to improving the quality of life for the people of Kerugoya/Kutus Municipality.

TABLE OF CONTENTS

FOREWORD	II
ACKNOWLEDGMENTS	III
EXECUTIVE SUMMARY	IV
LIST OF CHARTS	IX
LIST OF MAPS	X
LIST OF PLATES	XI
LIST OF TABLES	XII
ACRONYMS	XIII
PART ONE: INTRODUCTION AND CONTEXT	1
1 INTRODUCTION	2
1.1 Organization of Report.....	2
1.2 Purpose of the Plan	3
1.3 Objectives of the Plan	3
1.4 Scope.....	4
1.5 Approach and Methodology.....	4
1.5.1 Approach.....	4
1.5.2 Methodology	5
1.6 Expected Outputs	7
1.7 The Vision for Kerugoya/Kutus Municipality	8
2 CONTEXT	11
2.1 Constitutional, Legal, and Policy Context	11
2.1.1 The Constitution of Kenya, 2010.....	11
2.1.2 Legal and Policy Context.....	12
2.2 Locational Context.....	14
2.3 Physiography.....	18
2.4 Functions of Kerugoya/Kutus Municipality.....	20
2.5 Previous Planning Interventions	21
2.5.1 Kutus Development Plan (1994).....	21
2.5.2 Kerugoya Development Plan 2008	23
PART TWO: THE EXISTING DEVELOPMENT SITUATION	25
3 SITUATION ANALYSIS.....	26
3.1 Population	26
3.2 Base Map	33
3.2.1 Analysis of the Base Map	33
3.2.2 Development Pattern.....	36

3.2.3	Implication of the Urban Form and Development Pattern	39
3.3	Existing Land Use	40
3.3.1	Settlement Pattern	45
3.3.2	Land Suitability Assessment	46
3.4	Road Transport.....	50
3.5	Housing.....	52
3.6	Infrastructure Provision.....	55
3.6.1	Water Provision.....	55
3.6.2	Energy Supply	58
3.6.3	Waste Management.....	59
3.6.4	Education	60
3.6.5	Health.....	61
3.7	Environmental Assets	62
3.8	Summary of Development Issues	63
3.9	Synthesis of Planning Issues	70
4	EVALUATION OF URBAN NODES	71
4.1	Description of current functions	71
4.2	Ranking of Urban Nodes.....	74
5	DEVELOPMENT OPTIONS	77
5.1	Criteria for Evaluation	77
5.1.1	Criteria	77
5.1.2	Land Use Change Considerations	77
5.2	Development Options	79
	PART THREE: PLAN PROPOSALS	84
6	STRUCTURE PLAN.....	85
6.1	Proposed Land Uses.....	85
6.2	Area Land Use Plans.....	87
6.2.1	Kerugoya Town: THE COMMERCIAL HUB	88
6.2.2	Kutus Town: THE KNOWLEDGE CENTRE	105
6.2.3	Kiamiciri Centre: SERVICE CENTRE	118
6.2.4	Karia Centre (along Kutus-Karatina, B27, road): SERVICE CENTRE	121
6.2.5	Ithare-ini: SERVICE CENTRE	124
6.2.6	Karia (Adjacent to Thiba Dam): THE RESORT CENTRE	126
6.2.7	Kiamwenja: SERVICE CENTRE.....	129
6.3	Area Zoning Plans.....	131
6.4	Kerugoya Town	132
6.5	Kutus Town.....	141

6.6	Karia Resort Area (Next to Thiba Dam).....	153
6.7	Agricultural Areas.....	156
7	ACTION AREAS	158
7.1	Colonial Villages	158
7.1.1	A Case for Redevelopment of Mukinduri Colonial Village	160
7.2	Development of Kutus Bus Station.....	164
7.2.1	A Case Development of the Proposed Kutus Bus Station	165
8	SECTOR DEVELOPMENT STRATEGIES.....	169
8.1	Transportation Strategy.....	169
8.2	Local Economic Development Strategy.....	176
8.3	Physical Infrastructure Development Strategy.....	177
8.3.1	Water Supply Strategy	177
8.3.2	Liquid Waste Management Strategy.....	178
8.3.3	Solid Waste Management Strategy	178
8.3.4	Storm Water Drainage Strategy	179
8.4	Social Infrastructure.....	180
8.4.1	Health Service Provision Strategy	180
8.4.2	Education Provision Strategy.....	181
8.4.3	Community Facilities Provision Strategy	181
8.4.4	Disaster Risk Management Strategy	182
8.5	Housing Development Strategy	183
8.6	Environment.....	183
8.7	Governance Strategy	184
9	IMPLEMENTATION FRAMEWORK.....	185
10	CAPITAL INVESTMENT PLAN.....	199
10.1	Process of Development of the CIP	200
10.2	List of selected Capital Projects.....	200

LIST OF CHARTS

Chart 3-1: Kerugoya/Kutus Municipality Population Pyramid (2020).....	28
Chart 3-2: Household Water Sources	56

LIST OF MAPS

Map 2-1: National Context	16
Map 2-2: County Context	17
Map 2-3: Kutus Development Plan (1994).....	22
Map 2-4: Kerugoya Part Development Plan (2008)	24
Map 3-1: Kerugoya/Kutus Municipality Base Map.....	34
Map 3-2: Kerugoya/Kutus Municipality Existing Land Use.....	40
Map 3-3: Kerugoya Urban Area Existing Land Use	41
Map 3-4: Kutus Urban Area Existing Land Use.....	43
Map 3-5: Rural-Urban Continuum.....	45
Map 3-6: Kerugoya/Kutus Municipality Land Suitability.....	47
Map 3-7: Kerugoya Urban Area Land Suitability Assessment	48
Map 3-8: Kutus Urban Area Land Suitability Assessment.....	49
Map 3-9: Kerugoya/Kutus Municipality Existing Road Function.....	51
Map 3-10: Kerugoya/Kutus Municipality Water Reticulation Network	56
Map 3-11: Electricity Distribution Network.....	58
Map 3-12: Waste Management Facilities	59
Map 3-13: Education Facilities Distribution.....	60
Map 3-14: Health Facilities Distribution	61
Map 3-15: Environmental Assets.....	62
Map 5-1: Preferred Development Model.....	83
Map 6-1: Kerugoya/Kutus Municipality Structure Plan.....	86
Map 6-2: Kerugoya Town Proposed Land Use Plan	104
Map 6-3: Kutus Town Proposed Land Use Plan	117
Map 6-4: Kiamiciri Area Land Use Plan	120
Map 6-5: Karia Area Land Use Plan.....	123
Map 6-6: Ithare-Ini Area Land Use Plan	125
Map 6-7: Karia (Thiba Dam) Area Land Use Plan.....	128
Map 6-8: Kiamwenja Area Land Use Plan	130
Map 6-9: Kerugoya Town Zoning Plan	140
Map 6-10: Kutus Town Zoning Plan	150
Map 6-11: Karia (Thiba Area) Zoning Plan	155
Map 7-1: Context of the Kutus Town Proposed Bus Park.....	166
Map 8-1: Kerugoya/Kutus Municipality Proposed Road Hierarchy	173
Map 8-2: Kerugoya Town Proposed Road Network	174
Map 8-3: Kutus Town Proposed Road Network.....	175

LIST OF PLATES

Plate 1-1: Stakeholder Engagement in the Municipality during plan preparation.....	5
Plate 1-2: Visioning Exercise in Kutus	9
Plate 1-3: Visioning Exercise in Kerugoya.....	10
Plate 6-1: Sample of setbacks for a High-Density Residential Area	151
Plate 6-2: Sample of setbacks for a Medium Density Residential Area	151
Plate 6-3: Sample of setbacks for a Low-Density Residential Area	152
Plate 7-1: Site Plan for Mukinduri Colonial Village	162
Plate 7-2: Residential area comprising of storied houses and the proposed shopping centre.	163
Plate 7-3: Proposed Social Hall and community playground	163
Plate 7-4: Open spaces for recreational use within the residential area.....	163
Plate 7-5: Site for the Proposed Bus Park in Kutus	165
Plate 7-6: The Bus Park and Passenger bays	167
Plate 7-7: Retail Shops.....	167
Plate 7-8: Public Toilets and Water Tank	167
Plate 7-9: A toll Station at the Entrance of the Bus Station.....	168
Plate 8-1: Road Profile for Kutus-Karatina (40m Reserve) Road	171
Plate 8-2: Road Cross Section Profile for 21m Secondary roads	171
Plate 8-3: Road Cross Section for 9m Access Road	172

LIST OF TABLES

Table 1-1: Methodology for Undertaking the Plan.....	5
Table 2-1: Municipal Rock Structure	19
Table 2-2: Type of Soils in the Municipality.....	19
Table 2-3: Comparison of Existing Land Use to the Kutus Development Plan (1994)	21
Table 2-4: Comparison of Existing Land Use to the Kerugoya Development Plan (2008)	23
Table 3-1: Municipal Population Projection and Growth Rate	26
Table 3-2: Population Density (Year 2009-2030)	27
Table 3-3: Population Implications.....	30
Table 3-4: Population Needs Assessment.....	31
Table 3-5: Land Budget	44
Table 3-6: Municipal Road Condition	50
Table 3-7: Kiriwasco Water Quantity Supply	57
Table 6-1: Proposed Land Uses in the Municipality	85
Table 7-1: Profile of the Colonial Villages.....	159
Table 9-1: Implementation Framework	187
Table 10-1: Capital Investment Projects.....	201

ACRONYMS

ACK	Anglican Church of Kenya
ASL	Above Sea Level
CBD	Central Business District
CIDP	County Integrated Development Plan
DP	Development Plan
ECDE	Early Childhood Development Education
G.I. S	Geographical information System
G4S	Group 4 Securicor
GSM	Global System for Mobile Communication
HA	Hectares
HDU	High Dependency Unit
HPI	Human Poverty Index
ICT	Information and Communication Technology
ICU	Intensive Care Unit
KDHS	Kenya Demographic Health Survey
KeNHA	Kenya National Highway Authority
KIRIWASCO	Kirinyaga Water and Sanitation Company
KM	Kilometre
KPHC	Kenya Population and Housing Census
KURA	Kenya Urban and Rural Authority
KUSP	Kenya Urban Support Program
KV	Kilo Volt
LPG	Liquid Petroleum Gas
LPLUDP	Local Physical and Land Use Development Plan
NEMA	National Environment Management Authority
NMT	Non-Motorised Transport
NSP	National Spatial Plan
PSV	Public Service Vehicles
SPSS	Statistical Package for Social Sciences
SQ.KM	Kilometres Square
UACA	Urban Areas and Cities Act
WHO	World Health Organization



PART ONE: INTRODUCTION AND CONTEXT

1 INTRODUCTION

Overview

The growth of urban areas in Kenya comes from increasing immigration of people from the rural to urban areas in search of employment, investment opportunities, and education among other pull factors. The advent of the devolved system of governance in Kenya is credited to the decentralization of services from the predominantly larger cities in Kenya and the shifting focus on the more “local” urban areas that were previously overlooked. This is due to the varied opportunities these urban areas present in terms of potential for growth assisted by a localized administrative footprint. The growth of Kerugoya/Kutus Municipality has been particularly profound since the beginning of devolution. The population of the municipality has more than doubled from the last census and development is on the rise to meet the needs/demand of this increasing population. However, this unique growth of the municipality has proven to be challenging due to the lack of a framework to guide development and land use. This Local Physical and Land Use Development Plan (LPLUDP) shall bridge the gap in terms of land use regulation and infrastructure provision to make the municipality livable and spur economic development.

The physical and population growth of the municipality has resulted in several challenges including improper waste management at municipal and neighborhood levels, an unreliable road network in the rural areas, insufficient infrastructure (water and sewerage), environmental pollution, and inadequacy of social amenities. The development of the plan results from profiling these challenges and prescribing possible solutions for infrastructural provision, proper land use management, and urban governance.

1.1 Organization of Report

The report is organized in three parts. These include:

- **Introduction and Context**– This section gives the background to the project in terms of the purpose, objectives, and scope of the plan as well as the expected outputs/deliverables of the assignment. The approach and methodology used in undertaking the plan are also detailed. The planning context provides the constitutional, legal and policy background through which the plan is anchored and guided. The

PART ONE: INTRODUCTION AND CONTEXT

location, physiographic characteristics, and functions of the municipality are discussed. This section has also profiled previous planning efforts for Kerugoya and Kutus Towns.

- **Site Analysis** – This section gives the profile of the municipality in terms of the existing infrastructural conditions as well as the spatial findings and analysis of the planning area. An evaluation of the different emerging urban centres in terms of the existing as well as possible future functions each centre can play in the development of the municipality is given. The possible development pattern and form of the municipality are also discussed in this section.
- **The Plan** – This section gives the plan of the municipality by providing the proposed structure plan for the municipality, detailed area land use plans for Keugoya and Kutus Towns as well as Kiamiciri, Karia (along Kutus- Karatina road and Thiba area), Kiamwenja and Ithare-ini centres. The area zoning plans for the aforementioned centres have also been provided. The areas highlighted for improvement (action areas) have been prescribed together with the municipality's sector development strategies for improvement. Lastly, a plan implementation framework has been detailed, giving the expected timeframe for each proposed project to be completed as well as the possible implementers. A capital investment plan is also provided within this section.

1.2 Purpose of the Plan

This plan will serve the following purposes:

- i. Zoning, urban renewal, or redevelopment;
- ii. Guiding and coordinating the development of infrastructure;
- iii. Regulating the land use and land development;
- iv. Providing a framework for coordinating various sectoral agencies; and
- v. Providing a framework and guidelines on building and works
- vi. Development in the municipality.

1.3 Objectives of the Plan

The following are the objectives the plan intends to achieve within the span of the planning period of ten (10) years;

- i. Optimize the use of land and land-based resources.
- ii. Spur local economic development
- iii. Integrate land uses and activity areas

PART ONE: INTRODUCTION AND CONTEXT

- iv. Create a basis for the provision of appropriate infrastructure.
- v. Protect and conserve the natural environment while improving the built environment
- vi. Promote good governance and leadership
- vii. Create a basis for land use management and development control.

1.4 Scope

Temporal Scope

The plan will guide land use and infrastructure development for ten (10) years subject to review after five (5) years.

Spatial Scope

The plan prepared covers a total area of 71.55 km². This is inclusive of:

- Kerugoya Town and its surroundings including Waigiri/Githioro, Mukinduri and Kibingo Colonial Villages, Ndimi area, Kamondo, and Kaitheri.
- Kutus Town and its surroundings including Ahiti Ndomba, Kabatiro, and Kirinyaga University, Gatuto.
- Kiamwenja,
- Ithare-ini,
- Thiba Dam Area
- Kiamiciri

1.5 Approach and Methodology

1.5.1 Approach

As explained below, the planning approach used was participatory, integrated, and flexible.

1. **Participatory:** The planning process was consultative as provided for in the Constitution. A series of consultative meetings were undertaken with key agencies such as local leaders and established local institutions among others. Intensive stakeholder workshops and public outreach were undertaken to build consensus and resolve key issues and concerns within the municipality. Stakeholder participation gives the local people a sense of ownership and belonging, and the freedom to express their views in an amicable environment.

PART ONE: INTRODUCTION AND CONTEXT

Plate 1-1: Stakeholder Engagement in the Municipality during plan preparation



2. **Integrated:** The plan adopted an interdisciplinary approach with a focus on marrying land use management with sector-based strategies for infrastructure provision. The plan also provides and implementation mechanism as well as a capital investment plan.
3. **Poly-nucleic Urban Development:** This approach entails establishing cooperation between neighbouring towns and coordinating functions. By adopting this approach, the objective of decentralized and equitable development can be achieved by reducing the burden on the prime towns and combating linear development along major corridors.

1.5.2 Methodology

A phased process was undertaken in preparation for the Kerugoya/Kutus Municipal Local Physical and Land Use Development Plan (LPLUDP). The following steps and activities were undertaken to achieve the plan.

Table 1-1: Methodology for Undertaking the Plan

No.	Step	Key Activities	Output /outcome
1.	Project Inception	<ul style="list-style-type: none"> • Publish a Notice of Intention to plan • Conduct Start-up meetings 	Inception Report

PART ONE: INTRODUCTION AND CONTEXT

No.	Step	Key Activities	Output /outcome
		<ul style="list-style-type: none"> • Identification of stakeholders • Develop a mode of Operation/Action Plan • Conduct an appraisal of the project area/reconnaissance 	
2.	Scoping of context	<ul style="list-style-type: none"> • Conduct Urban Study that comprises: <ol style="list-style-type: none"> i. Literature review ii. Key Informant interviews iii. Stakeholder consultations/FGDs iv. Observation (including photography) v. Administration of questionnaires and instruments. • Stakeholder consultations; 	Data for analysing the development situation in the municipality
3.	Mapping	<ul style="list-style-type: none"> • Acquire high-resolution satellite image for the planning area; • Acquire digital topographical maps; • Digitize and compile digital information. • Prepare thematic maps; • Prepare a digital cadastral layer using RIMs • Create a GIS data base. 	<ul style="list-style-type: none"> • Urban Base Map • Cadastral Layer
4.	Identification of planning issues	<ul style="list-style-type: none"> • Analyze baseline information; • Sector consultations; • Conduct a Launch and preliminary Visioning. • Validate situational analysis findings and the planning issues identified; • Realign the preliminary vision established at the launch of the project. • Incorporate stakeholders' concerns and comments. 	Urban socio-economic database
5.	Land optimization for Urban Development	<ul style="list-style-type: none"> • Project land requirements based on population needs; • Undertake Land suitability analysis entailing; <ol style="list-style-type: none"> i. Slope analysis; ii. Threshold analysis; 	Draft Land Use Plan

PART ONE: INTRODUCTION AND CONTEXT

No.	Step	Key Activities	Output /outcome
		<ul style="list-style-type: none"> Scenario building by developing various possible development options; Select the preferred spatial structure to develop a structure plan. 	
6.	Preparation of Land use /Zoning plan	<ul style="list-style-type: none"> Prepare a zoning/Land use Plan 	Draft Zoning Plan
7.	Formulation of Land Use and Land Management Policies.	<ul style="list-style-type: none"> Formulate Land use and Land Management Policies /Guidelines based on the zoning/ land use plan. 	Draft Zoning Regulations
8.	Formulation of sector development strategies	<ul style="list-style-type: none"> Formulate sector development strategies; Identify strategic actions and measures to be taken to implement the plan; Identify programs and projects to be implemented to realize the strategies. 	Draft LPLUDP
9.	Implementation Framework	<ul style="list-style-type: none"> Establish timeframes and identify actors for the implementation of identified policies, programs, and projects. 	
10.	Stakeholder engagement (Draft Plan Validation Workshop)	<ul style="list-style-type: none"> Present the Draft LPLUDP to the client and stakeholders. Collect comments from the stakeholders. 	
11.	Preparation of the Final Draft Plan	<ul style="list-style-type: none"> Incorporate the comments raised by the stakeholders into the draft plan Submit the Final Plan to the client 	Final Draft LPLUDP
12.	Submission of the Plan for approval and adoption.	<ul style="list-style-type: none"> Editing of the final draft Packaging the reports for submission Submission of the plan to the County Assembly for approval respectively. Publishing Gazettement of the approved plan 	Approved Municipal Urban Plan

1.6 Expected Outputs

The outputs of the planning process resulted in the following elements:

- i. Kerugoya/Kutus Municipal growth boundary

PART ONE: INTRODUCTION AND CONTEXT

- ii. Urban Base Map including Digital Cadastral Layer
- iii. Urban socio-economic database that includes household survey, land use survey, traffic and transport survey, and other surveys
- iv. Approved Municipal Urban Plan
- v. Participatory training needs, training manuals, and reference tools

1.7 The Vision for Kerugoya/Kutus Municipality

Following a stakeholder visioning exercise held in both Kerugoya and Kutus Towns, a variety of vision statements based on different themes of discussion are outlined below:

i. Governance

- **Kutus** - To offer effective, sustainable, and efficient urban management services through citizen participation
- **Kerugoya** - To provide an all-inclusive and transparent working environment for better management of the municipality

The combined vision statement for the municipality – a municipality that is effective, inclusive, and transparent offering sustainable urban services for all.

ii. Land and Environment

- **Kutus** - A clean municipality with proper use of land and security of tenure
- **Kerugoya** - To have a clean environment with sustainable land management.

Combined Vision Statement for the municipality – To have a clean sustainable environment in the municipality brought about by proper land management

iii. Housing

- Kutus - To establish a healthy, sustainable, and habitable municipality.
- Kerugoya - To achieve modern affordable quality housing for all by the year 2030.

Combined Vision Statement for the municipality – A municipality offering affordable quality housing by the year 2030.

iv. Physical Infrastructure

- Kutus - A wealthy municipality with leading supporting infrastructure to push its development

PART ONE: INTRODUCTION AND CONTEXT

- Kerugoya- Town with clean water, electricity, good drainage, and proper management

Combined Vision Statement for the municipality - A wealthy municipality with facilitative infrastructure to support its development.

v. Local Economic Development

- Kutus - Sustainable vibrant municipality for a better tomorrow
- Kerugoya - To be a premier county/municipality in terms of economic development and sustainability.

Combined Vision Statement for the municipality - To be a premier county/municipality in terms of economic development and sustainability.

vi. Social Infrastructure

- Kutus - To have reliable social services within the municipality
- Kerugoya - To have the leading healthcare services in the region, To have an educated population

Combined Vision Statement for the municipality – A municipality having reliable social services to better the lives of its population.

vii. Transport

- Kutus - To have accessible and safe roads within the municipality
- Kerugoya - Transforming the transport sector for economic development

Combined Vision Statement for the municipality – A municipality with safe, accessible roads that can help drive economic development.

Plate 1-2: Visioning Exercise in Kutus



PART ONE: INTRODUCTION AND CONTEXT

Plate 1-3: Visioning Exercise in Kerugoya



The Vision for the Municipality

The above vision statements derived from the stakeholder visioning forums are hereby combined and the vision for the municipality is given as:

A model municipality that is properly managed and capable of offering quality living standards to its population.

2 CONTEXT

Overview

The planning of Kerugoya-Kutus Municipality is anchored around the constitution of Kenya among other laws including the Physical Planning and Land Use Development Act, 2019, The County Government Act, 2012, Urban Areas and Cities Act, 2011, and its amendment of 2019 among others. Policies that have guided the preparation of this plan include Kenya Vision 2030, The National Land Policy, 2009, Urban Development Policy, and the National Spatial Plan, 2015-2045. The location of the municipality, its physiography, functions, and previous planning interventions are also contextualized to give further insight into the planning area.

2.1 Constitutional, Legal, and Policy Context

2.1.1 *The Constitution of Kenya, 2010*

The Constitution of Kenya under the fourth schedule assigns different functions to county governments including county planning. It also outlines the principles of land management as well as regulation of land use and property, environmental protection, and governance. The development of the Kerugoya/Kutus Local Physical and Land Use Development Plan shall abide by the principles thus set out in the constitution. The table below highlights sections within the constitution that form key considerations during plan preparation.

The Constitution of Kenya, 2010	<ul style="list-style-type: none">• Section 60 (1) stipulates the principles of land management• Section 61 (2) stipulates the classification of land in Kenya.• Section 66 (1&2) insists on the regulations of land use and property• Section 69 (1) indicates the states' obligation concerning the environment.• Section 70 (1&2) stipulates the enforcement of environmental rights• Section 42 states the right of every person to have a clean and healthy environment
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PART ONE: INTRODUCTION AND CONTEXT

2.1.2 Legal and Policy Context

The section below highlights the laws and policies that have been used in the preparation of the plan. Various sections within the stated laws have been highlighted to show their function in the delivery of the plan.

Law	Function to the Plan
Urban Areas and Cities Act, 2011, and Urban Areas and Cities (Amendment) Act, 2019	<ul style="list-style-type: none">• Article 5 instructs on the criteria used for the classification of urban areas and cities.• Article 11 gives the principles of governance and management of urban areas and cities.• Article 32 highlights the service delivery by a municipal board• Article 36 stipulates the objectives of an integrated urban area and city development plan.
Physical and Land Use Planning Act, 2019	<ul style="list-style-type: none">• Article 5 stipulates the principles and norms of physical and land use planning.• Section 10 indicates the responsibilities of the Cabinet Secretary to physical land use planning.• Section 45 describes a local physical and land use development plan: its purpose, preparation, content, notices of objection and approvals as well as the publication of the LPLUDP.• Second schedule part A instructs matters that may be dealt with in an LPLUDP.
The County Government Act, 2012	<ul style="list-style-type: none">• Article 5 states the responsibilities of the county government including county planning as provided in the fourth schedule of the constitution.• Article 49 introduces the urban areas and cities as tools for the management of urban areas and cities.• Article 102 stipulates the principles of planning and development facilitation in a county• Article 104, indicates the obligations to plan by the county

PART ONE: INTRODUCTION AND CONTEXT

Law	Function to the Plan
	<ul style="list-style-type: none"> • Article 111, indicates the types of plans for both a municipality and a city. • Article 115, stipulates the process taken to carry out public participation.

Policy Context

Policy Document	Policy Direction
Kenya Vision 2030	<ul style="list-style-type: none"> • Chapter 2, indicates the foundation for socioeconomic transformation • Chapter 3, outlines the economic pillars such as tourism, agriculture, wholesale and retail trade, manufacturing, business process outsourcing/offshoring, and financial services. • Chapter 4, outlines the social pillars including education and training, health care delivery, water and sanitation, environmental management, gender youth and vulnerable groups, housing and urbanization, and social equity and poverty reduction. • Chapter 5, focuses on the political pillar by explaining the guiding principles.
The Sessional Paper No. 3 of 2009 on National Land Policy	As contained in Sessional Paper No. 3 of 2009 recognizes that “development of land in urban and peri-urban areas has been inhibited by poor planning, the rapid growth of human settlements and activities, unmitigated urban sprawl and inadequate provision of infrastructure.” The policy, further, notes that proper planning will facilitate coordinated development of urban and peri-urban areas in terms of housing, commercial, industrial, and infrastructure development to accommodate changes in lifestyle and economic activities.

PART ONE: INTRODUCTION AND CONTEXT

Policy Document	Policy Direction
The National Urban Development Policy, 2016	The policy objectives include ensuring the legal personality of cities and urban areas; and ensuring planned, inclusive, and sustainable urban development that implies the recognition of urban centres as entities that strive to harmonize physical planning with economic development planning and are sensitive to stakeholders' participation and environment among others.
National Spatial Plan, 2015-2045	The policy seeks to achieve promises Kenyans furnished themselves under the new Constitution such as the right to a better economy; the need for balanced development across the country, the right to a clean and healthy environment, and the right to property among others. It also lays a foundation for Article 66 of the Constitution on the regulation of land uses.

2.2 Locational Context

Kerugoya-Kutus Municipality is located 10 kilometers East and southeast of Karatina Town and 40 kilometers west of Embu Town. Kutus Town is located along the Sagana-Embu (B25) road while Kerugoya Town is located along the Kutus-Karatina (B27) road. These two towns form the two major urban nodes of the municipality. The planning area covers 71.55 square kilometers. It is situated at the center of Kirinyaga County touching three constituencies; Kirinyaga Central, Mwea East, and Gichugu. It lies within seven wards; Kabare, Kerugoya, Inoi, Kangai, Kanyakiini, Nyangati, and Baragwi.

Locational Challenges

- The presence of two major centres within the municipality, 10km apart, presents a lot of pressure on agricultural land due to the potential of urban sprawl between the two centres. This can create a challenge in the provision of services such as sewerage and overstretching of available resources.
- The location of Kerugoya and Kutus along major transport corridors presents pressure on lands adjacent to the roads.

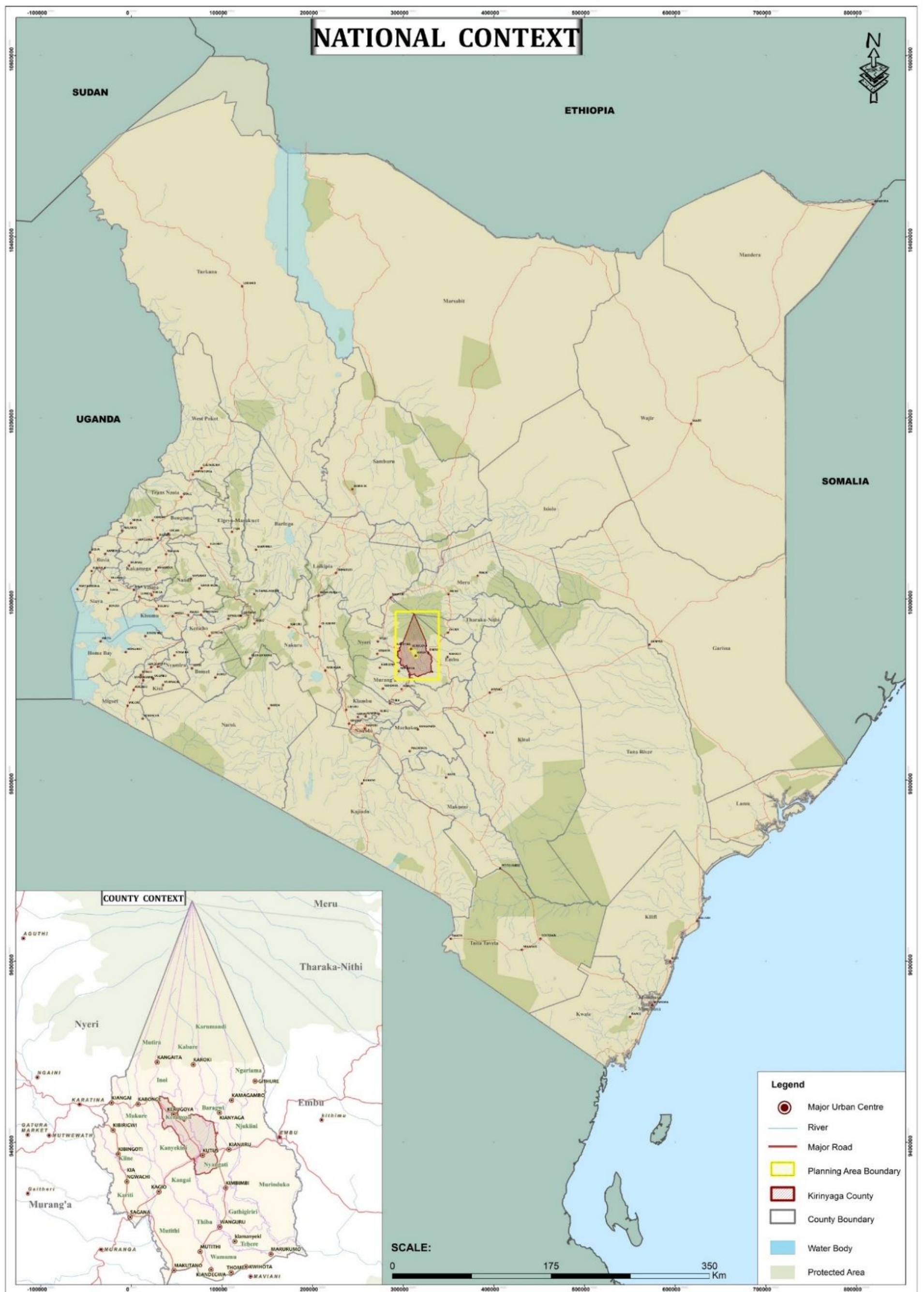
PART ONE: INTRODUCTION AND CONTEXT

Locational Opportunities

- The presence of two major urban centres within the municipality presents a possibility of decentralization of functions and services as opposed to one local centre.
- The central location of the municipality within the county offers improved access to services to the surrounding agricultural lands and other major urban areas.
- The municipality is linked to other regions by road.

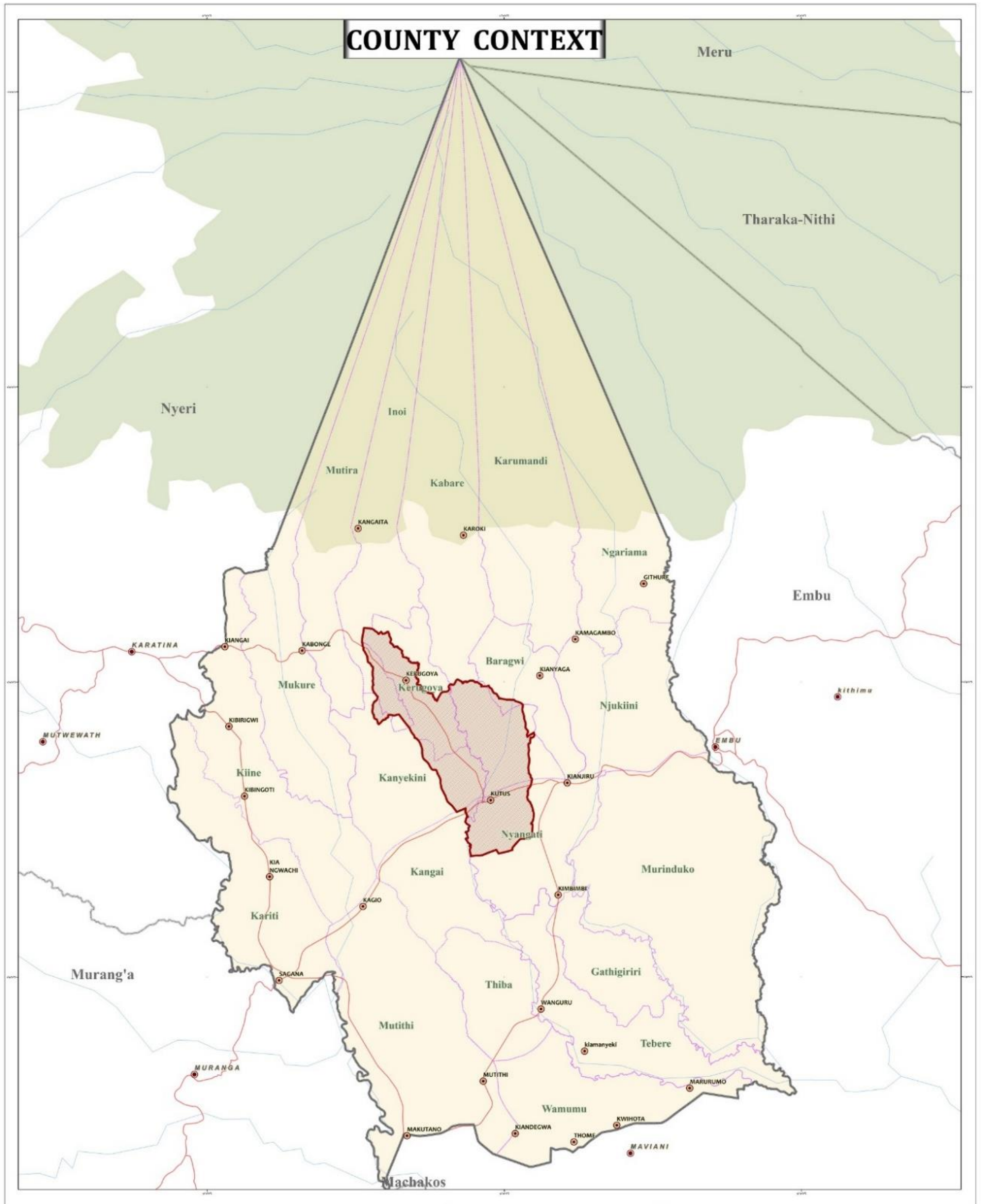
PART ONE: INTRODUCTION AND CONTEXT

Map 2-1: National Context



PART ONE: INTRODUCTION AND CONTEXT

Map 2-2: County Context



- Legend**
- Major Urban Centre
 - Other Towns
 - River
 - Major Road
 - Planning Boundary
 - Ward Boundary
 - County Boundary
 - Abutting County Boundary
 - Mount Kenya Forest

SCALE 1:75,000

Projected Coordinate System: Arc 1980 UTM zone 37S
 Projection: Transverse Mercator
 false easting: 500000.00000000
 false northing: 10000000.00000000
 central meridian: 33.00000000
 scale factor: 0.99960000
 latitude of origin: 0.00000000
 Linear Unit: Meter



COUNTY GOVERNMENT OF KIRINYAGA
 Lands, Housing and Urban Development
 P.O. BOX 260- 10304
 KUTUS- KENYA



SOURCE OF INFORMATION
 MAPPED BY: GEODEV (K) LTD.
 2nd Floor, Allbid House
 Mombasa Road
 P.O. Box 14066-00100
 NAIROBI-KENYA
 Tel. +254-020-2721696, Mob: 0712151779
 EMail geodevkenya@yahoo.com

2.3 Physiography

Topography

The municipality lies at an altitude of 1,686 meters above sea level (asl) in Waigiri/Githioro area with the lowest point being 1,240 meters above sea level (asl) at Ahiti Ndomba in Kutus Town. Mt. Kenya, which lies north of Kerugoya, greatly influences the landscape of the Municipality. The municipality is characteristic of two landforms: a ridge and a plain. The ridge begins from Waigiri and goes down to Kutus Town, where the plain landform is characteristic and influential to rice production in the town. The undulating landscape of the municipality is advantageous to infrastructural provision through gravity for such services as water and sewerage.

Climate

The municipality is on the windward side of Mt Kenya. The average annual temperature is 18.7°C. The average annual rainfall received is 1,412 mm. The municipality has two rainy seasons. The long rains occur between March and May averaging 2,146mm while the short rains occur between October and November averaging 1,212 mm. The climate experienced in the municipality is influential in the agricultural production of tea and coffee.

Drainage

The municipality has one major river: River Thiba. River Thiba has a major tributary namely River Rutui. Mukindu, Gakuo, and Kagogo also drain into River Thiba. River Rutui has two tributaries namely River Ngaci and Kabuga. Kutus Town, the lowest point in the municipality, experiences frequent flooding during the rainy season when these rivers bust banks. River Thiba drains into River Tana downstream. These rivers are the principal sources of water in the municipality. The water from these rivers has also been channeled through canals to support rice irrigation, especially in Kutus Town.

Geology

Rocks

The municipality has two main types of volcanic rocks: basic igneous and sedimentary. Basalt rocks cover a total of 84.85% of the municipality, 11.18% is covered by basic igneous rocks and 3.97% is covered by pyroclastic sedimentary rocks.

PART ONE: INTRODUCTION AND CONTEXT

Table 2-1: Municipal Rock Structure

Type of Rock	Properties	Location	Area covered (Ha)	% of the total area
Pyroclastic rocks	<ul style="list-style-type: none"> Formed from clastic sedimentary rocks composed of volcanic materials. Range from large agglomerates to very fine ashes and tuffs 	Githioro and Waigiri areas.	279.934	3.97%
Basalt rocks	<ul style="list-style-type: none"> They can be either glassy or coarse in appearance. 	Kerugoya to Kutus Town	5982.483	84.85%
Basic Ingenious rocks	<ul style="list-style-type: none"> Usually do not react with acids. The mineral deposits are available in the form of patches of different sizes. Suitable for construction and building blocks 	Gatuto to Ahiti Ndomba (cover the lower part of the Kutus)	788.55	11.18%

Soils

The municipality is covered with two types of volcanic soils as shown in Table 2-2: The soils are deep, well-drained red tropical soils. They are 30% clay and hence have the ability to retain water and are essential for the irrigation of paddy rice. They have a moderate to strong angular blocky structure. The soils are moderate to highly fertile due to the presence of decay matter from agricultural activities in the area over time. These soils have a low permeability tendency.

Table 2-2: Type of Soils in the Municipality

Type of Soil	Location	Area Covered
Humic Nitisols	Githioro to Gatuto	6223.08 Ha
Rhodic Nitisols	Gatuto to Ahiti Ndomba	794.01 Ha

Ground Water Potential

The whole municipality lies in an area of high groundwater potential. This is evident in the numerous springs found within the region that show the high potential for existing groundwater.

PART ONE: INTRODUCTION AND CONTEXT

Implications of Locational and Physiographic context

1. The plain landscape as well as the soils within Kutus Town offers favorable conditions for rice farming.
2. The undulating landscape of the municipality is advantageous to infrastructural provision through gravity for such services as water and sewerage.
3. High rainfall and low temperatures experienced throughout the year offer favorable conditions for agriculture.
4. The basalt rock type covering the majority of the municipality is ideal for mining activities and supporting urban development.
5. The fertile volcanic rocks provide good soils for agriculture which forms the economic backbone of residents in the municipality.

2.4 Functions of Kerugoya/Kutus Municipality

The municipality plays a triplicate of functions as highlighted in the table below.

Category	Function
Residential	The working population in the core urban areas resides in different areas within the municipality including Kerugoya Town, Kutus Town, Mukinduri, Kibingo as well as in the surrounding rural areas. The core urban areas are the main dormitory areas for a majority of the population in the municipality.
Economic	The municipality is a source of employment and production in the industrial, commercial, hospitality, and service sectors. It is within the municipality that production and movement of manufactured goods from the agricultural hinterland to other centres is made possible.
Service	The following services are offered within the municipality: Education services, health services, public utilities, commercial banks, co-operatives, administration, judicial services, recreational as well as transportation services.

PART ONE: INTRODUCTION AND CONTEXT

2.5 Previous Planning Interventions

2.5.1 Kutus Development Plan (1994)

The Kutus Development Plan was developed in 1994 but was not approved. The plan covered an area of 185.91Ha. The table below shows a comparison of the existing land use to the development plan. This comparison gives the level of implementation of the plan to date.

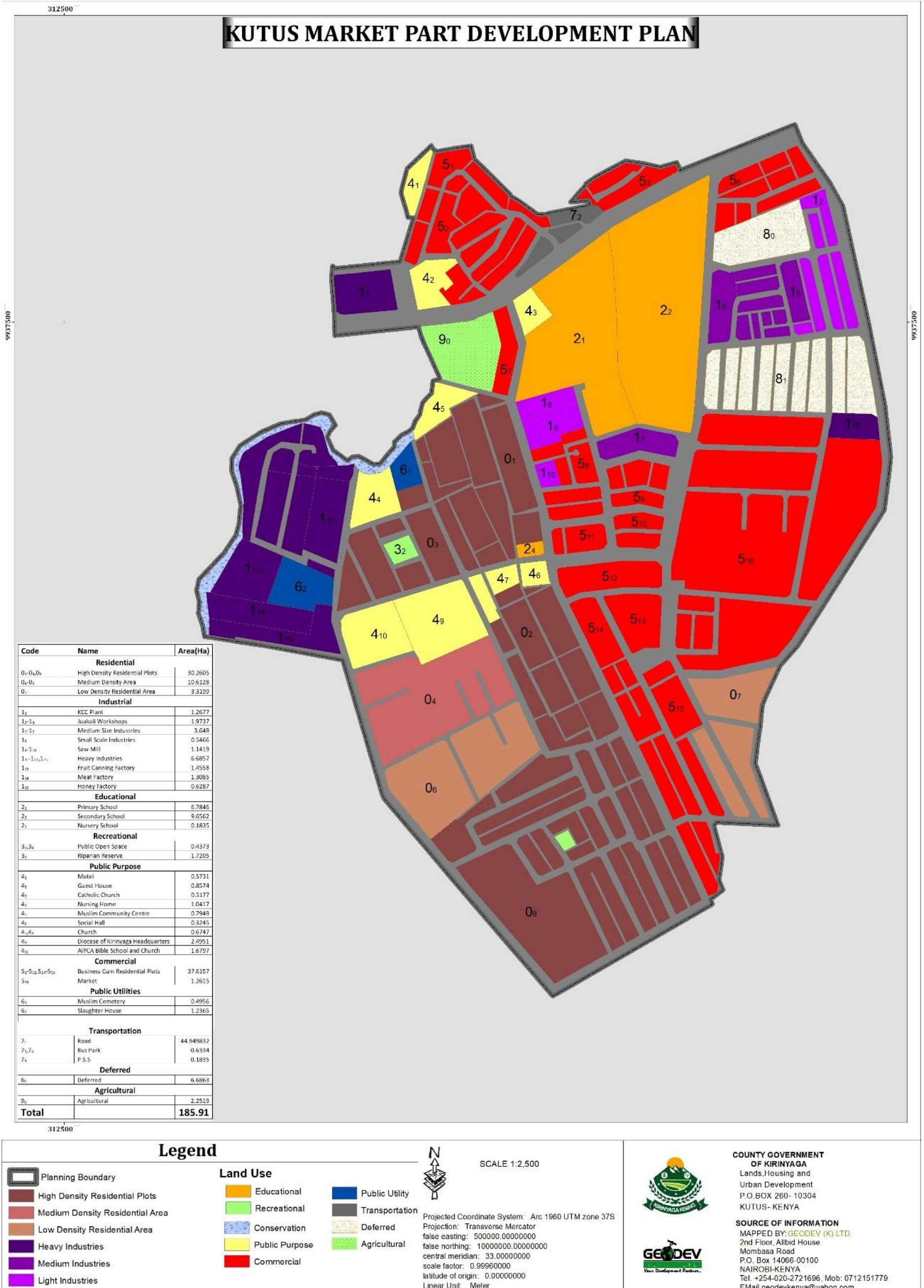
Table 2-3: Comparison of Existing Land Use to the Kutus Development Plan (1994)

Land Use	DP 1994 (Ha)	Existing (Ha)
Residential	44.193	42.134
Industrial	18.658	2.001
Educational	16.624	14.115
Recreational	2.158	14.008
Public Purpose	8.959	8.210
Commercial	38.877	27.201
Public utility	1.732	0.332
Transport	45.767	30.202
Deferred	6.686	-
Conservation	-	18.442
Agricultural	2.252	29.265
Total	185.9 Ha	185.9 Ha

The DP set aside 44.193Ha for residential use. Currently, 42.134Ha is being used for residential purposes. A total of 30.202Ha is currently being utilized for transport against an intended 45.767Ha. Moreover, agriculture currently covers 29.0265Ha against a possible 2.252Ha that was planned for the aforementioned purpose. Industrial use currently occupies 1.5 Ha while 18.658 Ha was set aside for industrial purposes in the DP.

PART ONE: INTRODUCTION AND CONTEXT

Map 2-3: Kutus Development Plan (1994)



Source: Department of Lands (Physical Planning)

PART ONE: INTRODUCTION AND CONTEXT

2.5.2 Kerugoya Development Plan 2008

The Kerugoya Development Plan was prepared in 2008 but was not approved. The plan covered an area of 2,217.172Ha/ 2.217km².

Table 2-4: Comparison of Existing Land Use to the Kerugoya Development Plan (2008)

Land Use	DP 2008 (Ha)	Existing (Ha)
Residential	876.37	527.294
Industrial	11.28	19.859
Educational	63.18	77.359
Recreational	69.05	5.162
Public Purpose	35.212	48.181
Commercial	71.25	23.058
Public utility	2.26	5.68
Transport	5.59	152.56
Conservation	-	68.366
Agricultural	1029.98	1093.48
Total	2,217.172 Ha	2022.601 Ha

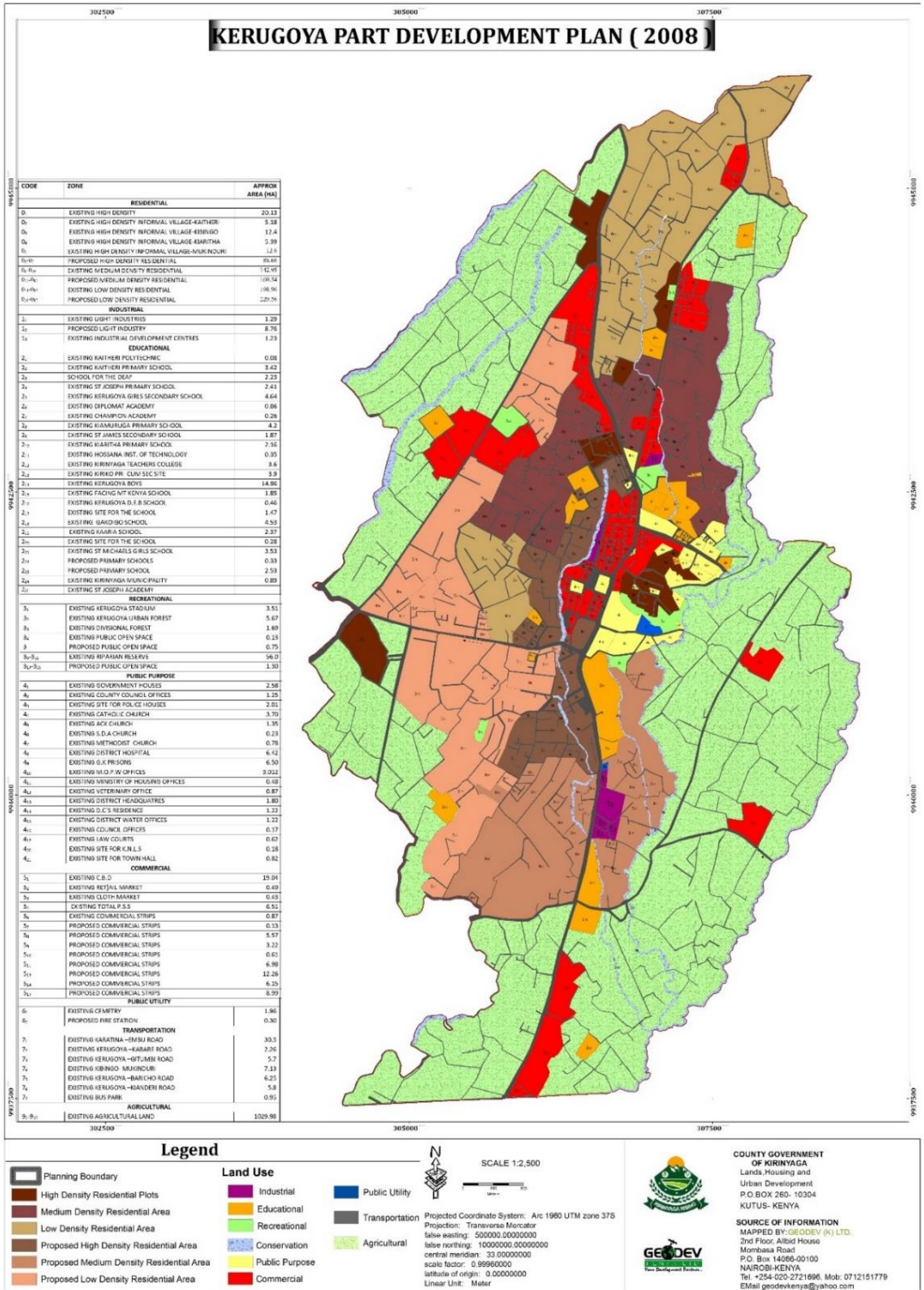
The development plan covered Kerugoya Town as well as parts of Ndimi and Kiburi. Due to the year of the development of the plan, some land uses including Kaitheri Polytechnic, the current level 5 hospital exist in the same locations assigned. The plan did not set aside land for conservation purposes.

Challenges in the Implementation of Both Plans

- Both Plans for Kerugoya and Kutus were not approved and therefore lacked legal support/legitimacy for full implementation.
- The limited capacity of the former municipal council in terms of staff, equipment, and finance to carry out their mandate in administration/management.
- Most land is under private land ownership, therefore, limiting investment in public facilities and utilities that were proposed.
- The plans were prepared in different years: 14 years apart. This, therefore, did not capture the municipality as a multi-nodal (multiple urban centres) urban area having two principal towns of Kerugoya and Kutus.

PART ONE: INTRODUCTION AND CONTEXT

Map 2-4: Kerugoya Part Development Plan (2008)



Source: Department of Lands (Physical Planning)



PART TWO: THE EXISTING DEVELOPMENT SITUATION

3 SITUATION ANALYSIS

Overview

The understanding of the population dynamics of the municipality, the existing land utilization, the provision of services such as housing, water, energy, sanitation, education, and health, and the environmental issues facing the municipality form the basis for planning interventions. This section presents an analysis of the population and the existing development situation.

3.1 Population

Population Size, Growth Rate, and Projection

Based on the 2009 population census, Kerugoya/Kutus Municipality had a total population of 16 369 persons, comprising 7,586 (46.3%) males and 8,783 (53.7%) females. According to the 2019 Population and Housing Census, Kerugoya Town had a population of 30,045 and Kutus Town had a population of 9,143, amounting to 39,188 forming the municipality. The population growth rate in the municipality is 9.1 % based on 2009 and 2019 population sizes. The population is projected to be 42,762 persons in 2020 comprising 20,641 males and 22,121 females. The population is projected to rise to 102,147 persons by 2030, with 47,292 males and 54,853 females.

Table 3-1: Municipal Population Projection and Growth Rate

Year	Population
2009 (Census Year)	16,369
2019 (Census Year)	39,188
Intercensal Growth Rate { $p_0=P_1(1+r/100)n$ }	9.1%
2020	42,762
2025	66,158
2030	102,147

Population Density and Distribution

The municipality covers a total area of 71.55 km² with a population of 42,762 persons in 2020. This gives a population density of 606 persons per square kilometer. By the year 2030, the

PART TWO: SITE ANALYSIS

population density is expected to rise to 1,448 persons per square kilometer. This necessitates a corresponding increase in social services/facilities and physical infrastructure over time to cater to the growing population. Table 3-2 shows the population densities of the municipality from 2009 up to 2030.

Table 3-2: Population Density (Year 2009-2030)

Year	2009	2020	2025	2030
Population Size	16,369	42,762	66,158	102,147
Area Km ²	71.55	71.55	71.55	71.55
Density (Persons/ Km ²)	229	598	925	1428

The population density in the municipality shall concurrently increase over time with an increasing population. This, therefore, requires optimal utilization of land within the municipality especially in the densely populated areas of Kerugoya and Kutus Towns.

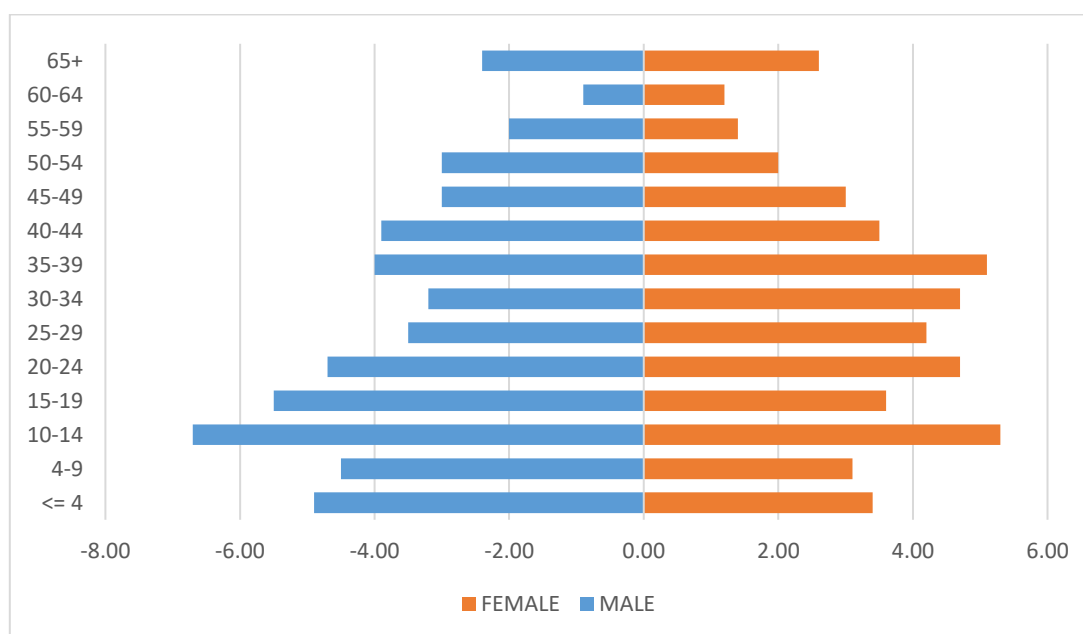
Population Characteristics

Population Structure

The population structure for the municipality has a fairly youthful population as depicted in the chart below. The population of the municipality significantly decreases towards the age of 64 years and picks at the ages of 65 years and above. This can be assumed to be migration to the rural areas by a retiring working population. The female population is significantly higher than the male population across the age cohorts from 20 to 39 years. The assumption for this can be attributed to a migratory male population seeking employment opportunities in other major urban areas such as Nairobi as compared to the female population.

PART TWO: SITE ANALYSIS

Chart 3-1: Kerugoya/Kutus Municipality Population Pyramid (2020)



Age Cohorts and Implications

Demographic	% of Population	Implication
Under 1	3.8	Provide quality and efficient pre and post-natal health care to cater to this cohort and prevent infant mortality
Under 5	5.58	Provide adequate Early Childhood Development (ECD) centres and sufficiently equip the health centres to ensure good health for infants.
Primary School Going Age (6-13)	15.55	<ul style="list-style-type: none"> Provide primary schools with the relevant learning materials as well as adequate teachers in all public primary schools to meet the recommended teacher-pupil ratio of 1:40 against the current ratio of 1:56. Investment in health care services to cater to this age cohort.
Secondary School Going Age (14-17 yrs.)	8.13	<ul style="list-style-type: none"> Provide and adequately equip secondary schools with necessary infrastructure including labs, libraries, dormitories, etc.

PART TWO: SITE ANALYSIS

Demographic	% of Population	Implication
		<ul style="list-style-type: none"> • Employ adequate teachers in all public secondary schools to meet the recommended teacher-pupil ratio of 1:40.
Youth Population (15-34)	32.21	<ul style="list-style-type: none"> • Investment in vocational and technical training facilities to equip the youth with relevant technical and innovative skills. • Service light industrial areas should also be provided within the core urban areas (Kerugoya and Kutus) to encourage the youth to start workshops, and fabrication stations among other self-employment startups. • Sensitization on the use of appropriate family planning methods. • Investment in youth development programmes that nurture art and sports talents through the provision of relevant facilities including stadiums and community development centres.
Female Reproductive Age (15-49)	26.67	<ul style="list-style-type: none"> • Investment in maternal health facilities and child care infrastructure to ensure safe child birth and effective. • Sensitization on the use of appropriate family planning methods.
Labour Force (15-64)	64.69	<ul style="list-style-type: none"> • Provide a conducive environment for investment within the municipality to increase employment opportunities, skill development, and enhancement through continuous professional development programs. • Designate specific areas for <i>juakali</i>, workshops, better-existing markets, serviced industrial parks, etc. • Investment in vocational and technical training facilities to equip the youth with relevant technical and innovative skills.

PART TWO: SITE ANALYSIS

Demographic	% of Population	Implication
Aged Population (65+)	6.5	<ul style="list-style-type: none">• Subsidize healthcare for the elderly through the formulation of favorable policies.• Investment in homes for the elderly

Table 3-3: Population Implications

Population Implications

Population Needs Assessment

Population needs assessment helps identify gaps in providing facilities and services to residents in any urban setting. With reference from the physical planning handbook and the First Schedule of the Urban Areas and Cities (Amendment) Act of 2019, an analysis showing the facilities/services required in Kerugoya/Kutus Municipality and the land requirement/budget for the establishment of each up to 2030 has been provided in this section.

The growth rate used in determining the municipality's population needs is as per the intercensal growth rate of 9.1%. This translates to a population of 102,147 persons in the municipality by 2030 and an estimated population of 42,762 in 2020.

PART TWO: SITE ANALYSIS

Table 3-4: Population Needs Assessment

Facilities	Standard Norms		Year 2020				Year 2030			Total land (Ha)
	Population	Size in (ha)	Population	Existing No. of facilities	Required no of facilities	Gap	Population	Required No. of Facilities	Gap	
ECDE	3,500	0.2	42,762	25	12	0	102,147	29	4	2.8
Primary Schools	4,000	3.9	42,762	19	12	0	102,147	26	7	101.4
Secondary schools	8,000	4.5	42,762	15	5	0	102,147	13	0	58.5
Polytechnic	60,000	3.5	42,762	1	1	0	102,147	2	1	7
Special Schools	100,000	3.9	42,762	2	0	0	102,147	1	0	3.9
University	1,000,000	50	42,762	1	0	0	102,147	1	0	50
Level 5 hospital	1,000,000	8	42,762	1	1	0	102,147	1	0	8
Level 4 Hospital	100,000	4	42,762	0	1	1	102,147	1	1	4
Level 3 Hospital	30,000	3	42,762	3	1	0	102,147	3	0	9
Level 2 Hospital	10,000	2	42,762	3	4	1	102,147	10	7	20
Stadium	500,000	5	42,762	1	1	0	102,147	1	0	5
Recreational parks	150,000	1	42,762	1	1	0	102,147	1	0	1
Cemeteries	150,000	-	42,762	2(One to be decommissioned)	1	0	102,147	1	1	5
Abattoirs/Slaughterhouses	100,000	2	42,762	1	0	0	102,147	1	0	2
Markets	150,000	20	42,762	5	1	0	102,147	1	0	20

PART TWO: SITE ANALYSIS

Facilities	Standard Norms		Year 2020				Year 2030			Total land (Ha)
	Population	Size in (ha)	Population	Existing No. of facilities	Required no of facilities	Gap	Population	Required No. of Facilities	Gap	
Libraries	100,000	0.4	42,762	0	1	1	102,147	1	1	0.4
Community Centers	100,000	0.25	42,762	1	1	1	102,147	1	0	0.5
Fire Station	100,000	3.4	42,762	0	1	1	102,147	1	1	3.4
Postal Office	40,000	0.04	42,762	2	1	0	102,147	2	0	0.08
Police Station	50,000	2	42,762	1	1	0	102,147	2	1	4
Dumpsite	50,000	-	42,762	2(One to be decommissioned)	1	0	102,147	2	1	

PART TWO: SITE ANALYSIS

Other Developmental Needs

The increase in population over time will result in a corresponding demand for services including:

- Housing to host the growing population.
- Utility infrastructure provision including power supply to amply service the growth of secondary and tertiary activities and sanitation infrastructure
- Transport infrastructure.
- Coordination of service provision through urban governance.

3.2 Base Map

Overview

At a glance, the base layers of Kerugoya/Kutus Municipality, summarized in a map, indicate the man-made and natural features that exist in the planning area. The base indicates how development is structured as influenced by the defining elements that contribute to various forms and development patterns within the area. This section presents the analysis of the existing base and how it may influence the distribution of activities in the area.

3.2.1 Analysis of the Base Map

Existing Landscapes

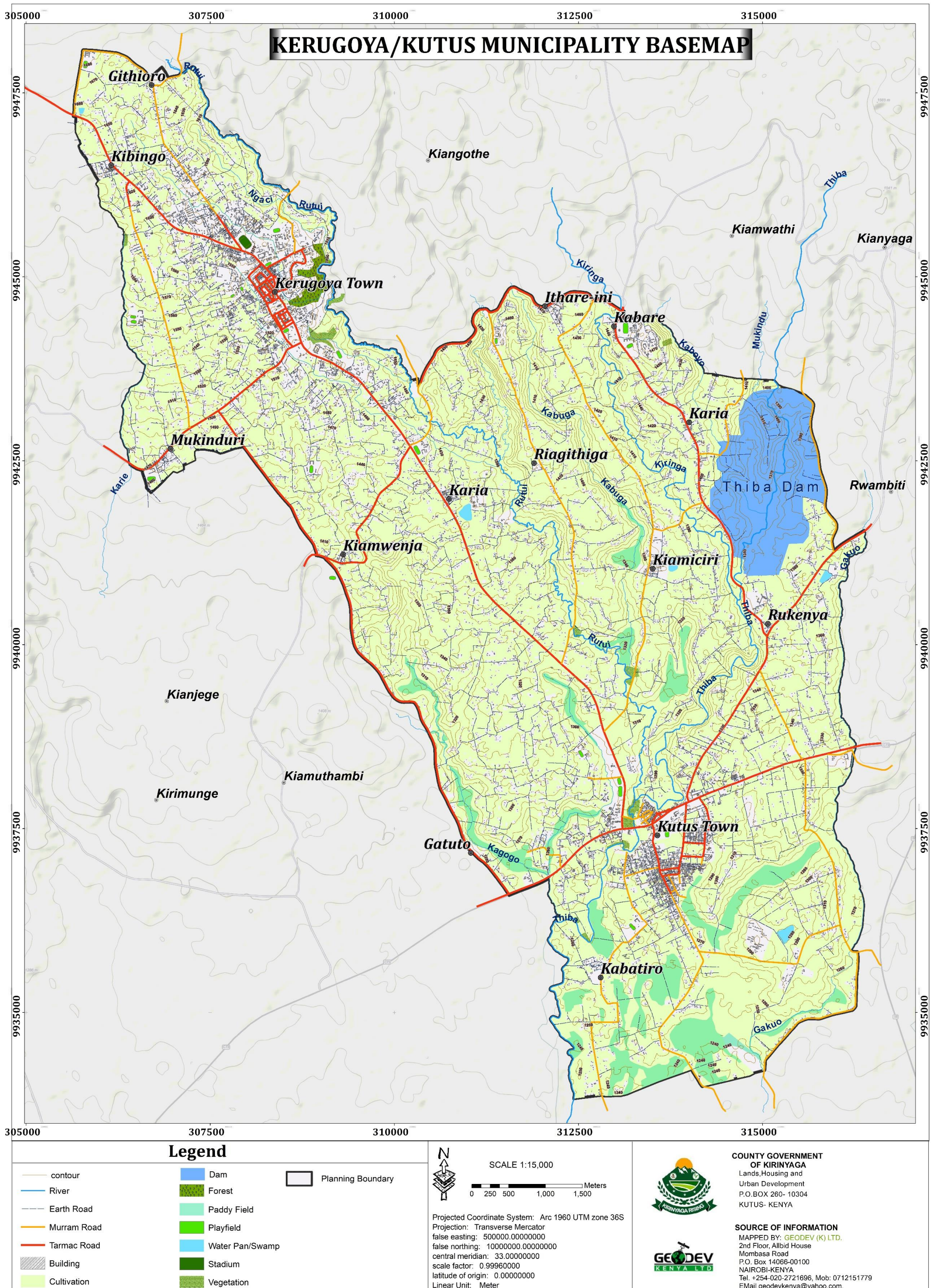
From the base map (Map 3-1) three landscapes exist in the planning area. These include the urban (built-up) landscape, agricultural landscape, and the natural landscape.

- The **built-up landscape** is characterized by dense development in Kerugoya and Kutus and less dense nodes that appear within the agricultural landscapes. This brings a poly-nucleic pattern of development within the municipality.
- The **agricultural landscape** is characterized by scattered homesteads and farmlands constituting the larger area of the municipality.
- Rivers and riverine vegetation, swamps, flood plains, and forests characterize the natural landscape.

The emerging landscapes establish the need to strike a balance between economic, social, and environmental conservation.

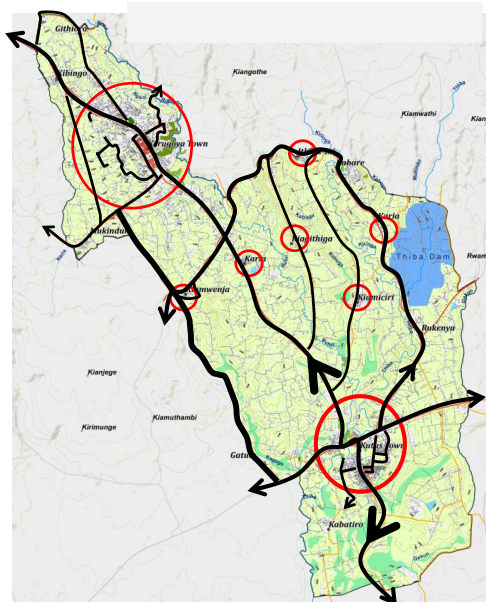
PART TWO: SITE ANALYSIS

Map 3-1: Kerugoya/Kutus Municipality Base Map

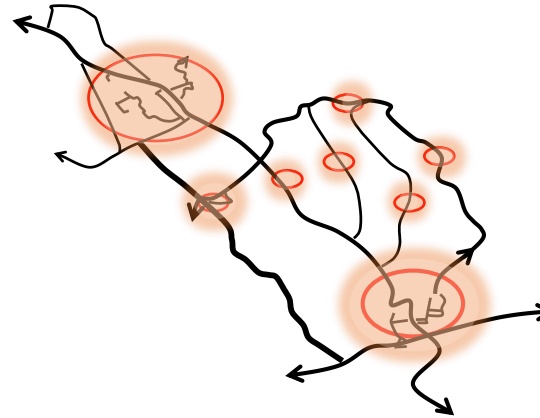


PART TWO: SITE ANALYSIS

Emerging Urban Macro Forms



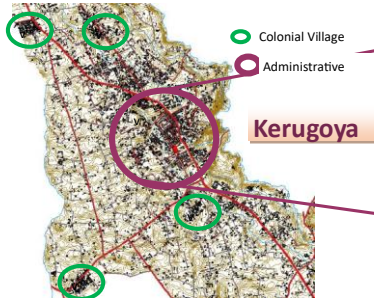
The Urban Macro- Form



The Macroform depicted by the urbanization pattern in the area is a polycentric urban pattern. It is connected by a network of mobility corridors. The form and pattern is not deliberate but has emerged organically.

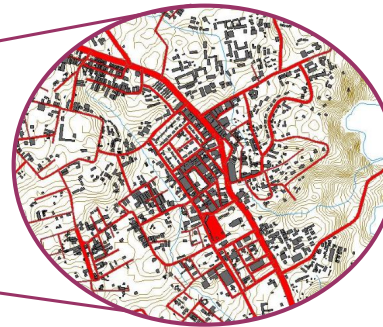
The desirability of this form is both dependent on the need to achieve distributive efficiency and to maintain compact development while achieving functional decentralization.

The Urban Meso- Form



The Meso form of Kerugoya indicates a mix of multiple nuclei and with emerging transition. The form is influenced by both topography and development policies (the colonial villages and the administrative centers in the precolonial era). Development is constrained to the east while the western part is open for further development.

Micro- Form, Urban Character and grain



The microform of Kerugoya town's core area reveals :

- ◆ A well configured road network with graduation of hierarchy.
- ◆ Large building footprints gradually decreasing towards the periphery of the core area.

All the character implying the possibility of high density and intensity of land use that influences land use zoning for similar activities.

The Colonial Village reveals:

- ◆ Lack of order
- ◆ Lack of legibility and general organic growth

The implication of the micro-form is undesirable urban pattern that requires reorganization

PART TWO: SITE ANALYSIS

3.2.2 Development Pattern

Kerugoya Town

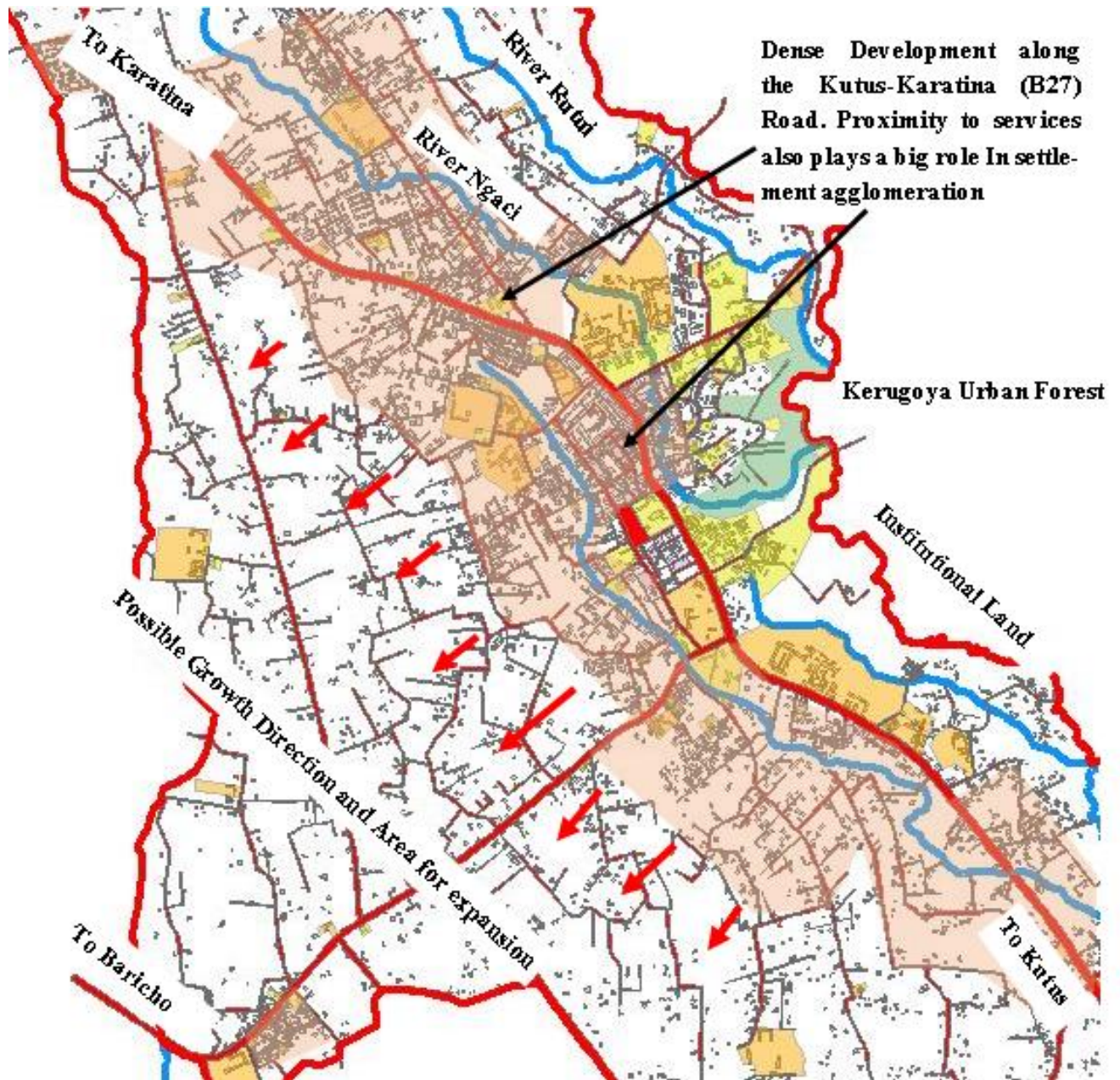


Figure 3-1: Kerugoya Town Structuring Elements

Structuring Elements

The growth pattern of Kerugoya urban area has been influenced by several factors including:

1. **River Systems; Ngaci and Rutui** - Both of these river systems have restricted the growth of the urban area from spreading eastwards to agricultural lands. The growth has thus deflected Westwards along the Kutus-Karatina Road.

PART TWO: SITE ANALYSIS

2. Roads

- Kutus-Karatina (B27) road
- Kerugoya-Baricho (C527) Road

The **Kutus- Karatina (B27) Road** has influenced the growth of the town in a linear/strip pattern, especially towards Kutus where the land subdivision is rampant.

3. Public Institutions including:

- Kerugoya Boys High School
- Kaitheri County Polytechnic
- St. Joseph Primary School
- Kerugoya Girls High School
- Kerugoya Prisons
- Kerugoya County Referral

Public Institutions within the town have taken prime land for urban development. The result is strip development due to the demand for land

Note:

The structuring elements have thus resulted in demand for land for the provision of services such as housing and the creation of activity areas for industries and commerce etc. The effect is an anticipated spread of development towards the Ndimi area to the West and South West towards Mukinduri. These areas are largely characteristic of agricultural activities.

PART TWO: SITE ANALYSIS

Kutus Town

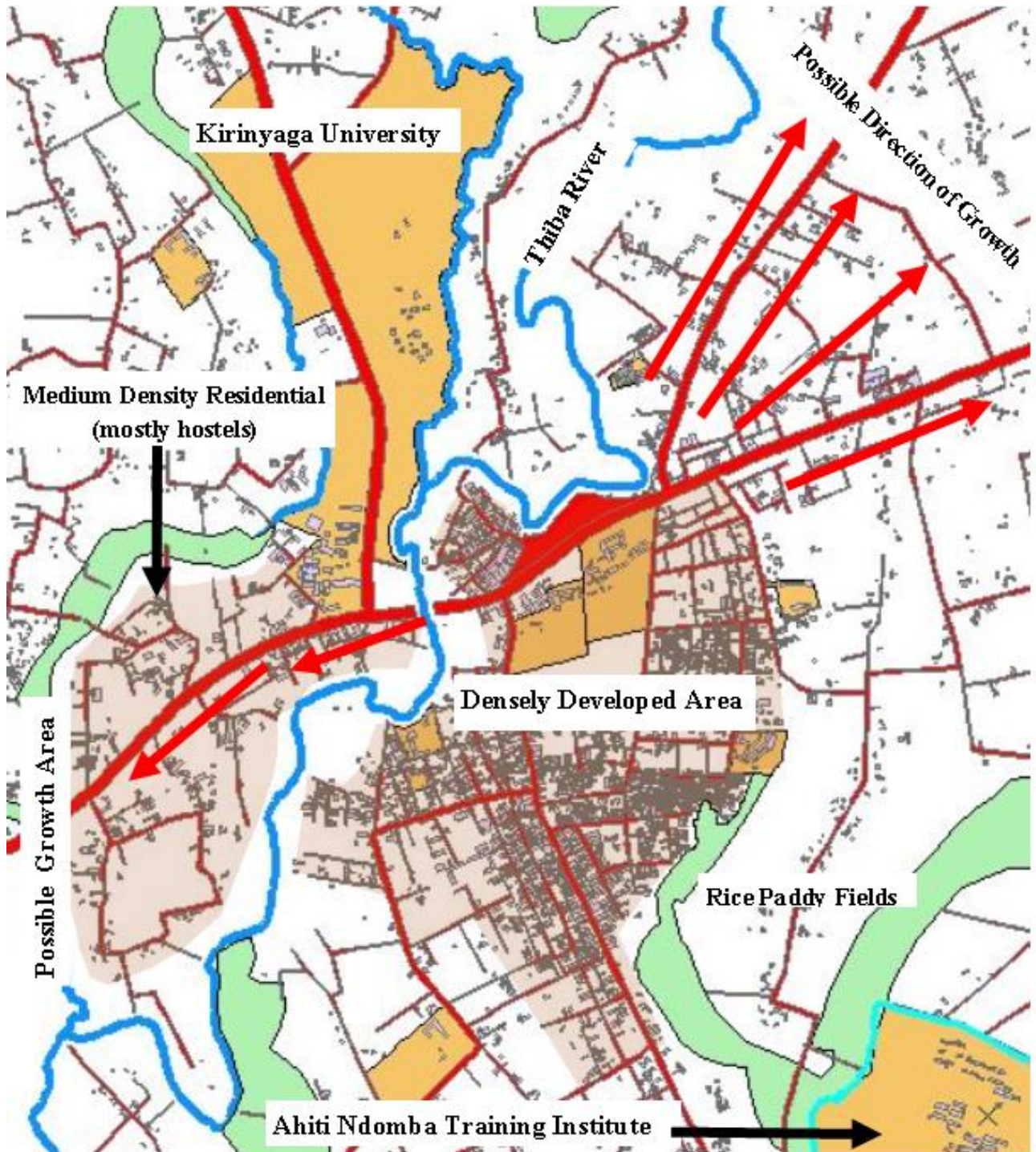


Figure 3-2: Kutus Town Structuring Elements

Structuring Elements

The growth pattern of Kutus urban area has been influenced by some factors including:

1. **Kirinyaga University** has greatly restricted the development of the town along the Kutus-Karatina (B27) Road. However, due to the demand for accommodation by students in the

PART TWO: SITE ANALYSIS

university, the area to the West of the town is exhibiting rapid growth due to demand for accommodation by students

2. **Rice paddy fields and the Ahiti Ndomba Training Institute** to the southeast have restricted the growth of the town in that direction. The presence of an expansive education institution and the altitude of the area being the lowest point in the municipality experiencing periodic flooding has been key in determining the development pattern in the urban area.
3. **Thiba River** has caused a divide/break in the homogenous/uniform growth of the town.

Note:

The passage of the Sagana-Embu Road through the town offers a major pull factor for the development of the town eastwards.

In considering the above and the structuring elements for Kutus Urban Area, its growth is projected to majorly occur towards the East in the area bound by the Sagana-Samson Corner Road and the Kutus-Kianyaga Road as well as the area adjacent to Kirinyaga University.

3.2.3 Implication of the Urban Form and Development Pattern

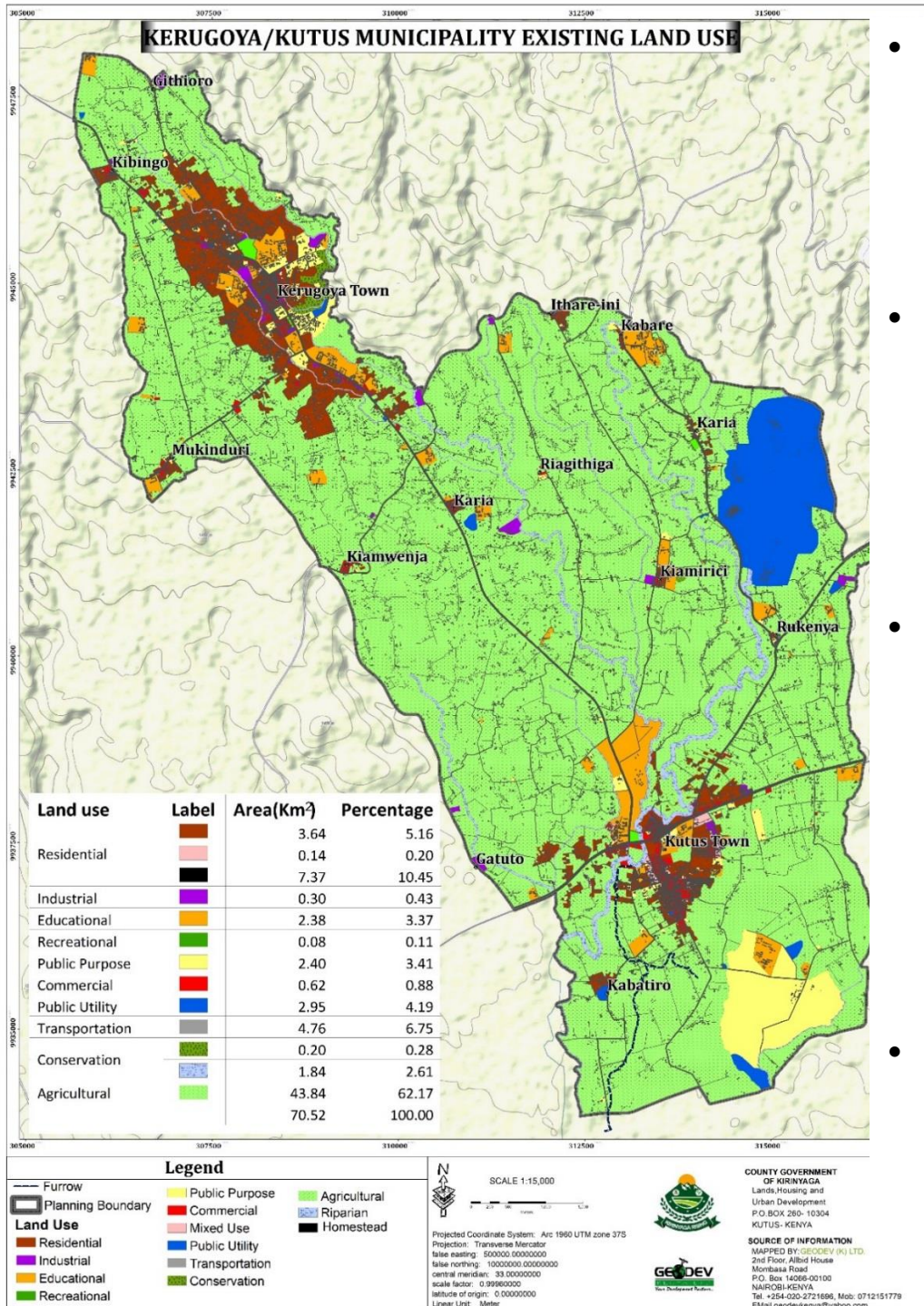
The urban form and development pattern presented earlier in this section depict a selective concentration of urban nodes which present a polycentric development form, interlinked with road networks. As identified, the form and pattern have emerged organically in response to factors such as the terrain of the area and the remoteness of some areas.

The terrain constrains the uniform spread of development. Consequently, development tends to follow the road network. On the other hand, remoteness to major nodes (Kerugoya and Kutus) has resulted in the growth of other urban nodes (Kiamwenja, Kiamiciri, Karia, Ithareini, Karia-Thiba, and Riagithiga) which offer lower-level services to the immediate resident population. Additionally, the policy has also influenced the development pattern observed in Kerugoya and Kutus. Kerugoya was initially hosting the offices of the former district headquarters while Kutus is performing the function of the county headquarters.

Development decisions to inform growth and pattern in the area require responsiveness to the identified underlying factors to enhance efficiency, convenience, and functionality. Therefore, the development decisions will require reorganizing and retrofitting the nodes to perform the desirable functions.

PART TWO: SITE ANALYSIS

3.3 Existing Land Use



- Agricultural land use is the dominant use of land within the municipality. It is also the fundamental livelihood for most of the residents (38.7%) in the municipality.
- Kerugoya Town hosts the majority (approximately 75%) of the residents in the municipality evidenced from the agglomeration of residential use in the town.
- Kutus Town also serves a residential function although the growth of the town is limited by the presence of major educational institutions such as the Kirinyaga University as well as Thiba River and the rice paddy towards Ahiti Ndomba.
- The Municipality has three major utility infrastructure including: Thiba Dam, Kabatirao Dumpsite and Ahiti Ndomba Sewer

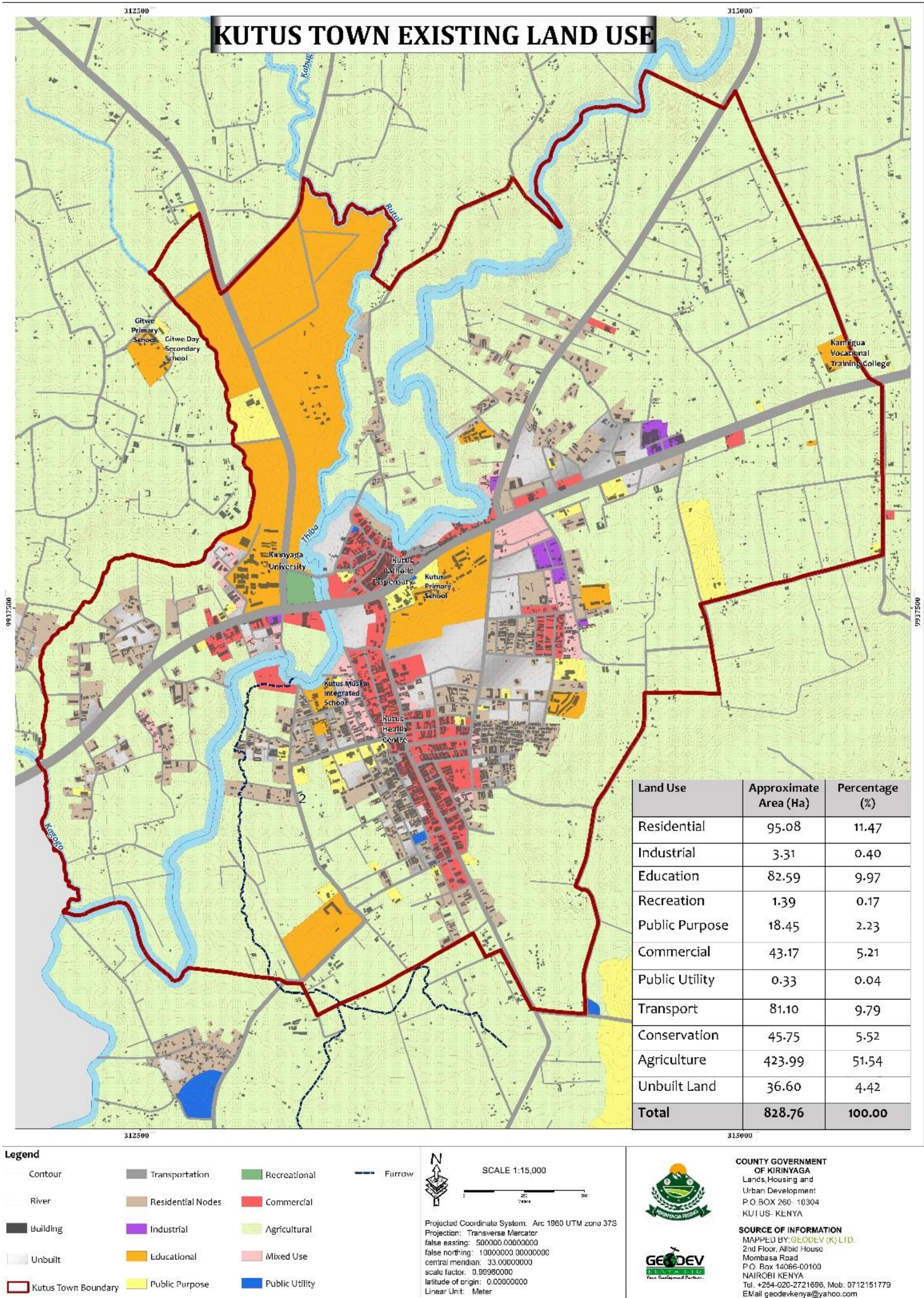
Map 3-2: Kerugoya/Kutus Municipality Existing Land Use

PART TWO: SITE ANALYSIS

Areas highlighted as unbuilt/undeveloped land constitute a total of 73.19Ha which is approximately 5.72% of the total land within the urban area. These pockets of undeveloped land should be adequately utilized by promoting infill development and subsequently promoting densification (organized) within the areas highlighted. It is also worth noting that agriculture takes the largest amount of land, especially in the peri-urban to rural areas of the Kerugoya.

The total land required to house a population of 72,653 persons by the year 2030 within Kerugoya is approximately 1477.82Ha. Currently, about 333.61Ha of land is being used for residential purposes. This, therefore, means that the town shall need to convert approximately 1144.21Ha of land from agricultural use to fully accommodate the projected population. However, considering about 73.19Ha of land within the town is currently unoccupied/undeveloped, the town shall require a total of 1071.01Ha for housing the future population. This highlights a need to develop the infrastructure (water, sewerage, electricity, schools, etc.) within Kerugoya to support densification (high-rise developments). This shall in turn utilize the available land and safeguard more agricultural land from conversion to residential or other uses occasioned by urbanization.

Kutus Town



Map 3-4: Kutus Urban Area Existing Land Use

PART TWO: SITE ANALYSIS

Approximately 36.6Ha (4.42%) of land within the urban areas is currently underdeveloped/unbuilt in Kutus Urban Area. These pockets of undeveloped land should be adequately utilized by promoting infill development. Agriculture also takes the largest share of land especially on the urban fringes of Kutus owing to the utilization of the lands for rice farming. This is due to the susceptibility of the area to flooding as it is the lowest point within the municipality. The proposed land use plan shall therefore strive to protect the rice paddies to the south of the town against any form of urban development as they are not suitable. Areas around the university are experiencing adverse changes owing to the student population and shall therefore be promoted to cope with such dynamics in the future.

The total land required to accommodate a population of 23,494 persons by the year 2030 within Kutus is approximately 441.42Ha. Currently, about 95.08Ha of land is being used for residential purposes. This, therefore, means that the town is required to convert approximately 346.341Ha of land from agricultural use to fully accommodate the projected population. However, considering about 36.6Ha of land within the town is currently unoccupied/undeveloped, the town shall require a total of 310.04Ha for housing the future population. This highlights a need to develop the infrastructure (water, sewerage, electricity, schools, etc.) within Kutus to support densification (high-rise developments) and subsequently utilize the available land to safeguard agricultural and environmentally sensitive areas from conversion to residential or other uses occasioned by urbanization.

Summary of Land Budget

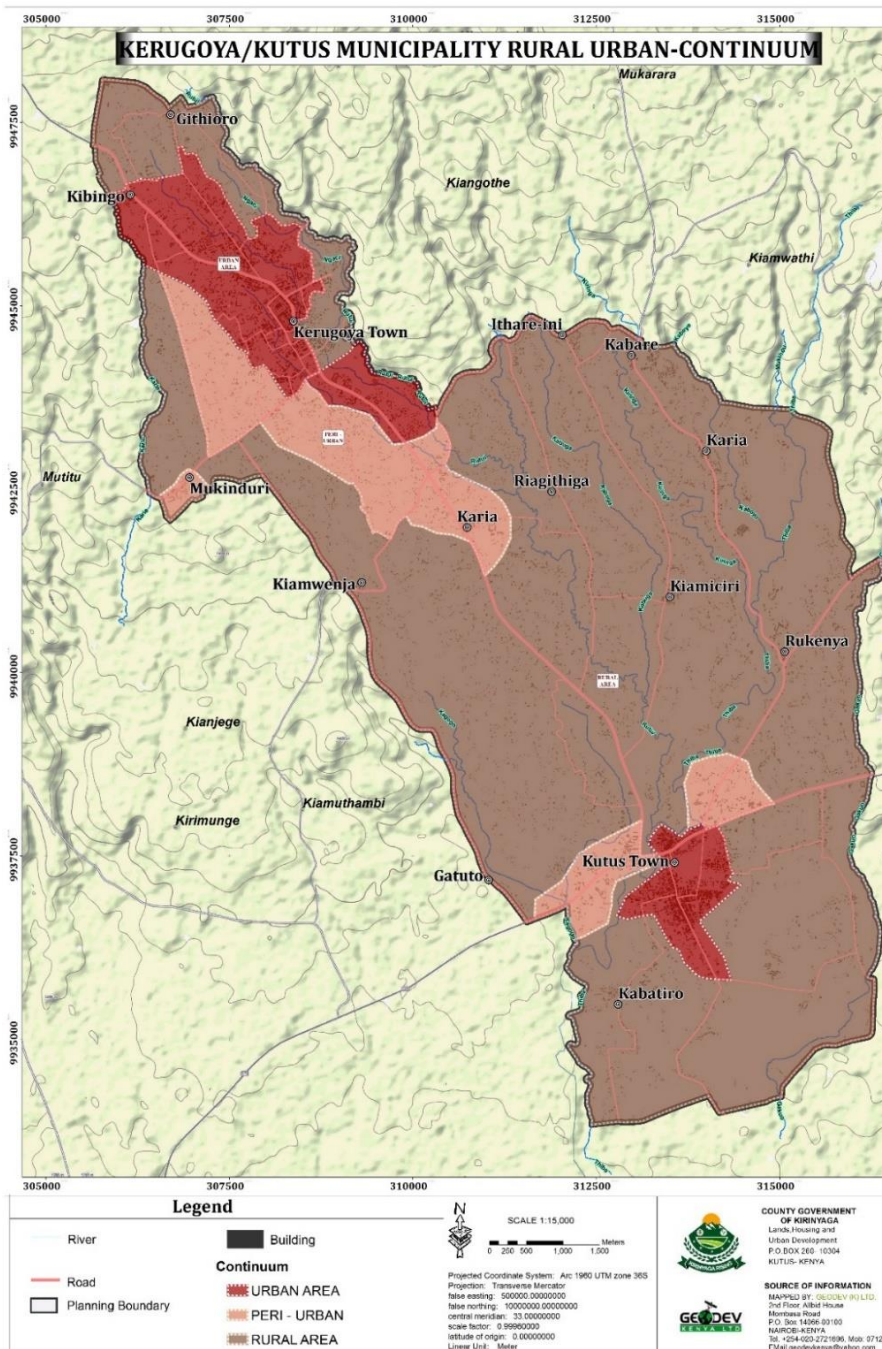
Land Requirement	Area Ha
Residential	1381.05
Transport	207.16
Facilities (Population needs)	387.58
Total land required	1975.79

Table 3-5: Land Budget

PART TWO: SITE ANALYSIS

3.3.1 Settlement Pattern

Map 3-5: Rural-Urban Continuum



Urban Areas

- Mostly Kerugoya and Kutus Towns,
- They exhibit pronounced urban development and offer a variety of services to the peri-urban and rural areas.
- These two areas offer extensive services in commerce and banking, industries and host the majority of the municipality's population during the day and night.

Peri-urban Areas

These are areas adjacent to the core urban areas and majorly perform the dormitory function to the core urban areas. The areas are however undergoing a high urbanization rate due to their proximity to the urbanized areas. They are characterized by

- High land subdivision rates
- Offer lower order services
- Minimal densification

These areas can be utilized for expansion of the core urban areas.

Rural Areas

This forms the second ring from the core urban areas. They are characterized by large land sizes and support different agricultural activities.

PART TWO: SITE ANALYSIS

3.3.2 Land Suitability Assessment

Land suitability assessment is the evaluation of land fitness for defined land use and in particular support of urban development. Land suitability analysis for Kerugoya/Kutus Municipality is based on a multi-criteria and multi-layered assessment of the following;

1. The topography (slope) analysis
2. Environmentally sensitive and significant areas
3. Proximity to infrastructure and services and
4. The underlying geological characteristics (soil and rock).

The table below shows the amount of land that can be exploited for urban development purposes.

Land Suitability	Area (km ²)	Percentage (%)
Highly suitable land	15.81	22.1
Moderately suitable land	29.61	41.4
Least Suitable Land	14.09	19.7
Not Suitable	12.04	16.8
Total	71.55	100

Highly suitable land is considered favorable for supporting urban development. Areas considered highly suitable are characteristic of a strong foundational rock structure that is sound for construction purposes and can subsequently support densification (vertical development). These areas also have a slope that is less than 5⁰ which is considered safe to develop on. Highly suitable land covers 15.81 km² (22.1%) of the municipality and will be given high priority for the allocation of facilities and services which can spur urban development. Such interventions as infill and vertical development will be utilized to exploit the potential of these areas.

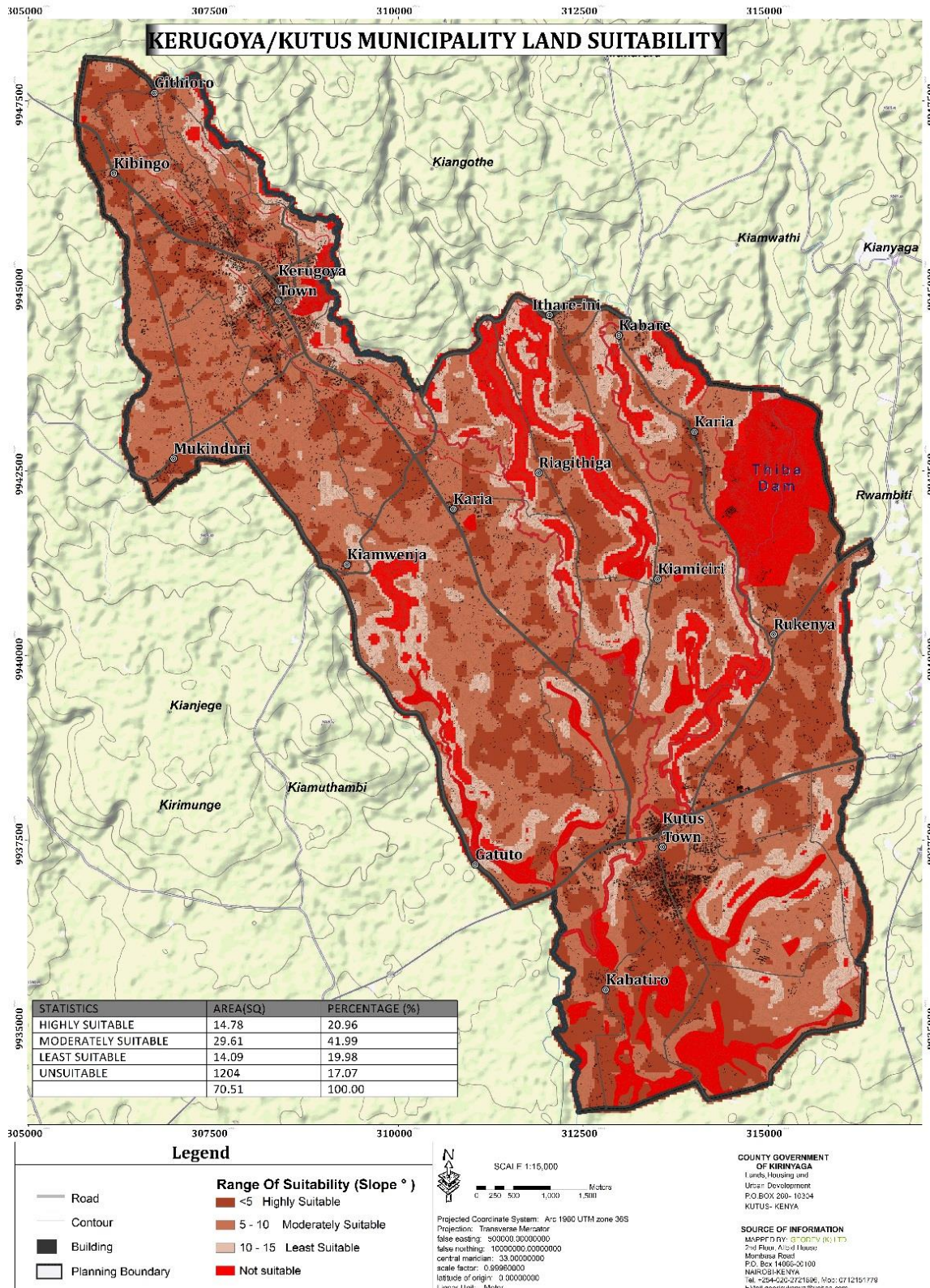
Moderately suitable areas are also fit for supporting urban development but require a combination of close regulation/monitoring as well as engineering solutions to ascertain their fitness to support urban development. Moderately suitable areas will be considered for urban development after the full utilization of highly suitable land.

The least suitable areas are lands that are not fit for sustained urban development but can be directed towards other land uses that support their fragile nature such as agriculture, recreation, or conservation purposes.

PART TWO: SITE ANALYSIS

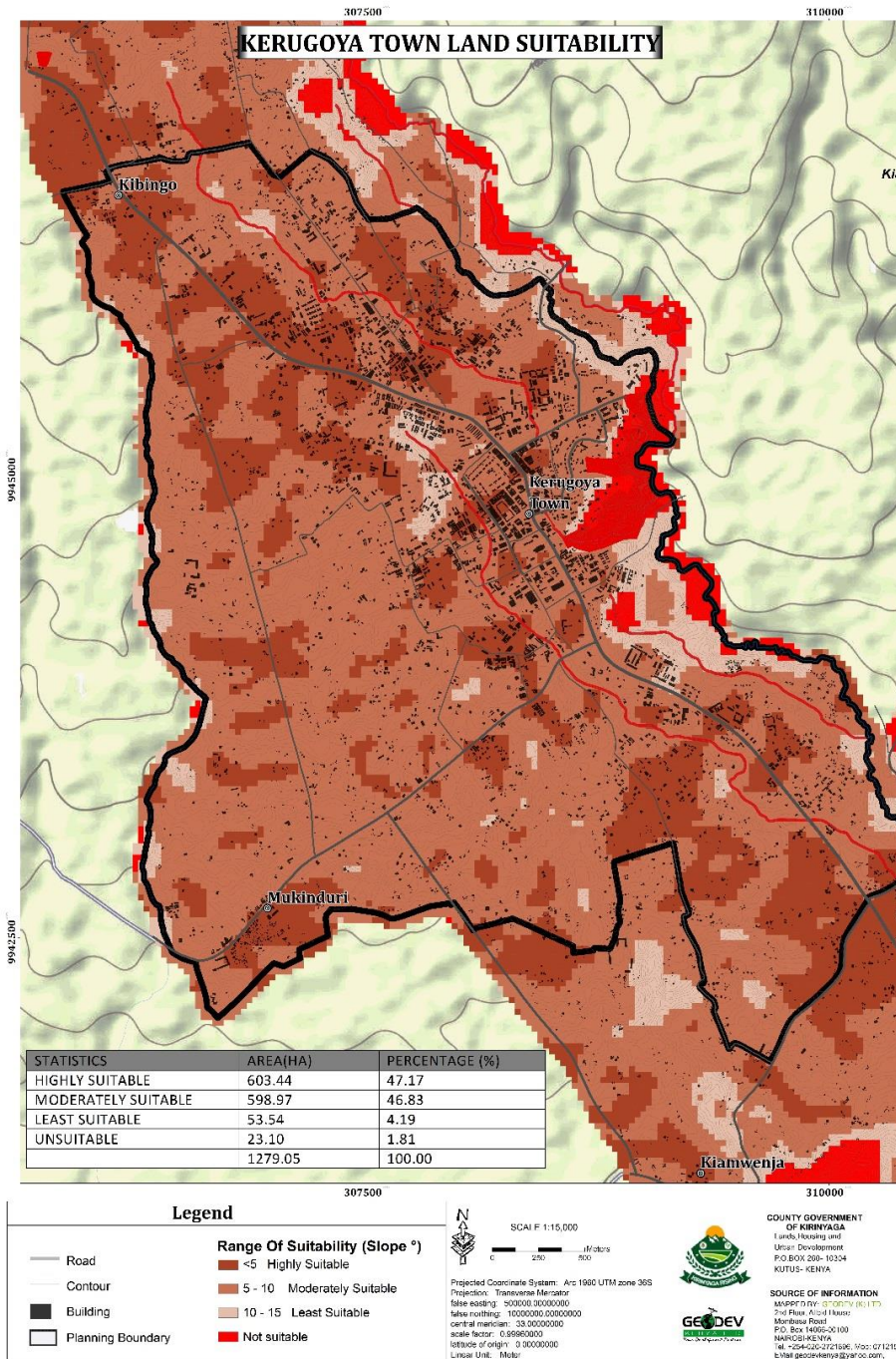
Areas highlighted as not suitable form the river basins, rice paddy fields, and the environmentally significant Thiba Reservoir area. These areas shall be used for conservation purposes to maintain their utility to the municipality.

Map 3-6: Kerugoya/Kutus Municipality Land Suitability



PART TWO: SITE ANALYSIS

Kerugoya Town

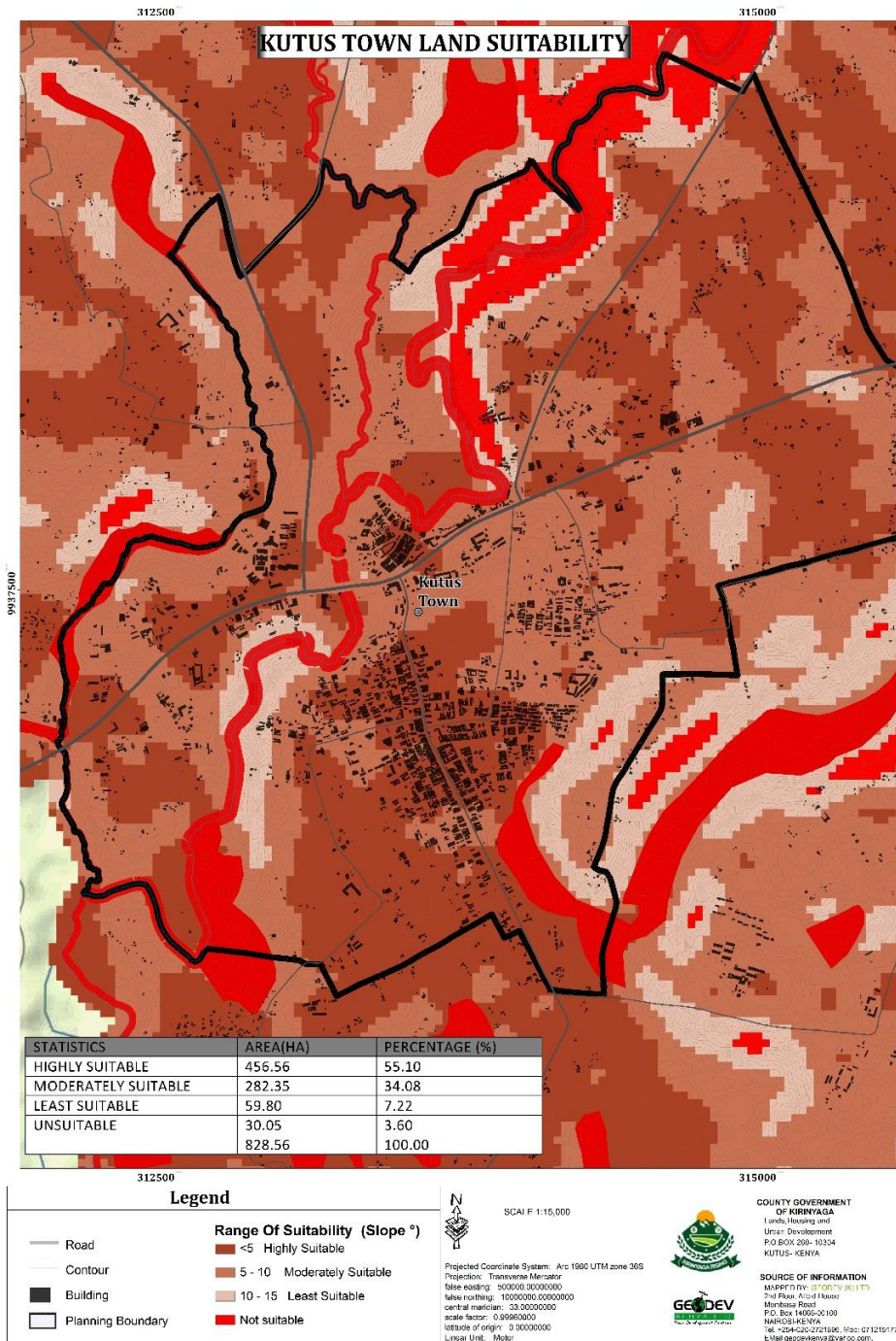


- The delineated urban extents for Kerugoya Town cover a total area of 1279.05Ha/12.791km².
- From this a total of 603.44Ha is highly suitable for supporting urban development. This constitutes 47.17% of Kerugoya Town. Most of this land is currently under agricultural and medium to low density residential use.
- The plan shall utilize these areas for densification. This shall in turn concentrate development within Kerugoya thereby enabling the adjacent agricultural lands to flourish.
- Areas not suitable and/or should be conserved from development within Kerugoya include the urban forest as well as areas surrounding River Rutui. These areas cover a total area of 53.54Ha. These areas shall be considered for recreational or conservation purposes in order to maintain their utility to the town for their natural resource. Development within these areas will be prohibited.

Map 3-7: Kerugoya Urban Area Land Suitability Assessment

PART TWO: SITE ANALYSIS

Kutus Town



- The delineated urban extents for Kutus Town cover a total area of 828.56Ha/8.29km².
- 55.1% of the total area for the town is suitable for urban development covering a total area of 456.56Ha.
- Dense development within the town stretching from Kutus Primary to the existing fresh produce market lies on suitable land. The Kirinyaga University and the surrounding residential areas currently utilized as hostels for students of the university also lie on suitable land for urban development.
- The town is however restricted by Thiba River and the rice paddy fields towards Ahiti Ndomba Training Institute. They are also the lowest parts in the town and municipality. These areas experience seasonal flooding and are currently being utilized for rice farming. They cover a total area of 30.05Ha (3.6% of the town).

Map 3-8: Kutus Urban Area Land Suitability Assessment

PART TWO: SITE ANALYSIS

3.4 Road Transport

Preliminary classification of the road network in the municipality has been categorized into the following categories.

1. **Primary roads:** These roads have high traffic volume and externally link the municipality to other urban areas. They include Kutus–Karatina (B27) road, Sagana–Embu (B25), and Kutus-Kianyaga (C526) roads. These roads connect Kerugoya and Kutus to nodes within the municipality such as Kabare, Kiamwenja, Rukenya, Ithare, Karia, Mukinduri, and Kibingo. They also connect other local and external urban areas to Kerugoya and Kutus Town.
2. **Secondary Distributor Roads:** These are roads connecting two primary roads. These roads provide intra-municipality connectivity. They include Mukinduri-Kibingo, Gatuto-Mukinduri, and roads passing through Riagithiga and Kiamirici centres.
3. **Local Distributor Roads:** These roads distribute traffic to the rural areas and neighbourhoods. They are characterized by gravel and earth surfaces within the rural areas and tarmac in the urban areas (Kerugoya and Kutus).
4. **Local Access:** These roads offer direct access to buildings or land within neighbourhoods and localities. Most of these roads are of the earth surface, narrow, motorable, and poorly drained.

The table below shows the existing situation of all roads by function and type of surface.

Table 3-6: Municipal Road Condition

Function	Surface		
	Tarmac	Earth	Murram
Primary Roads	41.821	0	8.509
Secondary Road	8.64	1.33	31.107
Local Distributor	4.64	67.56	6.89
Local Access Roads	4.49	289.34	4.377
Total	59.591	358.23	50.883

Source: Field Survey, 2020

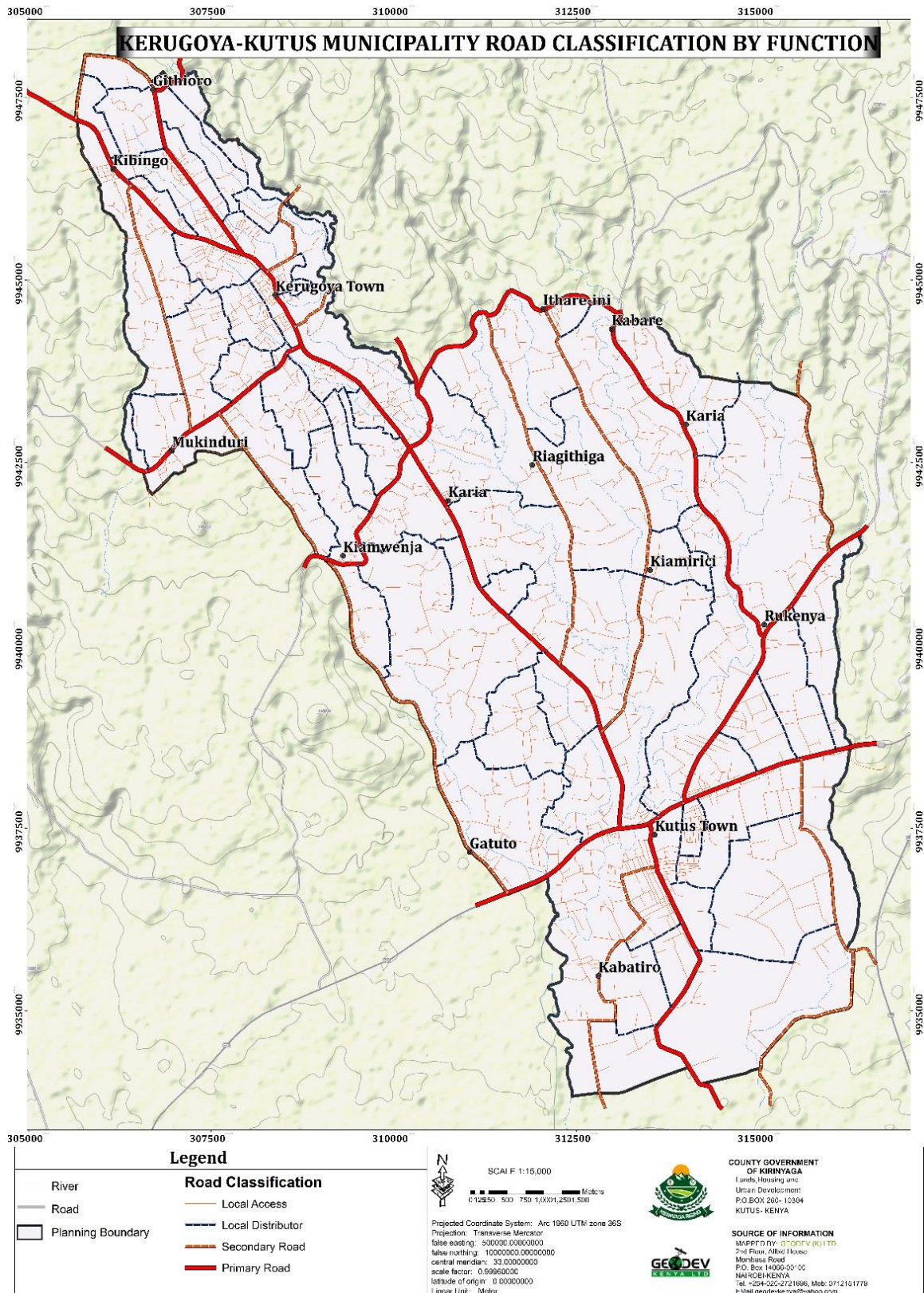
The table above highlights a need to:

- i. Tarmac all primary roads in the municipality.
- ii. Improve the surface conditions of all secondary roads from primarily murram surface to tarmac.

PART TWO: SITE ANALYSIS

iii. Upgrade all local distributor roads from the earth surface to murrum or tarmac.

This will improve accessibility within the municipality.



Map 3-9: Kerugoya/Kutus Municipality Existing Road Function

PART TWO: SITE ANALYSIS

3.5 Housing

Urban Housing

Kerugoya Town

This area hosts the greatest percentage (76.7%) of the population of the municipality. The county and national government housing areas in the town cover an approximate area of 5.55km² and 6.30km² respectively. Kerugoya exhibits varied housing densities. Low-density areas include Milimani and Kamukunji while high-density areas including colonial villages such as Kaitheri and Kiaritha as well as areas opposite the stadium such as site and service. Housing typologies within Kerugoya include bungalows, maisonettes, flats, and row housing. Piped water and electricity are well distributed in the area. The town lacks a sewer system hence liquid waste is disposed of through septic tanks and pit latrines. Roads within the business area are paved while access roads are of earth surface. Housing providers in these areas are both private (rental houses and owner-occupier), public (county and national), and institutional (Kiricorp, Kenya Police, etc.).

Kutus Town

The area exhibits mixed housing densities with the housing typologies being bungalows, maisonettes, flats, and row housing. Housing is mainly provided by the private sector but there are few institutional houses. There are high-density residential areas within the town including Mjini which has characteristics of an informal settlement. Electricity is well distributed throughout the town. The piped water reticulation system covers part of the town with some areas such as Thang'ari using water from furrows for rice farms. Liquid waste is disposed of through septic tanks and pit latrines. Access roads are of earth surface.

Mukinduri

Mukinduri is located along Kerugoya-Baricho road. This is a colonial village characterized by high-density (compact) residential developments. Bungalows and row houses are the main housing typologies with wooden walls and iron sheet roofs prevalent. The area lacks a piped water supply thus households depend on water from rivers. Access roads are narrow with earth surface.

Rukenya, Kabare, Ithare

These areas exhibit rural characteristics with low housing densities and large land sizes. The main housing typologies are bungalows and typical farm houses (huts). There are also some maisonettes. Access roads serving the residential areas are unpaved. Only the main road linking

PART TWO: SITE ANALYSIS

these areas to Kutus and Kerugoya is tarmacked. These areas are well served with piped water and electricity.

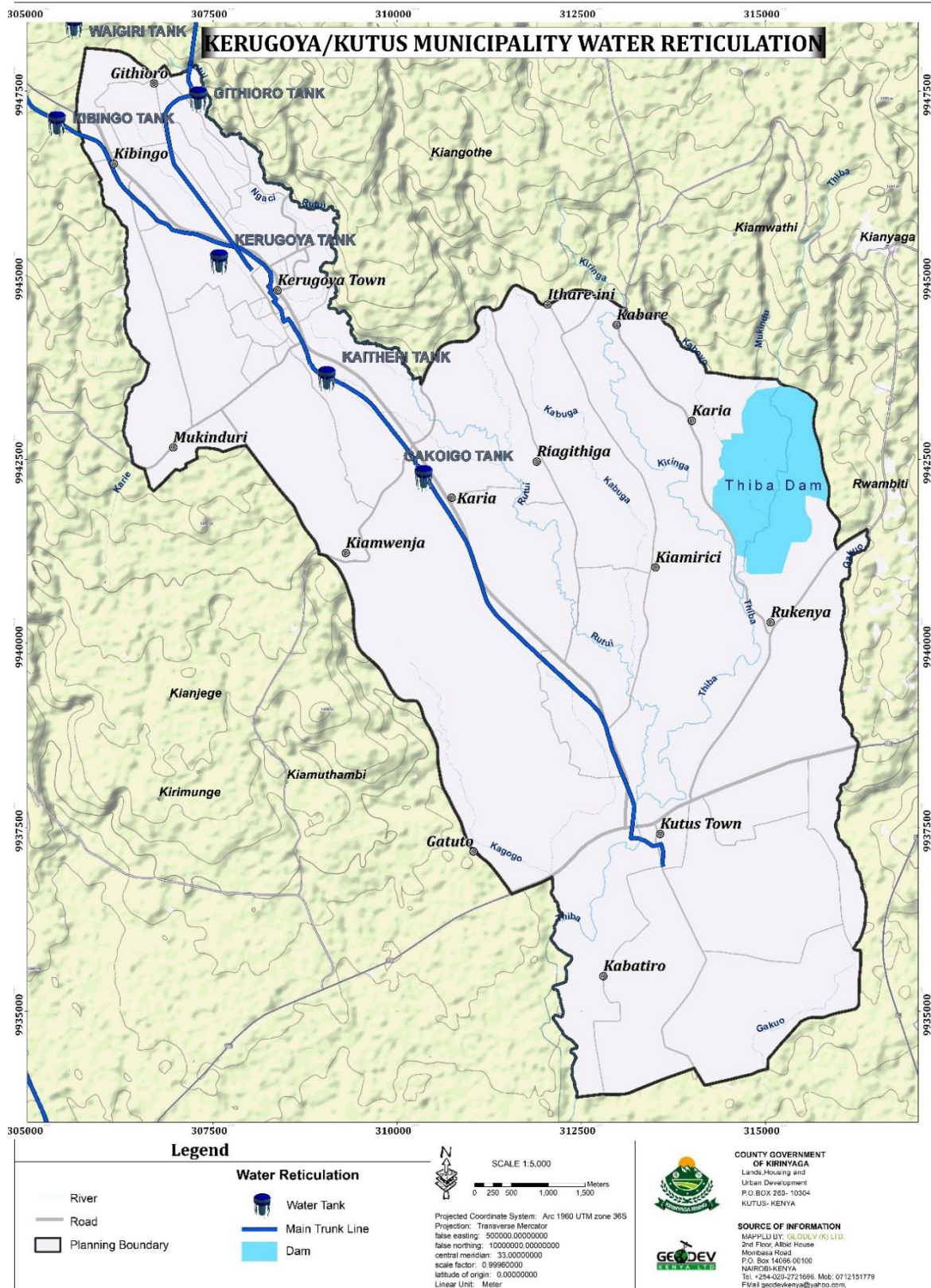
Kibingo

It is located along the Kutus-Karatina road past Kerugoya Town. This is one of the colonial villages in the municipality characterized by high-density residential developments. The main housing typologies are bungalows, flats, and row houses. The area is well served with electricity and piped water.

PART TWO: SITE ANALYSIS

3.6 Infrastructure Provision

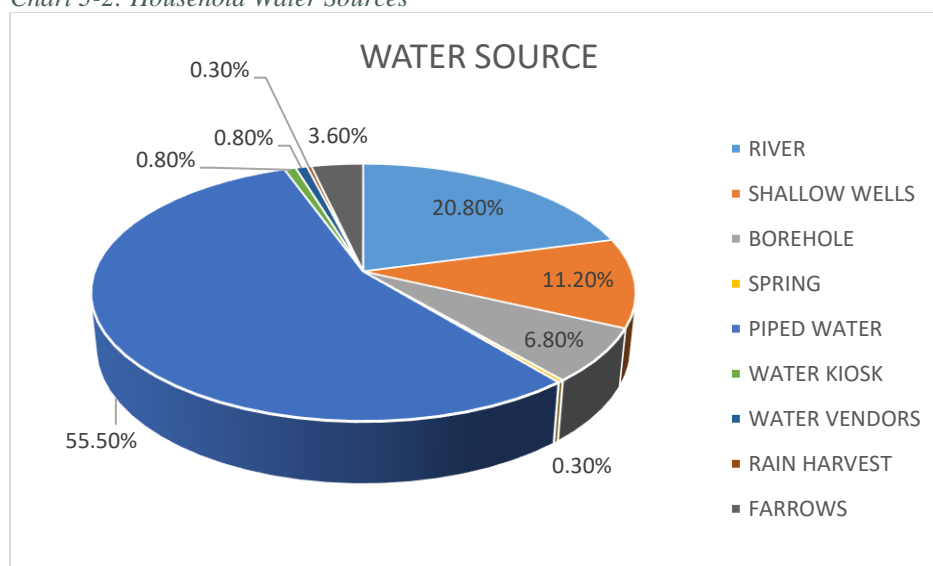
3.6.1 Water Provision



PART TWO: SITE ANALYSIS

Map 3-10: Kerugoya/Kutus Municipality Water Reticulation Network

Chart 3-2: Household Water Sources



Source: Field Survey, 2020

Field Survey, 2020, revealed the existing trunk water reticulation system services approximately 55.5% of the municipality which is approximately 5,520 households. Approximately 20.8% of the households within the municipality depend on rivers as a source of domestic water. This highlights the need to protect and conserve the river systems in the university

Piped Water Supply

The municipality has two water treatment plants and two chlorination points. The treatment plants are;

- 1. Ndiriti Treatment Plant** – The plant was constructed in 1982 and treats 11,000 m³/day. The treatment plant has three intakes at Kahuhi, Muhuhi, and Kururu rivers. Challenges facing the treatment plant include dilapidated infrastructure and low water volumes at intake points during the dry seasons.
- 2. Ngithioro Treatment Plant** - The plant was constructed in the 1940s with a capacity to treat 1500m³/day. Its intake point is at Rutui River. Challenges facing the treatment plant include dilapidated infrastructure and low water volumes at intake points during the dry seasons.
- 3. Chlorination points** – These points are at; Rondu which was constructed in 1940 and Mukengeria which was constructed in 1984. The chlorination points supply 4,500m³ of water per day to the municipality.

PART TWO: SITE ANALYSIS

The combined amount of both treated and chlorinated water supplied to the municipality is 17,000m³/day. There are 5 storage tanks from where water is distributed to consumers through gravity as shown in map 3-10. According to KIRIWASCO, there are a total of 6,305 connections in the municipality with a total water supply of 57,433 m³ per month as shown in table 3-7 below.

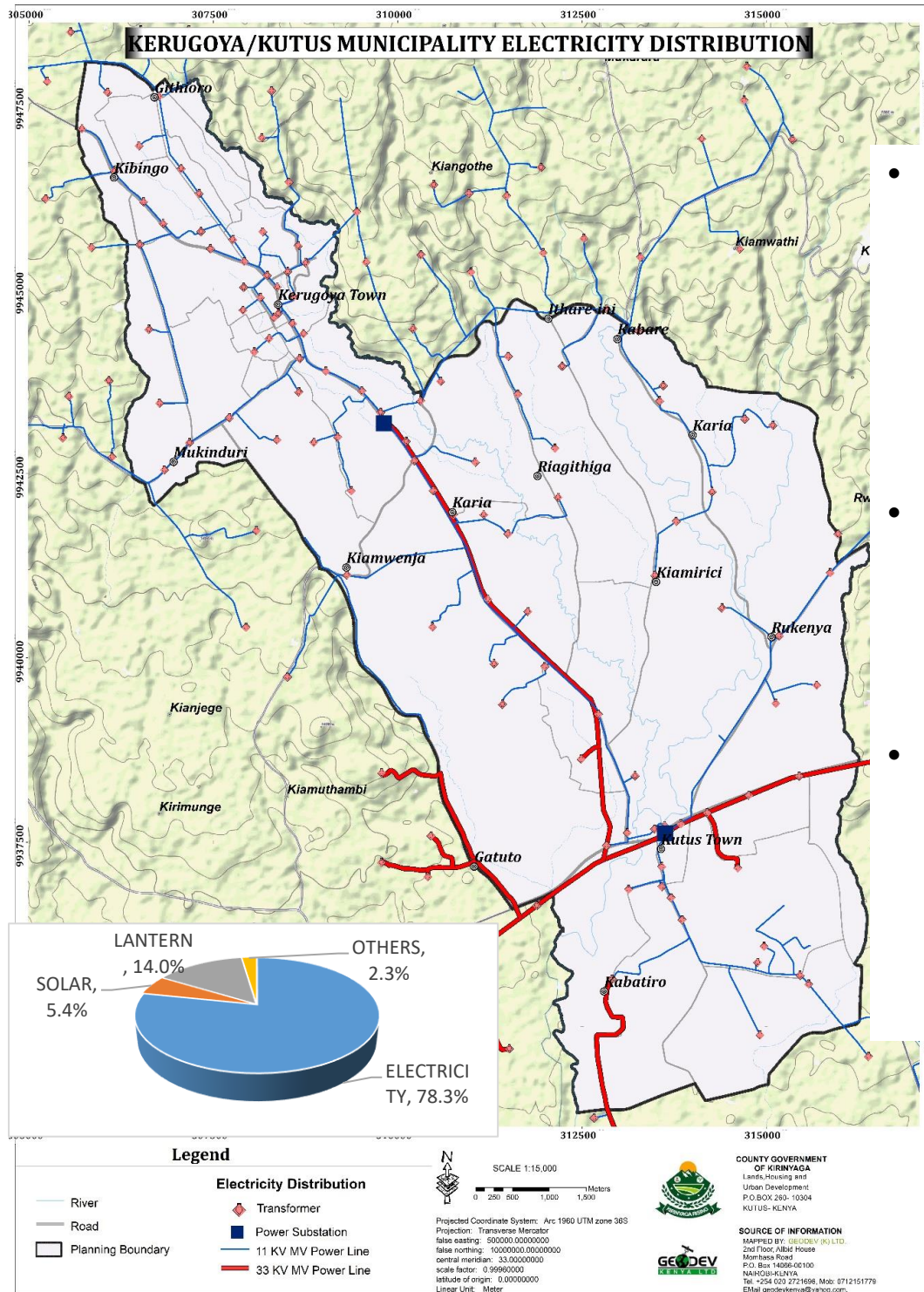
Table 3-7: Kiriwasco Water Quantity Supply

Entity	No of Connections	Quantity Supplied (M³/Month)
Households	5,969	28,716
Industrial	9	2,872
Commercial	282	8,615
Schools	32	11,487
Hospitals	13	5,743
TOTALS	6,305	57,433

Source: KIRIWASCO

PART TWO: SITE ANALYSIS

3.6.2 Energy Supply

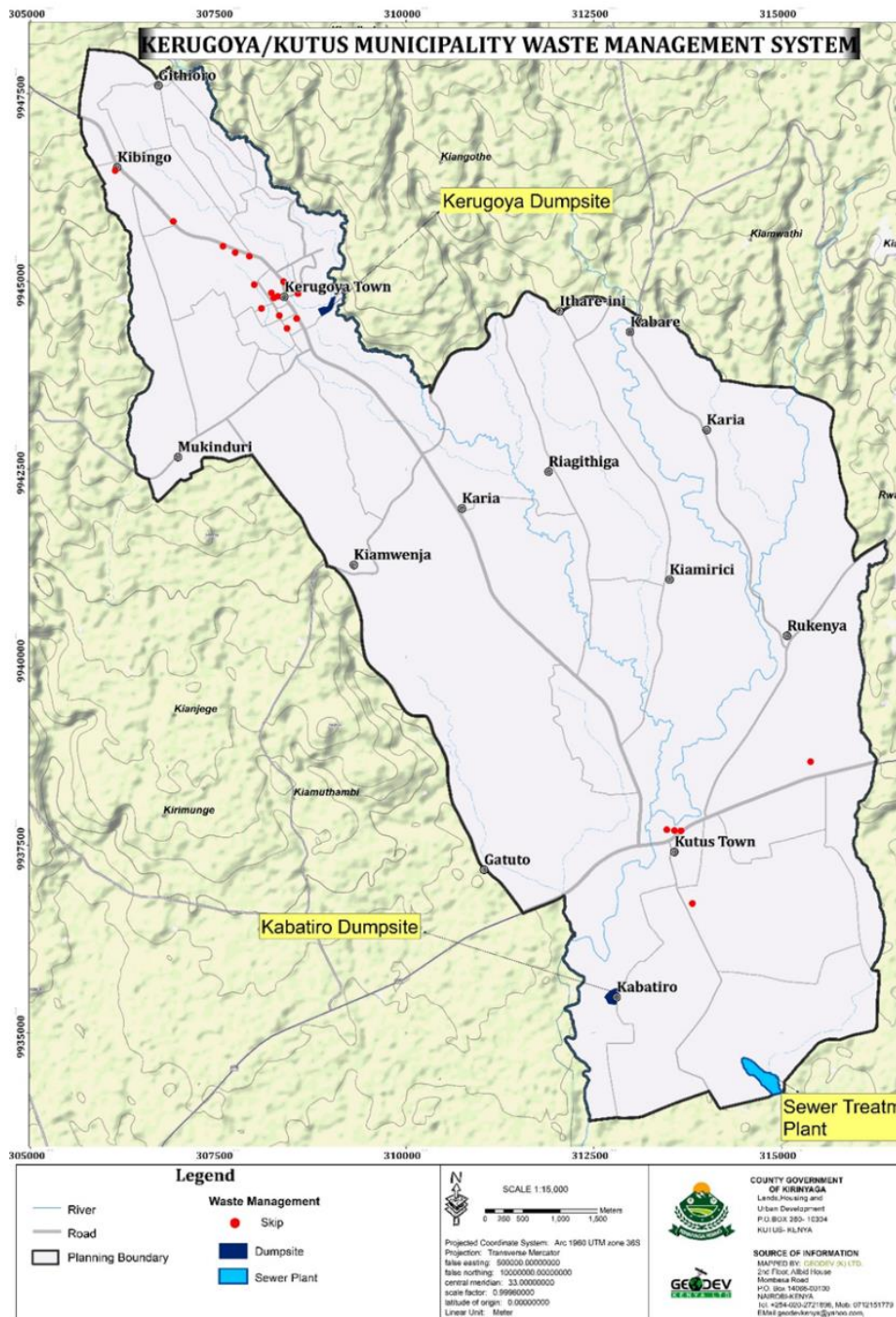


- The municipality is connected to the national grid by a 33kv line which terminates into 2 substations in Kerugoya and Kutus Town.
- Power is then distributed by 11kv lines to 103 transformers covering the entire municipality.
- Approximately 78.3% (7,787 connections) of the households in the municipality are connected to electricity.

Map 3-11: Electricity Distribution Network

PART TWO: SITE ANALYSIS

3.6.3 Waste Management

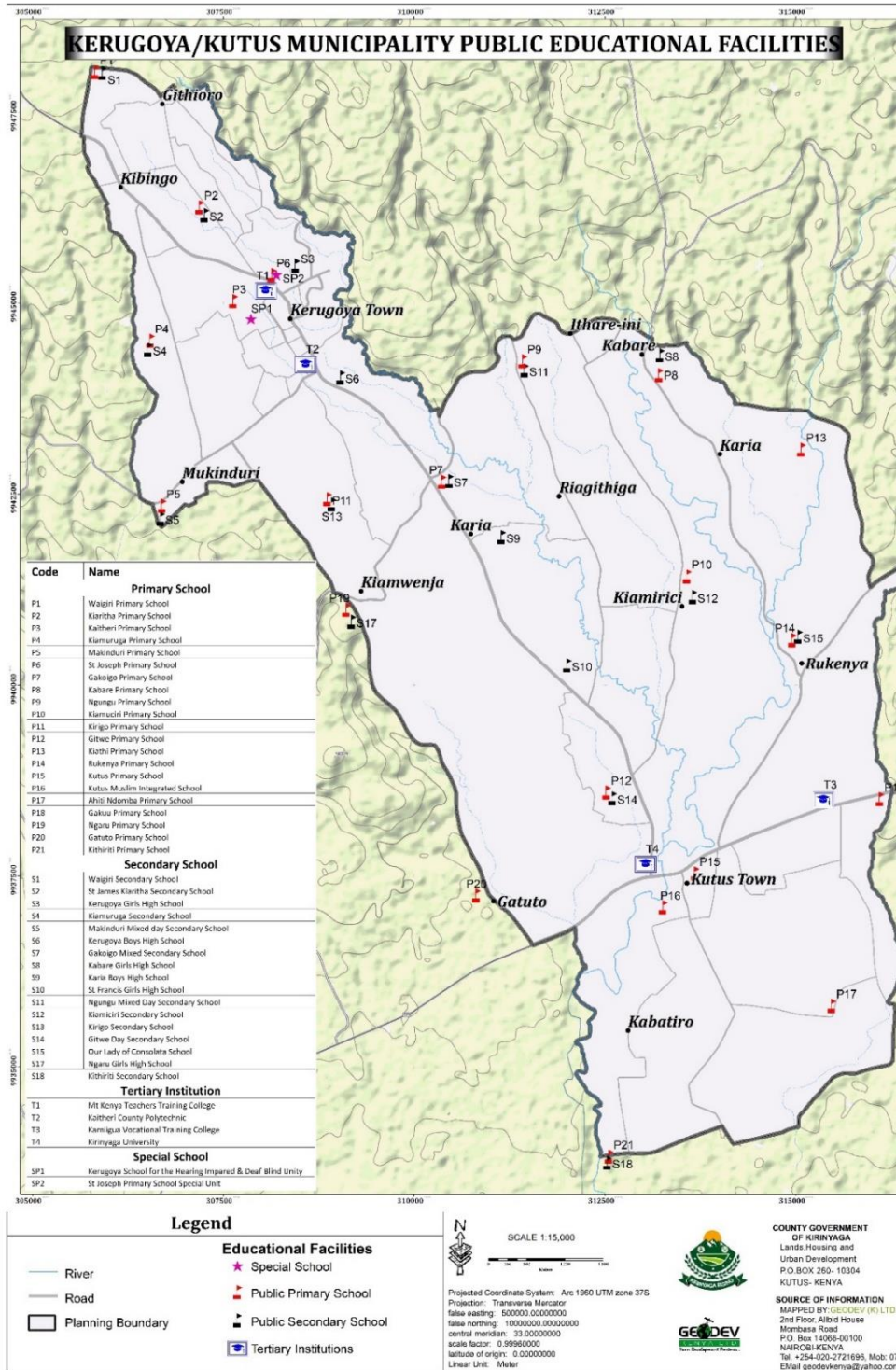


Map 3-12: Waste Management Facilities

- The Municipality has various waste skips concentrated within Kerugoya and Kutus Towns.
- The town has two dumpsites: Kerugoya and Kabatiro dumpsite.
- Kerugoya Dumpsite requires decommissioning and subsequent rehabilitation due to its location next to the urban forest and Rivers Ngaci and Rutui.
- The Kabatiro dumpsite can adequately serve the municipal solid waste demand.
- There is however shortage of municipal waste receptors/garbage trucks, staff among other equipment for proper solid waste management.
- The municipality lacks a sewerage system.
- However, its development is underway. The system shall subsequently drain into Ahiti Ndomba sewer treatment plant.

PART TWO: SITE ANALYSIS

3.6.4 Education



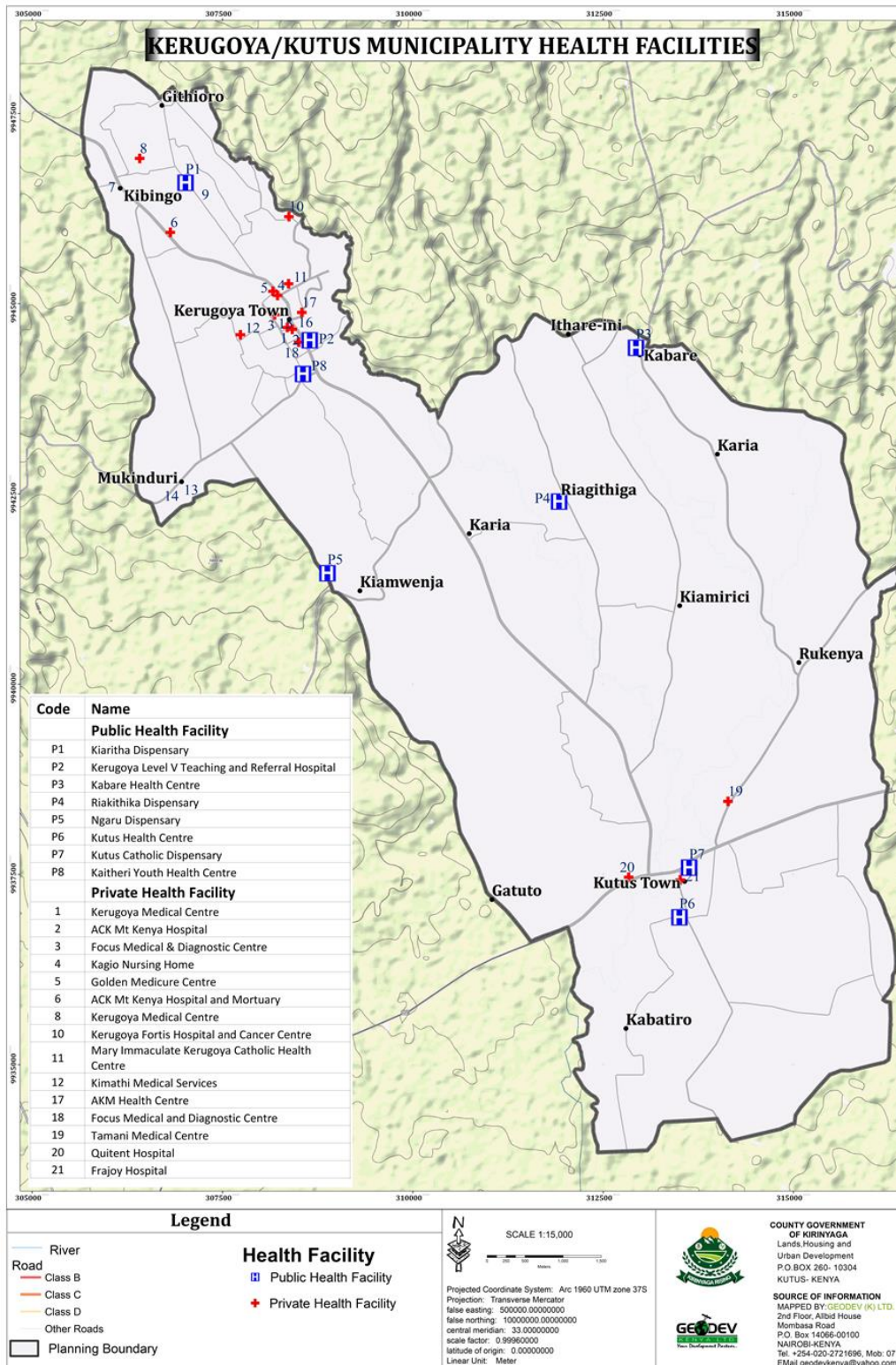
Number of institutions:

1. **ECDE institutions** - 49 registered (22 Public, 25 Private, 2 Faith Based)
 2. **Primary** – 56 schools in total (19 Public, 37 Private)
 3. **Secondary**- 24 schools in total (15 public, 9 Private)
 4. **Tertiary**- 6 institutions in total (2 Public, 4 Private)
 5. **Special Schools** – 2 in total. 1 fully dedicated and the other an attached unit to a primary school
- There are currently (year 2020) no existing gaps in education facilities for ECDE, Primary and secondary schools.
 - The municipality is however in need of two additional public vocational training institutions.

Map 3-13: Education Facilities Distribution

PART TWO: SITE ANALYSIS

3.6.5 Health

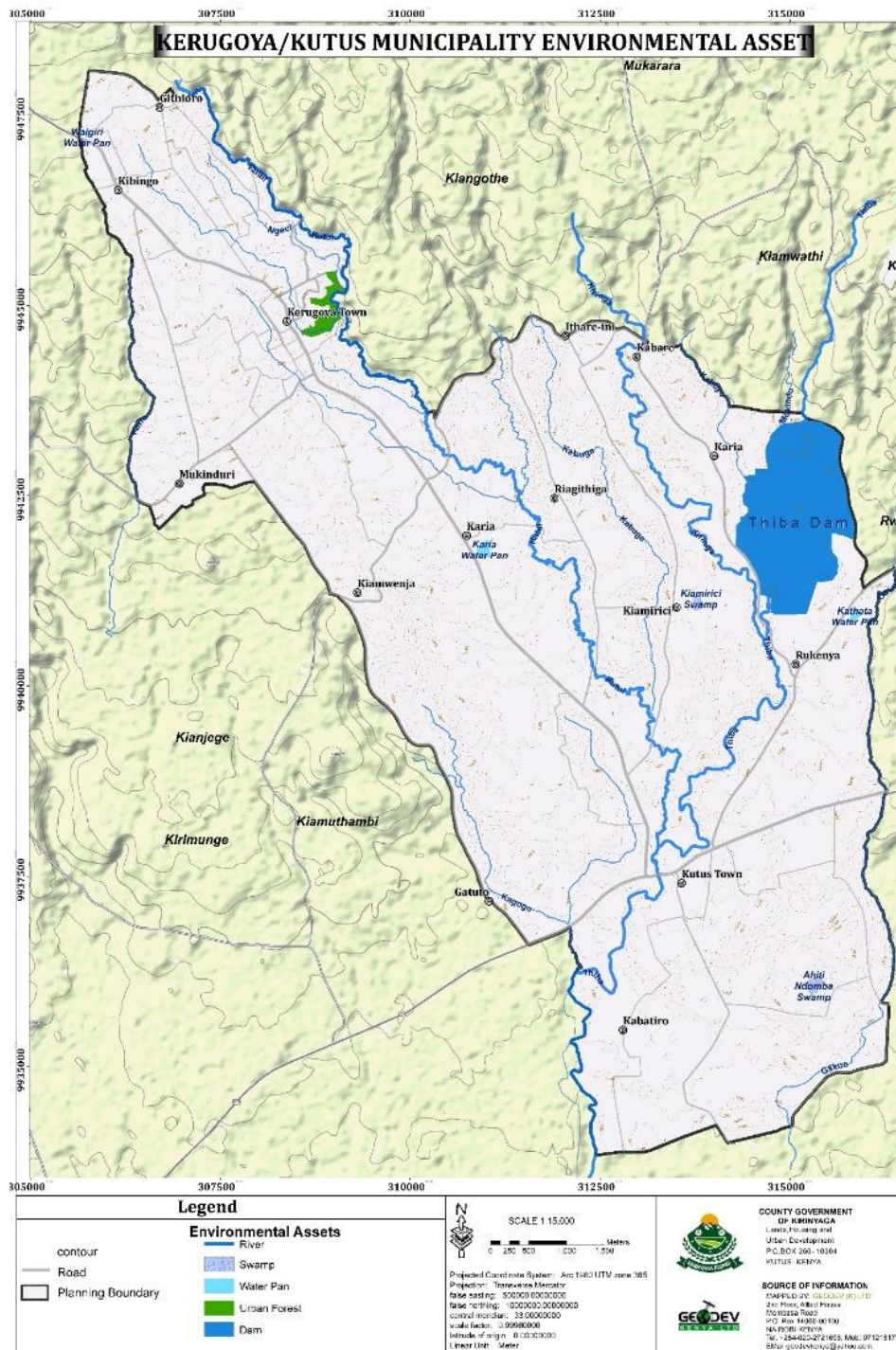


- Municipality has a total of 27 health facilities
- 8 public facilities and 19 private and faith-based facilities.
- Kerugoya County Referral is the largest health facility in the municipality.
- Only Kiamwenja dispensary is not being utilized due to lack of equipment and allocation of staff.
- The municipality lacks community level health public clinics (level 1). This presents a current gap of 9 health clinics. (Population of 5,000 require 1 clinic).

Map 3-14: Health Facilities Distribution

PART TWO: SITE ANALYSIS

3.7 Environmental Assets



Environmental Assets in the municipality include:

1. River systems
 - Thiba
 - Rutui
 - Gakuo
 - Kagogo
 - Mukindu
 - Ngaci
 - Kabuga
2. Urban forest in Kerugoya
3. Kiamirici and Ahiti Ndomba swamps
4. Water Pans

Functions played

1. The river systems are a source of water for domestic, industrial and agricultural use.
2. The urban forest is used for part recreational purposes
3. The swamps, although small in size and ecological function, are a source of water for the surrounding agricultural areas.
4. Water pans within the municipality are vital for irrigational agriculture as well as coffee production in the industries within the municipality.

Map 3-15: Environmental Assets

PART TWO: SITE ANALYSIS

3.8 Summary of Development Issues

Theme	Opportunity	Challenge	Recommendation
Land Use	<ul style="list-style-type: none"> • Adequate land for expansion for the main urban areas (Kerugoya and Kutus). • The emergence of small commercial nodes within the municipality such as Karia, Ithare-ini, Kiamwenja, etc. can decentralize lower-level services from Kerugoya and Kutus Towns. • Protection of rivers in the municipality through policy regulation on the existing and future developments. 	<ul style="list-style-type: none"> • Strip development has concentrated activities (residential, commercial, and industrial) along major transport corridors thereby putting pressure on the adjacent land as well as increasing land value. This is also detrimental to infrastructure provision to a stretched population pattern. • Inadequate institutional capacity for implementation of previous land use plans for Kerugoya and Kutus Towns. • Lack of policy regulation/guiding land use plan to guide development. • Pressure on agricultural land due to high population growth rates consequently leads to a high demand for such services as housing. 	<ul style="list-style-type: none"> • Institutionalization of the LPLUDP as the tool to guide development and infrastructure provision within the municipality. • Formulate a mechanism for better land use management from municipal management to community participation.
Environment	<ul style="list-style-type: none"> • Environmental protection of environmentally sensitive areas such as the vast river systems in the municipality, Thiba 	<ul style="list-style-type: none"> • Pollution of rivers from agricultural inputs, industries, and residential activities. 	<ul style="list-style-type: none"> • Protection of all rivers and streams in the municipality through policy implementation and resource buffering.

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
	<p>Dam, and the flat swampy area in Kutus used for rice production.</p> <ul style="list-style-type: none"> • Conducive climate for maintaining vegetation cover year-round. 	<ul style="list-style-type: none"> • Poor solid waste management practices within Kerugoya and Kutus Towns resulted in indiscriminate solid waste disposal and a threat to the environment and water sources. • Lack of a sewer reticulation system in the municipality hence over-reliance on pit latrines and septic tanks for liquid waste disposal despite the municipality lying in a high groundwater potential zone. 	<ul style="list-style-type: none"> • Implementation of the solid waste management policy for the municipality. • Install a sewer reticulation system for the municipality and subsidize individual/household connections. • Encourage agroforestry to increase tree cover within the municipality.
Social Infrastructure (education, health, recreation, administration, security, disaster management)	<ul style="list-style-type: none"> • Devolution of health services to the county level. • Young population in need of schools and primary care health facilities • Demand for recreational services in the municipality. • Demand for disaster management facilities 	<ul style="list-style-type: none"> • Inadequacy of community-level health facilities (dispensaries) to relieve the higher-level health facilities of congestion. • Inadequate staff, drugs, and equipment in the health facilities within the municipality in comparison to the accepted standards from the Ministry of Health. 	<ul style="list-style-type: none"> • Construct and equip more health facilities as highlighted in the gap analysis. • Employ more health professionals to cater to the different health facilities within the municipality. • Ensure constant and adequate supply of drugs to all medical facilities in the municipality • Undertake regular maintenance of the stadium after completion of works.

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
		<ul style="list-style-type: none"> • Incomplete works at the municipal (stadium). This hinders youth development through sports. • Inadequate community-level recreational facilities (playgrounds) and open spaces • Lack of a disaster management centre to manage disasters in the municipality including floods in Kutus and fires in the built-up areas upon occurrence. • Inadequate teachers and educational equipment in schools (especially primary schools). 	<ul style="list-style-type: none"> • Provide more community playgrounds and open spaces/parks. • Construct a disaster management centre within the municipality to include a fire department. Adequately equip the centre to deal with disasters such as flooding and fires. • Employ more teachers and provide the requisite learning facilities including books in all learning institutions in the municipality.
Physical infrastructure (water, electricity, sewerage, solid waste management)	<ul style="list-style-type: none"> • The undulating landscape for the provision of services including water and sewerage through gravity • A developed site for sewer treatment • Identified site for solid waste management • Implementation of the solid waste management policy that was developed for the municipality. 	<ul style="list-style-type: none"> • Lack of a sewerage reticulation system hence over-reliance on pit latrines and septic tanks. These overflow when full thereby causing the potential threat of water borne diseases and pollution of water resources. • Poor waste management at Kabatiro dumpsite. The site uses the traditional methods of waste disposal including 	<ul style="list-style-type: none"> • Construct the trunk sewer lines for the municipality. • The dumpsite is to be developed into a modern landfill to ensure proper and environmentally friendly waste management practices on site. • Procure and provide waste skips in Ithare, Karia (along Kutus-Karatina

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
	<ul style="list-style-type: none"> High demand for electricity especially in intensive agricultural and industrial development. 	<ul style="list-style-type: none"> burning hence pollution of the immediate surroundings. Poor distribution of waste skips around the municipality. Some emerging centres and high-density residential areas (Ithare, Karia, Mukinduri, Kaitheri, Kiamirici, etc) lack these skips and hence resort to indiscriminate dumping of waste. Periodic flooding around the Ahiti Ndomba area poses a risk of full utilization of the sewer treatment site and overspilling of raw sewage if not adequately maintained and monitored. Inadequate public toilets within Kerugoya and Kutus Town 	<ul style="list-style-type: none"> road), Mukinduri, Kaitheri, Kiamirici, and Karia (adjacent to Thiba Dam) Construct proper drainage infrastructure and dykes around the Ahiti Ndomba area to appropriately channel surface runoff/flood waters. Construct two public toilets at key activity areas (bus parks and recreational parks) in both Kerugoya and Kutus towns.
Housing	<ul style="list-style-type: none"> High population growth rate hence high demand for housing. Redevelopment of the government housing areas. Locally available building materials 	<ul style="list-style-type: none"> Encroachment and hiving of public land by private developers. Low investment in public housing. Low maintenance of the current public housing stock by the national and county governments. 	<ul style="list-style-type: none"> Fencing and reclamation of public land. Promote public-private partnerships in housing provision. Institute functional revenue programmes to monitor the collection

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
	<ul style="list-style-type: none"> • Good foundational rock structure that can support housing densification within Kerugoya and Kutus Towns. 	<ul style="list-style-type: none"> • The proliferation of informal settlements in the colonial villages owing to a lack of land ownership, especially in colonial 	<ul style="list-style-type: none"> • of rents for the maintenance of public houses. • Redevelopment of the colonial villages to offer proper housing conditions.
Transport	<ul style="list-style-type: none"> • Connectivity of the municipality to other regions via road. • Demand for public transport within the municipality and county. • Investment by the private sector in transport services. 	<ul style="list-style-type: none"> • The poor condition of access roads in the rural areas. • Most of the road network is not tarmacked. • Inadequate stormwater drainage infrastructure along all roads. • Lack of traffic control measures within Kerugoya and Kutus Town • Limited parking facilities within Kerugoya and Kutus Town. • Inadequate bus parks and accompanying infrastructure such as waiting bays, sanitation blocks 	<ul style="list-style-type: none"> • Expand, murrum, and undertake regular maintenance of all access roads in the municipality. • Tarmac all roads highlighted as secondary and local distributors. • Install traffic signals within the core urban areas to ensure pedestrian safety and reduce road user conflicts. • Construct a multi-storey parking facility. • Expand the current bus parks to cater to the increasing and anticipated traffic in the municipality.
Local Economy	<ul style="list-style-type: none"> • The emergence of potential urban nodes in the municipality hence diversification and decentralization of services from the two major urban areas. • Rich agricultural hinterland 	<ul style="list-style-type: none"> • High rate of land subdivision on agriculturally productive land into small unproductive parcels • Poor road conditions within the rural areas. 	<ul style="list-style-type: none"> • Implementation of regulations/policies to protect agricultural land. • Expand and ensure regular maintenance of all roads in the municipality.

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
	<ul style="list-style-type: none"> • Position and hierarchy of the major towns within the municipality and the county • Good connectivity of the municipality to other regions. • High population growth rate 	<ul style="list-style-type: none"> • Inadequate extension services for both extensive and intensive agricultural farming. • Inadequate raw materials for industrial production due to a decline in agricultural production from the rich hinterland. • High transportation costs as a result of poor road conditions to the rural areas which are high agricultural production areas. • High rental cost for commercial space within the core urban areas. • High licensing fees imposed on small-scale businesses • Lack of a designated livestock market despite a vibrant informal setup 	<ul style="list-style-type: none"> • Deploy more extension officers at the sub-county level to offer better services to the rural areas. • Harmonize the license application process. • Relocate the current informal livestock market and construct a modern livestock market at the site herein proposed.
Governance	<ul style="list-style-type: none"> • Institutionalization of the municipal board. • Preparation of the Local Physical and Land Use Development Plan. 	<ul style="list-style-type: none"> • Lack of a guiding framework to streamline public participation and urban management 	<ul style="list-style-type: none"> • Gender, PLWDs, and youth mainstreaming in the development agenda of the municipality. • Employ more staff in the municipal council to adequately dispense duties.

PART TWO: SITE ANALYSIS

Theme	Opportunity	Challenge	Recommendation
		<ul style="list-style-type: none"> • Lack of gender and youth streamlining in the development agenda of the municipality. • Partial transfer of functions from the county government to the municipality • Inadequate institutional capacity. The municipal board has inadequate staff and limited equipment to carry out its mandate of urban management. The dockets of environment, accounts, Human Resource, planning, branding and marketing among others remain vacant. • Inadequate funding and poor revenue collection methods to enable proper municipal operations. 	<ul style="list-style-type: none"> • Streamline revenue collection through the employment of staff and employment of modern/cashless revenue collection mechanisms. • Separation of functions/roles of the county government and the municipality.

PART TWO: SITE ANALYSIS

3.9 Synthesis of Planning Issues

- i. Factors favoring urban development - Foundational rock structure covering approximately 85% of the municipality can support densification/intensive vertical development especially in Kerugoya Town.
- ii. Terrain as well as the soil type in Kutus Town is limiting its development. However, maximization of the available space for urban development through densification and infill development should be encouraged.
- iii. The development of Thiba Dam is anticipated to increase tourism potential within the area. There is, therefore, a need to promote and develop the area to maximize its utility as a tourist attraction area as well as a source of water for the municipality and rice farmers downstream in Kutus and Mwea.
- iv. Rapid development along major transport corridors (strip development) is putting pressure on adjacent land parcels. This creates a need for providing more areas of activity to divert and decentralize resources and services. This will reduce the pressure along the transport corridors and efficiently enhance transportation in the long term.
- v. There is an outright demand for more public housing units in both towns (Kerugoya and Kutus). The current housing stock is inadequate for the existing and projected population. There is therefore a need to encourage densification within Kerugoya and Kutus Towns which will thereby reduce the pressure on the agriculturally productive rural areas. initiatives to enhance housing provision through the private sector should be encouraged in order to meet the anticipated demand.
- vi. Development of the trunk sewerage lines within the municipality should adequately consider the exponential population growth in the municipality and adequately support urban densification. Sewerage infrastructure shall form the basis for reshaping the building landscape in the municipality. Water infrastructure shall also need to be replaced considering the current dilapidated state.

4 EVALUATION OF URBAN NODES

Overview

The evaluation presented here describes the function that each established urban area currently performs and offers a proposed model of development/function based on the potential and anticipated function each is expected to perform. This section evaluates the existing and potential nodes within the municipality. The urban centres evaluated include the two core urban areas, Kerugoya and Kutus, and proposed nodes: Kiamirici, Kiamwenje, Ithare-ini, Karia (along Sagana-Embu Road) and Karia 2 (area opposite the Thiba Dam).

4.1 Description of current functions

Urban Centre	Description of Function			Proposed Model (based on potential and order of key function)
	Residential	Level of Service	Level of Economic Output	
Kerugoya	<ul style="list-style-type: none"> • Host a majority of the urban population in the municipality (76.7%). • Hosts 4 Colonial Villages (Mukinduri, Kibingo, Kiaritha, and Kaitheri) • Mixed-use residential developments • High-density residential Developments • Government Housing (National and Municipal/County) 	<ul style="list-style-type: none"> • Administrative Services- National Government offices, County Assembly, Municipal Board • Law and Order (Courts and Police Station) • Educational Services (Primary and Secondary Schools, Polytechnic) • Recreational services (community/municipal stadium) 	<ul style="list-style-type: none"> • Formal and Informal Markets (Fresh Produce and Textile) • Supermarkets and retail shops • Bars, Hotels and Restaurants • Banks and cooperatives • Light industrial activities (petrol stations and garages) • Butcheries • Slaughter House 	<ul style="list-style-type: none"> i. Residential Centre ii. Commercial iii. Administrative Centre

PART TWO: SITE ANALYSIS

Urban Centre	Residential	Description of Function Level of Service	Level of Economic Output	Proposed Model (based on potential and order of key function)
	<ul style="list-style-type: none"> • Single Dwelling Units (owner occupier) • Rental Housing (flats and row housing) • Institutional Housing 	<ul style="list-style-type: none"> • Health services (Level 5, County referral) • Banks, Cooperatives and Saccos • Transportation (Bus Station) • Post Office • Markets and Supermarkets 	<ul style="list-style-type: none"> • Agriculture (small scale/subsistence) 	
Kutus	<ul style="list-style-type: none"> • Informal settlements (Mjini) • Villages (Kabatiro and Kanjata) • Private Hostels for students of Kirinyaga University • Rental Housing (flats and row housing) • Single Dwelling Units (owner occupier) • Mixed-use residential developments 	<ul style="list-style-type: none"> • Administrative Services - County Government Headquarters • Transportation (Bus stations) • Educational Services (Primary, Secondary Schools and a University) • Research Institute • Health services (Health Centre) • Banks, Cooperatives and Saccos • Health services (health centre) • Markets and Supermarkets 	<ul style="list-style-type: none"> • Formal and Informal Markets (Fresh Produce, textile and Livestock markets) • Supermarkets and retail shops • Bars, Hotels and Restaurants • Banks and cooperatives • Light Industrial activities (petrol stations and garages) • Butcheries • Slaughter House • Agriculture (small-scale and irrigational) 	<ul style="list-style-type: none"> i. Administrative Centre ii. Education Centre iii. Residential Centre

PART TWO: SITE ANALYSIS

Urban Centre		Description of Function		Proposed Model (based on potential and order of key function)
Residential	Level of Service	Level of Economic Output		
		<ul style="list-style-type: none"> • Post Office • Transportation (Bus Station) 		
Kiamwenja	Single Dwelling Units/farmhouses (owner occupier)	<ul style="list-style-type: none"> • Administrative Services (Chief's Camp) • Educational Services (Primary and Secondary School) • Health services (Dispensary) 	<ul style="list-style-type: none"> • Retail Shops • Agriculture (small scale) 	Shopping centre
Ithare-ini	<ul style="list-style-type: none"> • Single dwelling Units (owner occupier) • Farm Houses 	<ul style="list-style-type: none"> • Educational services (Primary and secondary, Colleges) • Health services (health centre) • Religious services 	<ul style="list-style-type: none"> • Retail shops • Agriculture (small scale) • Transport (Motorcycles) 	Shopping centre (Ithare)
Karia (1) (along Kutus-Karatina road)	<ul style="list-style-type: none"> • Single dwelling Units (owner occupier) • Farm Houses 	<ul style="list-style-type: none"> • Educational Services (Secondary School) • Administrative (chief's office) 	<ul style="list-style-type: none"> • Retail Shops • Coffee Industry • Agriculture (small scale) 	<ul style="list-style-type: none"> • Shopping centre
Karia (2) (Area surrounding Thiba Dam)	<ul style="list-style-type: none"> • Single dwelling Units (owner occupier) • Farm Houses 	<ul style="list-style-type: none"> • Recreational (playing field) • Educational (Primary school) 	<ul style="list-style-type: none"> • Retail Shops • Light industrial (petrol station) • Agriculture (small scale) 	Hotel and Hospitality/Resort Area

PART TWO: SITE ANALYSIS

Urban Centre	Description of Function			Proposed Model (based on potential and order of key function)
	Residential	Level of Service	Level of Economic Output	
Kiamirici	<ul style="list-style-type: none"> • Single dwelling Units (owner occupier) • Farm Houses 	<ul style="list-style-type: none"> • Educational (Primary and Secondary School) 	<ul style="list-style-type: none"> • Retail shops • Industrial (Coffee Industry) • Transportation (motorcycles) • Agriculture (small scale) 	<ul style="list-style-type: none"> • Shopping • Industrial Centre (Neighborhood)

4.2 Ranking of Urban Nodes

Urban Centre	Evaluation of Function			Score	Rank
	Residential	Level of Service	Level of Economic Output		
Kerugoya	<ul style="list-style-type: none"> • Currently houses most of the population in the municipality. This function should be promoted. • Has more space for expansion. • East accessibility of services at the household level 	<ul style="list-style-type: none"> • Currently hosts the major services within the municipality. • A ready market for produce and service demand due to a big resident population. 	<ul style="list-style-type: none"> • Main centre for investment in the municipality. • Room for expansion of existing economic areas. 	8	1
Kutus	<ul style="list-style-type: none"> • Houses the second-largest population in the municipality. • Limited space for expansion. • Demand for housing from the students of Kirinyaga University. 	<ul style="list-style-type: none"> • Hosts the county's administrative seat. Need for promotion of this function. • Hosts a university and an animal research institute. Need for special emphasis on education based on the 	<ul style="list-style-type: none"> • Lies along a major transport corridor in the region. • Has great potential for development and promotion as an economic centre. 	8	1

PART TWO: SITE ANALYSIS

Urban Centre	Evaluation of Function		Score	Rank	
	Residential	Level of Service			Level of Economic Output
		<p>dynamics of hosting a large educational institution</p> <ul style="list-style-type: none"> Lies along a major transport corridor in the region. 			
Kiamwenja	<ul style="list-style-type: none"> Rural/farm housing dominated. Limited connection of services including water and sewerage. 	Limited-service provision	<ul style="list-style-type: none"> Limited economic development/investment Need for promotion of lower-order economic services to serve the immediate rural areas 	2	3
Ithare-Kabare	<ul style="list-style-type: none"> Rural/farm housing dominated. Limited connection of services including piped water and sewerage. 	<ul style="list-style-type: none"> Limited-service provision. Dominated by education facilities 	<ul style="list-style-type: none"> Limited economic development/investment Need for promotion of lower order economic services. (Shopping centre) 	2	3
Karia (1)-along Kutus-Karatina road	<ul style="list-style-type: none"> Rural/farm housing dominated. 	<ul style="list-style-type: none"> Limited-service provision. 	<ul style="list-style-type: none"> Need for promotion of lower order economic services. (Shopping centre) Promotion of current function as a coffee collection centre. 	4	2
Karia (2)- (Area surrounding Thiba Dam)	<ul style="list-style-type: none"> Rural/farm housing dominated. Potential for development and promotion of the area for low-density residential developments 	<ul style="list-style-type: none"> Limited-service provision. 	<ul style="list-style-type: none"> Need for promotion of lower order economic services. (Shopping centre) Potential for promotion in the hotel and hospitality industry. Site for the promotion of tourism is Thiba Dam/Reservoir. 	4	2

PART TWO: SITE ANALYSIS

Urban Centre	Evaluation of Function		Score	Rank	
	Residential	Level of Service			
Kiamirici	<ul style="list-style-type: none"> Rural/farm housing dominated. 	<ul style="list-style-type: none"> Limited-service provision. 	<ul style="list-style-type: none"> Need for promotion of lower order economic services. (Shopping centre) Promotion of current function as a coffee collection centre. 	4	2

5 DEVELOPMENT OPTIONS

Overview

The development of the municipality requires devolution of services and infrastructure. This section establishes the preferred and functional option chosen for the municipality's future development. The development option shall inform the plan of the municipality. Choosing a preferable model for development for the municipality analyses the existing situation (current development outlook) and the development potential of the area of interest. The result is a development scenario that provides a solution to controlling urbanization, protecting the environment and the rich agricultural areas within the municipality, and decentralizing activities from the main towns: Kerugoya and Kutus.

5.1 Criteria for Evaluation

5.1.1 Criteria

The evaluation of the different development options is based on a set of criteria that analyses the strength of each model to find the best alternative that shall guide the development of the town. The criteria include:

1. Protection of agricultural land
2. Promotion of service delivery
3. Promotion of land use integration
4. Promotion of compaction (vertical development) and limiting urban growth
5. Promotion of environmental conservation
6. Decentralization of functions and service delivery (spread of functions and services)

5.1.2 Land Use Change Considerations

Drivers of land use change assist in analysis of the current emerging development trends within the municipality. The drivers of land use change in Kerugoya/Kutus Municipality include:

- i. **Population** - An increase in population results in demand for land for various purposes including commercial and residential use. This thus results in land fragmentation to meet any underlying evident demand of the time, resulting in land use change. Kerugoya Kutus has a 9.1% population growth rate. This population has a high demand for housing and commercial space.

PART TWO: SITE ANALYSIS

- ii. **Culture** - Land subdivision in the municipality is based on the inheritance of ancestral land. The result is high land fragmentation and land use change due to resultant differences in land utilization based on the preferences of the resultant owner.
- iii. **Economy** - A change in economic activities within the municipality from an agriculturally reliant economy to other economic activities that breed higher returns on income such as housing and demand for space for commercial activities has resulted in pressure on adjacent agriculturally rich land. The result is land fragmentation and subsequent land use change to keep up with current demand.
- iv. **Housing** - A demand in housing resultant from an increase in population puts pressure on existing land uses.

PART TWO: SITE ANALYSIS

5.2 Development Options

Option	Description	Pros	Cons	Recommendation
1.	Business as Usual/Do nothing	<ol style="list-style-type: none"> 1. Freedom of undertaking development without control and restriction. 2. Ease of development due to the absence of development control and bureaucracies. 	<ol style="list-style-type: none"> 1. High cost of service and infrastructure provision due to uncontrolled linear development along main transport corridors. 2. Urban sprawl into rich agricultural hinterlands leads to the sprouting of unsustainable settlements. 3. Pollution of the environment and encroachment into conservation areas 4. Unproductive agricultural areas due to the possible mass movement of the productive labor force to areas of higher economic activity. 5. Possibility of urban growth nodes in the rest of the municipality stagnating or failing due to a lack of basic urban services and infrastructure. 6. Difficulty in coordination and provision of essential services like water, sewer, and 	Some aspects of this option shall be used for the development of the preferred option where the existing use on land supports the intended model.

PART TWO: SITE ANALYSIS

Option	Description	Pros	Cons	Recommendation
			electricity to the residents of the municipality	
2.	Urban Concentration and strict regulations	<ol style="list-style-type: none"> 1. Ease in provision of infrastructure and urban services such as roads, water, sewer, power, etc. 2. Protection of rich agricultural hinterlands from threats posed by urbanization. 3. Compact development prevents urban sprawl and the emergence of unplanned and unsustainable neighborhoods. 4. Increased access to housing due to increased densities through vertical and horizontal infill-densification of development. 5. Restricting urban development within a limited portion of the core urban areas is a tool to reduce the spread of environmental pollution. 	<ol style="list-style-type: none"> 1. Unbalanced urban development of the municipality. Services and infrastructure will only be provided within two core urban areas hence denying other parts essential services. 2. Pressure on existing infrastructure within the core urban areas due to increased access to basic goods and services by a concentrated population. For instance, traffic congestion and land use conflicts. 3. This scenario will retard and eventually decrease existing and emerging nodes due to a lack of services. The nodes are important as they provide lower-order goods and services to the rural population. 	<p>The pros as stated form a key aspect of the preferred development model.</p> <p>The cons stated shall be used in the improvement of the preferred model.</p>
3.	Allow outward growth of the two core urban areas by pointing the direction of growth while limiting and assigning functions to the nodes	<ol style="list-style-type: none"> 1. Potential for core urban growth and development as they will enjoy the monopoly of unlimited extends. The core urban areas 	<ol style="list-style-type: none"> 1. Unrestricted expansion of the core urban areas will interfere with rich agricultural hinterlands thus affecting the 	<p>The pros as stated form a key aspect of the preferred development model.</p>

PART TWO: SITE ANALYSIS

Option	Description	Pros	Cons	Recommendation
		<p>will be the main commercial and residential hubs.</p> <p>2. The selective concentration of development within existing and emerging nodes will shield agricultural areas from change in use.</p> <p>3. Nodes become exclusively functional based on potential</p> <p>4. The mutual relationship between the core urban areas, and existing and emerging nodes is due to interdependence based on function.</p>	<p>economic backbone of the area.</p> <p>2. Possibility of retarding the growth of other nodes since the core urban areas are envisioned to develop into powerful centres with better infrastructure and services.</p> <p>3. Possibility of the core urban areas growing in a linear pattern, especially along the main transportation corridors. The provision of infrastructure and urban services shall therefore be too expensive and uneconomical.</p> <p>4. Specialization of nodes will deny them the privilege of growing into independent urban areas.</p>	<p>The cons stated shall be used in the improvement of the preferred model.</p>
4.	Preferred option: Development of two core urban areas with nodes and areas of assigned function.	<p>1. Ease in provision of infrastructure and urban services such as roads, water, sewer, power, etc</p> <p>2. Protection of rich agricultural hinterlands from threats posed by urbanization.</p> <p>3. Restricting urban development within the core urban areas shall</p>	<p>1. Densification/compaction can put pressure on the existing infrastructure and the agricultural hinterland in the process over time.</p> <p>2. The anticipated cost of the spread of infrastructure and services to the new/assigned satellite nodes.</p>	<p>The model shall work towards reducing the aforementioned inadequacies through the provision of feasible policies and cost-effectiveness in plan delivery.</p>

PART TWO: SITE ANALYSIS

Option	Description	Pros	Cons	Recommendation
		reduce the spread of environmental pollution 4. Proposed/potential nodes shall be exclusively functional based on potential 5. The mutual relationship between the core urban areas, existing and emerging nodes due to interdependence based on function and infrastructure development 6. Shall create a better avenue for the development of other areas in the municipality aside from the two core urban areas.		

Multiple Nuclei Model (C.D. Harris and Edward L. Ullman, 1945) has been used in choosing the preferred development model. This model suggests that major urban areas have multiple growth points or “nuclei” around which growth takes place. The multiple Nuclei model argues that *“a city/major urban area might start with a single central business district (CBD), but over time the activities scatter and get modified. The scattered activities attract people from surrounding areas and act as smaller nuclei in themselves. These small nuclei gain importance and grow in size and start influencing the growth of activities around them.”*



PART THREE: PLAN PROPOSALS

6 STRUCTURE PLAN

Overview

The structure plan for Kerugoya/Kutus Town forms the proposed/anticipated development footprint that the municipality shall take on land before the end of the planning period. This plan is the guiding factor in land use development for the municipality. Its focus is on the main urban centres highlighted as focal points for its future development to protect the rich agricultural hinterlands from the effects of urban sprawl.

The purpose of the structure plan is to guide the municipality's development, conserve the environment (natural capital including rivers and hilly areas/valleys), and protect the agricultural areas. The plan aims to meet the current and projected population needs by showing the land use proposals for residential area development, public facilities, and utility provision.

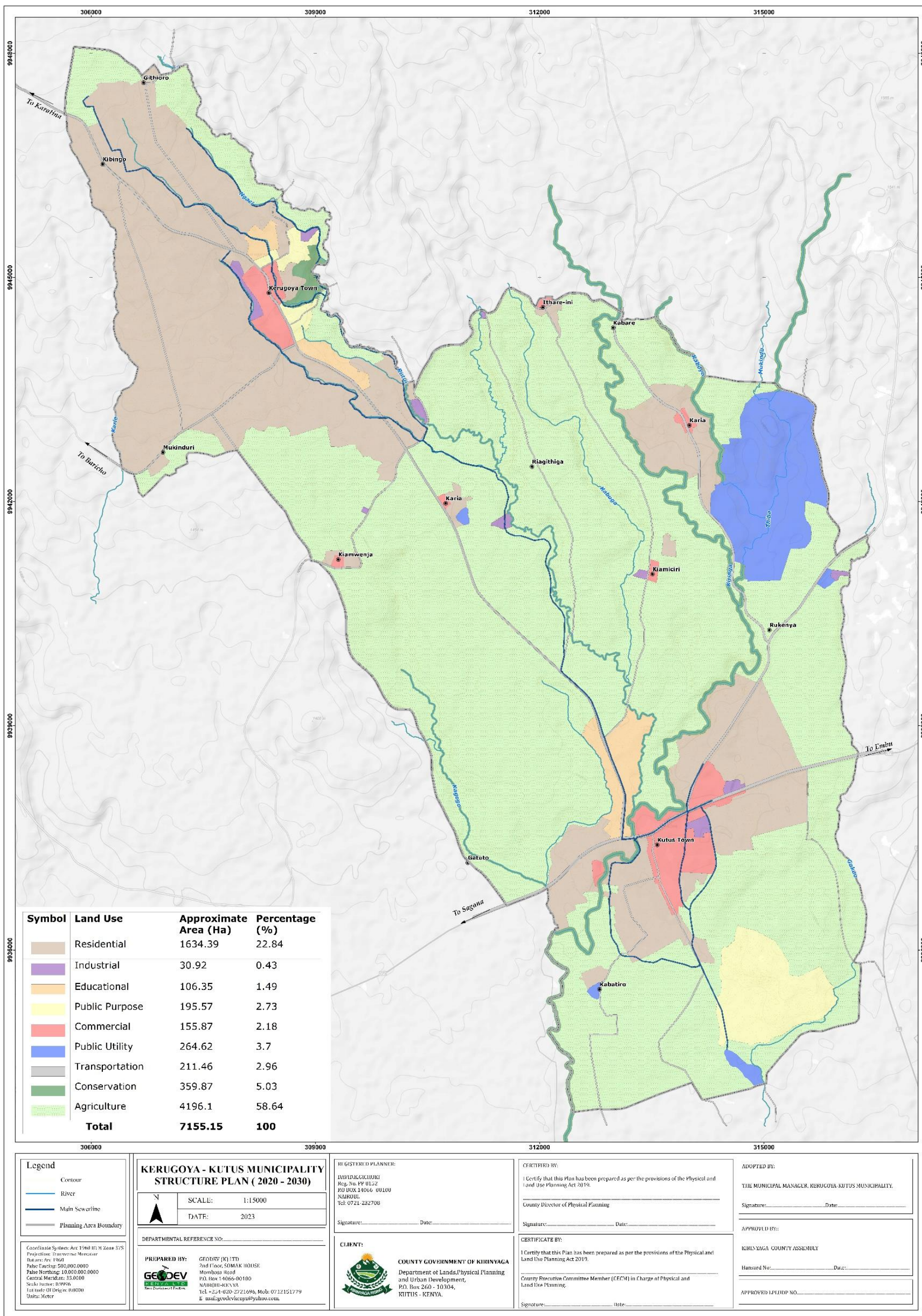
The structure plan seeks to utilize and incorporate the potential in the municipality through guiding and decentralizing development from the two principal towns (Kerugoya and Kutus) and distributing some functions to other identified nodes, including Karia, Ithare, and Kaimwenja. These centres are interlinked through the elaboration of the existing road corridors. This then forms a system for which the centres link to the major urban areas and the agricultural lands.

6.1 Proposed Land Uses

Land Uses	Area (Ha)	Percentage (%)
Residential	1634.39	22.84
Industrial	30.92	0.43
Educational	106.35	1.49
Public Purpose	195.57	2.73
Commercial	155.87	2.18
Public Utility	264.62	3.7
Transportation	211.46	2.96
Conservation	359.87	5.03
Agriculture	4196.1	58.64
Total	7155.15	100

Table 6-1: Proposed Land Uses in the Municipality

PART THREE: THE PLAN



Map 6-1: Kerugoya/Kutus Municipality Structure Plan

6.2 Area Land Use Plans

Overview

Area land use plans are individual detailed land use proposals for the identified urban nodes aiming to show the proposed structure of development at the local level. The area land use plans presented in this section are for Kerugoya and Kutus Towns, Kiamiciri, Karia 1 (along Kutus-Karatina road), Karia 2 (adjacent to Thiba Dam), Ithare-ini and Kiamwenja centre. The following are the factors considered for the development of the urban nodes:

- Existing and potential function
- The locational advantage of the agricultural hinterland
- Internal accessibility within the municipality

These areas have the potential for spurring the growth of the municipality wholesomely and also present different developmental challenges that require specific interventions for improvement. The resulting output from these plans is area-specific improvement measures that shall offer:

- a. Avenues for employment in industrial or commercial areas
- b. Better activity areas for housing, business, and industrial advancement
- c. Recreation facilities
- d. Environmental Protection

PART THREE: THE PLAN

6.2.1 Kerugoya Town: THE COMMERCIAL HUB

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
01	Existing Colonial Village	19.72	1.5	<ul style="list-style-type: none"> • The proliferation of informal settlements and informal commercial activities. • Inadequacy of basic utility facilities including water and electricity. • Communal land ownership hence limited investment in housing. • Poor solid waste disposal within these residential areas including indiscriminate dumping and burning. • Characteristic of row housing: single-floor buildings. • Inadequate access roads. 	<ul style="list-style-type: none"> • Redevelopment of the colonial village through the construction of high-rise apartments and providing community facilities that may include a social hall and communal open spaces. • Redevelopment to ensure the provision of adequate access roads within the village. • Provide individual titles to the existing beneficiaries of the village after identification.
02	Existing Institutional Housing	1.03	0.1	<ul style="list-style-type: none"> • Town houses with open spaces • Adequate space increasing housing units 	<ul style="list-style-type: none"> • Redevelopment of the institutional houses through the construction of high-rise apartments. • Redevelopment to ensure the provision of infrastructure including water, sewer, liquid waste management, and electricity. • The proposed vertical redevelopment shall consist of flats/apartments of 5 floors (ground plus 4) with common open spaces and parking areas.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
03	Existing Public Housing Area	6.23	0.5	<ul style="list-style-type: none"> Row houses and townhouses Single-family dwelling units Adequate access roads. Have access to electricity, piped water, and communal septic tanks Kamukunji housing area does not have adequate land to guarantee compact redevelopment. 	<ul style="list-style-type: none"> Redevelopment of the Biafra, Congo, Kamukunji, and Forty Rental government housing units. The proposed vertical redevelopment shall consist of flats/apartments of 5 floors (ground plus 4) with common open spaces and parking areas. This applies for the Forty Rental area, Congo, as well as Biafra. Proposed typologies for the redevelopment of Kamukunji should consider medium-rise row housing.
04	Proposed High-Density Residential	202.87	15.9	<ul style="list-style-type: none"> Typologies consisting of row Housing and maisonettes. Mixed-use developments (residential cum commercial) along major roads. Narrow access roads (at least 4m) of earth surface. High rates of land subdivision and land use change. Average land size of 0.15ha. Inadequate street lighting Rampant indiscriminate dumping of solid waste. Lack of a sewer reticulation system thereby over-reliant on pit latrines and septic tanks. 	<ul style="list-style-type: none"> Infill development on areas/pieces of land that are not properly utilized. Densification within the wider areas to the western side of the core commercial area. Land subdivisions should not go below the average requirement of 0.03Ha for this residential zone. Provide street lighting or install high masts within these residential areas. Adequately service the area with piped water and sewerage infrastructure. Procure and strategically position waste skips and undertake regular garbage collection i.e. twice a week within these residential zones.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
05	Proposed Medium-Density Residential (Part of Ndimi Area down to Kaitheri)	374.55	29.3	<ul style="list-style-type: none"> • Forms part of the peri-urban fringe. • Housing predominantly consists of bungalows and maisonettes. • Narrow access roads of earth surface. • Lack of commercial shopping centres • Practice small-scale agricultural activities • Average land size of 0.34Ha • Poor solid waste disposal practices. Burning is the preferred option of disposal • Lack of a sewer reticulation system thereby over-reliant on pit latrines and septic tanks for liquid waste disposal. 	<ul style="list-style-type: none"> • Maintain the existing use and density of development. • Land subdivisions for larger parcels should not be below the average size of 0.045Ha. • All-access roads to have a minimum width of 6 to 9 metres. • Provide street lighting along the roads or install high masts within this residential zone. • Adequately service the area with potable piped water and sewerage infrastructure. • Undertake regular garbage collection i.e twice a week. • Allow for redevelopment within the area highlighted as shopping centres. Preferred development to be medium-rise developments (3 floors - Ground plus Two)
06	Proposed Low-Density Residential	172.44	13.5	<ul style="list-style-type: none"> • Forms the urban fringe. • Housing predominantly consists of bungalows, maisonettes, and farmhouses • Narrow access roads (4m) of earth surface. • Lack of commercial service centres • Intensive agriculture is practiced. • Average land size of 1.04Ha • Inadequate street lighting 	<ul style="list-style-type: none"> • Maintain the existing use and density of development. • Land subdivision should not exceed the average 0.2Ha. • All the access roads are to have a minimum width of 6 to 9 metres. • Provide street lighting or install high masts within this residential zone.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
				<ul style="list-style-type: none"> Poor solid waste disposal practices in the form of burning. Lack of a sewer reticulation system thereby over-reliant on pit latrines and septic tanks. 	<ul style="list-style-type: none"> Adequately service the area with potable piped water and sewerage infrastructure. Procure and strategically position waste skips and undertake regular garbage collection i.e twice a week.
07	Proposed Residential cum Commercial	4.28	33.5	<ul style="list-style-type: none"> A mixture of row housing, bungalows, and high-rise developments Mixed-use developments along the Kerugoya-Karatina road Poor solid waste disposal practices Lack of a sewer reticulation system. Area is reliant on septic tanks for the disposal of liquid waste. Area is easily accessible due to good road linkage. 	<ul style="list-style-type: none"> Provide street lighting or install high masts within this residential zone. Adequately service the area with potable piped water and sewerage infrastructure. Promotion of mixed-use development (residential cum commercial) along the Kutus-Karatina (B27) road opposite the stadium.
11	Existing Coffee Factory	4.98	0.4	<ul style="list-style-type: none"> Coffee factories are located along rivers on the outskirts of the core urban area. Petrol stations are positioned along the major transportation corridors. The industrial zone in the town is in proximity to a river indicating possible sources of pollution. The industrial area in the town is a mixture of juakali industries, vehicle repair, and workshops as well as warehouses. 	<ul style="list-style-type: none"> Construct proper sheds for the open-air <i>Juakali</i> traders Ensure regular garbage collection within the <i>Juakali</i> areas All industrial developments within the town maintain a buffer of 15 metres from the river and ensure proper waste treatment (solid and liquid) before disposal into rivers.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
13	Existing Light Industry	1.24	0.1	<ul style="list-style-type: none"> Furniture workshops, godowns/warehouses, and petrol stations. 	<ul style="list-style-type: none"> Maintain use and or change the use to adjoining proposed land uses upon application for change of use. Ensure the areas adhere to the prescribed zoning regulations (see section 7) to maintain order and limit conflict with the surrounding land uses.
14	Existing Petrol Station	1.12	0.1	Petrol service stations	<ul style="list-style-type: none"> Maintain use and/or convert to light industrial use such as godowns/warehouses, distilling and brewing companies, or to such land uses that do not conflict with neighbouring land uses.
16	Existing Kijiji Nuts Factory	0.33	0.03	Agricultural Processing factory	<ul style="list-style-type: none"> Maintain use Ensure adherence to local and national environmental laws and policies.
17	Existing Maruti Rice Factory	0.42	0.03	Agricultural Processing factory	<ul style="list-style-type: none"> Maintain use Ensure adherence to local and national environmental laws and policies.
18	Proposed Industrial Park	3.32	0.3	<ul style="list-style-type: none"> Informal Furniture and metal fabrication workshops Warehouses/godowns Commercial shops and mobile banking outlets 	<ul style="list-style-type: none"> Develop the open-air <i>juakali</i> areas by constructing sheds and hard floors. Service the area with adequate water, and electricity (a dedicated transformer to service the area) Maintain a buffer of 15 (7.5m on either side of the river channel). Liquid waste channeled to

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
					the river should be treated before disposal from all established
111	Proposed Light Industrial Area	1.03	0.1	<ul style="list-style-type: none"> Site for the Ministry of Agriculture, Veterinary offices. 	<ul style="list-style-type: none"> Relocate the current site that was earmarked for juakali enterprises next to the stadium to the proposed site (veterinary offices next to the bus station). Construct sheds/shelters for hosting juakali artisans. Ensure that the floor is concreted. Construct an ablution block Fence the proposed area and install adequate security within the site. Connect the facility to ample water (install water tanks preferably), electricity as well as sewerage infrastructure.
21	Existing Public Primary School	27.13	2.1	<ul style="list-style-type: none"> Six public primary schools within Kerugoya Town. All the schools are accessible to the population within the municipality. Most of the schools have low-rise densities. 	<ul style="list-style-type: none"> All public education facilities be adequately equipped. Encourage densification within the existing primary schools to adequately accommodate the future population. Roads leading to primary schools should have traffic calming facilities including speed humps and proper signage erected to support the safety to these institutions.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
					<ul style="list-style-type: none"> Install solar power equipment in all public primary schools to augment the electricity supply and save on costs.
22	Existing Private Primary School	10.95	0.9	<ul style="list-style-type: none"> Most of these schools do not have adequate land for expansion 	<ul style="list-style-type: none"> Maintain use and or change to use that does not conflict with the neighbouring uses. Encourage vertical development upon development application (extension of use)
23	Existing Public Secondary School	23.36	1.8	<ul style="list-style-type: none"> Only three secondary schools within the town. All schools are accessible via road. Kiaritha Secondary School does not have adequate land for expansion 	<ul style="list-style-type: none"> All public education facilities be adequately equipped with libraries, laboratories, and dormitories factoring in the anticipated change in student population. Encourage densification within the existing secondary schools to adequately accommodate the future population. Roads leading to schools should have traffic calming facilities including speed humps and proper signage erected to support the safety of these institutions. Install solar power equipment in all public secondary schools to augment the electricity supply and save on costs.
24	Existing Private Secondary Schools	1.88	0.1	<ul style="list-style-type: none"> The school does not have adequate land for expansion. 	<ul style="list-style-type: none"> Maintain use and or change to use that does not conflict with the neighbouring uses. Encourage vertical development upon development application (extension of use)

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
25	Existing Tertiary Institution	5.47	0.4	<ul style="list-style-type: none"> Mt. Kenya Teacher's Training College has inadequate land for expansion. Kaitheri County Polytechnic is located along a busy junction within the town. The institution does not have land for expansion 	<ul style="list-style-type: none"> Encourage vertical development of future developments within the institutions to cater to a larger student population. This will ensure optimal use of the land available. Mt. Kenya Teachers Training College can request land for expansion from the existing coffee factory where demand requires. Install solar power equipment in the institutions to augment the electricity supply and save on costs.
26	Existing Special School	0.49	0.04	<ul style="list-style-type: none"> The school forms a wing of the Kerugoya Primary School. 	<ul style="list-style-type: none"> Maintain use Install additional equipment and facilities to enable learning. Ensure the school is friendly and accessible to PLWDs
27	Proposed Primary School	4.71	0.3	<ul style="list-style-type: none"> Agricultural Land 	<ul style="list-style-type: none"> Acquire land Construct the necessary facilities including classrooms, staffrooms/offices, ablution blocks, assembly areas etc to enable use. Fence the facility. Provide services such as water, sewerage, and electricity. Install solar harvesting equipment to augment the electricity supply and reduce the cost of energy.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
28	Proposed KMTC	3.98	0.3	<ul style="list-style-type: none"> Existing Public Works Offices Existing staff houses 	<ul style="list-style-type: none"> Redevelopment of the two sites earmarked for the KMTC. Construction of boarding, recreational and teaching facilities within the proposed land. Fence the facility Provide services such as water, sewerage, and electricity. Install solar harvesting equipment to augment the electricity supply and reduce the cost of energy.
3	Recreational	4.93	0.4	<ul style="list-style-type: none"> The stadium is still under construction Urban Park opposite the KCB bank does not have functional public toilets. 	<ul style="list-style-type: none"> Complete construction works on the municipal stadium. Install flood lights and terraces to promote the use of the facility. The area covered by the municipal stadium is 0.15Ha. Undertake regular maintenance of the municipal stadium. Undertake regular maintenance of the urban park. Ensure adequate supply of water to guarantee the cleanliness of the toilets throughout.
41	County Teaching and Referral Hospital	3.86	0.3	<ul style="list-style-type: none"> Existing health facilities including a morgue and incinerator 	<ul style="list-style-type: none"> Invest heavily in solar harvesting equipment to augment the electricity supply and reduce the cost of energy. Adequately staff and equip the County Referral Hospital with the necessary

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
					infrastructure (based on the assigned level of service delivery)
42	Existing Health Facilities	1.94	0.2	<ul style="list-style-type: none"> • Consists of the County referral hospital, Kiamuruga Ndimi Dispensary, and Kiaritha Dispensary. • The County Referral Hospital and Kiaritha Dispensary are functional. • Kiamuruga Ndimi Dispensary has not been functional since the completion of construction works. The facility is currently dilapidated. • The county referral hospital has an entrance to a major road. 	<ul style="list-style-type: none"> • Maintain use. • Adequately staff and equip the Kiaritha Dispensary with the necessary infrastructure (based on the assigned level of service delivery) • Renovate the Kiamuruga Ndimi Dispensary. Staff and equip the dispensary to offer primary health care services • Provide traffic calming facilities (speed humps, zebra crossings, and road signs) along the Kutus-Karating road, especially in the area of the County Referral Hospital.
43	Existing police station/post	5.09	0.4	<ul style="list-style-type: none"> • Stand-alone buildings have different uses including courts. Some of the 	<ul style="list-style-type: none"> • Undertake site planning of the station. • Redevelop and undertake densification (multiple-floor buildings) within the station. This shall free more land for development in the future.
45	Kirinyaga County Assembly	1.18	0.1	<ul style="list-style-type: none"> • Assembly buildings and parking offices • Open spaces 	<ul style="list-style-type: none"> • Maintain use • Invest heavily in solar harvesting equipment to augment the electricity supply and reduce the cost of energy.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
46	Existing law courts	1.02	0.1	<ul style="list-style-type: none"> The building is in good condition and has adequate space to host different offices and/or sections. 	<ul style="list-style-type: none"> Maintain use.
47	Existing Government offices/institutions	15.11	0.6	<ul style="list-style-type: none"> National government offices are unevenly distributed within the town. Sites/land where the offices are located are not adequately utilized with a single office covering an entire plot. 	<ul style="list-style-type: none"> Redevelopment and densification of all national/public offices into single office blocks/buildings. This shall enable the economical use of land while giving space for other institutions to set up shops in the municipality.
48	Existing community facility	0.64	0.1	<ul style="list-style-type: none"> The facility is not being utilized optimally. 	<ul style="list-style-type: none"> Rehabilitate sections of the building undergoing decay. Sections rehabilitated can house additional offices for the municipal board/staff.
49	Existing prison	2.87	0.2	<ul style="list-style-type: none"> The facility has different areas/sections housing the inmates and wardens, as well as agricultural farms. 	<ul style="list-style-type: none"> Maintain use. Redevelopment and densification of the old buildings to multi-storied units.
410	Existing Religious institution	19.16	1	<ul style="list-style-type: none"> The area highlighted consists of churches, mosques, and temples. Most of these institutions have permanent buildings. 	<ul style="list-style-type: none"> Maintain use and or change to use that is consistent with abutting uses. Ensure all religious institutions abide by laws and regulations about noise pollution.
411	Existing funeral home	0.31	0.02	<ul style="list-style-type: none"> Site is currently under construction 	<ul style="list-style-type: none"> Provide adequate parking in the facility Adequately fence the site Invest heavily in solar harvesting equipment to augment the electricity supply

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
4 ₁₂	Proposed Library and ICT Hub	0.16	0.01	<ul style="list-style-type: none"> Lack of a municipal library within the town. The site previously proposed for the facility is disputed with the Kenya Police who are the current occupants of the land. 	<ul style="list-style-type: none"> Acquire land and construct a public library along the Kutus-Karatina Road and equip it with the necessary facilities to enable frequent use. Provide onsite parking within the facility.
5 ₁	Existing Market	0.67	0.05	<ul style="list-style-type: none"> Consists of the Kerugoya Fresh Produce Market and Kibingo Textile Market. Kerugoya Market has modern facilities although the space is inadequate owing to demand from traders due to its prime location. Kibingo <i>mtumba</i> market has informal temporary sheds. The market lacks an ablution block and parking space. 	<ul style="list-style-type: none"> Redevelop the Kibingo market to have modern stalls (3m*3), an ablution block, an eating area, a loading and offloading bay, and a general store. Fence the site. Redevelop the Kerugoya Market. Construct a multi-storey building to have different sections for fresh produce, dry produce, and textile.
5 ₂	Proposed Commercial Area	27.87	2.2	<ul style="list-style-type: none"> Hosts the majority of the population during the day. The zone has inadequate parking facilities leading to on-street parking and a potential for road-user conflict. Most commercial buildings are low rises and therefore cannot support and limit expansive and intense commercial activities. Some buildings within the commercial area remain unfinished. This is an indication of poor utilization of land. Access roads within this zone lack pedestrian walkways. 	<ul style="list-style-type: none"> All roads within the commercial area to have walkways to promote safety and increase walkability within the town. Densification (five stories or higher) within the commercial area to increase the commercial space in the town. Infill development on all commercial lots not fully utilized All-access and service lanes proposed within the commercial area to have a minimum width of 6m.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
				<ul style="list-style-type: none"> • Presence of informal markets within pockets of undeveloped land. • Lack of service lanes and narrow access roads. • Undeveloped productive land parcels. 	
53	Proposed Commercial cum Residential	7.6	0.6	<ul style="list-style-type: none"> • The area consists of a mixture of building typologies ranging from row mixed-use residential development to flats of mixed-use (residential cum commercial). • The area is well-serviced with roads, water, and electricity. • Proximity to CBD and stadium is potential for expansion of the commercial area. 	<ul style="list-style-type: none"> • Encourage densification of the area through the promotion of mixed-use developments with commercial use being dominant. • Maintain a road reserve of 18m on the road passing through the zone. • Ensure all roads within the area have a minimum width of 9m. Only back lanes/service lanes are to have a minimum width of 6m.
55	Proposed Shopping Centre	7.18	0.6	<ul style="list-style-type: none"> • Residential and agricultural areas. 	<ul style="list-style-type: none"> • Proposed for servicing the adjacent proposed areas • Encourage medium-rise developments (ground plus two). • Service the area with water, electricity, and sewerage infrastructure.
56	Proposed Textile Market	0.52	0.04	<ul style="list-style-type: none"> • The residential area for government houses. 	<ul style="list-style-type: none"> • Redevelopment of the forty rental housing area proposes a change in the layout of the area. • Develop a modern textile market having a parking area, modern market stalls of 3*3m,

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
					ablution blocks, an eating area, and a solid waste station.
61	Existing Cemetery	1.21	0.09	<ul style="list-style-type: none"> Burial site. 	<ul style="list-style-type: none"> Demarcate and fence the cemetery. The site should be declared full and decommissioned from further use to stop encroachment into the urban forest. Landscape and frequently maintain.
62	Existing Kenya Power Substation	0.18	0.01	<ul style="list-style-type: none"> Site for power transformers, generators, transmission lines, etc. The site is well-fenced and secured. 	<ul style="list-style-type: none"> Maintain Use.
63	Existing Water Reservoir	1.71	0.13	<ul style="list-style-type: none"> The site is filled with water. The water stored is used by the surrounding plots for agricultural purposes. The relief profile of the reservoir shows the area lies in a valley. The site is the property of five different owners according to the cadastral layer. 	<ul style="list-style-type: none"> Maintain use and or adequately rehabilitate the site through filling and compaction before conversion to adjoining land uses.
64	Existing Telecommunication Mast	0.12	0.01	Sites are fenced. Telecommunication mast, transmission equipment, and generators.	<ul style="list-style-type: none"> Maintain use and or convert to adjoining proposed land uses upon the evacuation of equipment from the site.
65	Existing water tank	0.07	0.01	Water tanks	<ul style="list-style-type: none"> Maintain use.
7	Transportation	126.79	9.92	<ul style="list-style-type: none"> Consists of the road network within the town including the Kutus-Karatina (B27) highway, secondary roads linking the town to other 	<ul style="list-style-type: none"> The primary road passing through the town is to have a proposed width of 40m. Pedestrian walkways and cycleways are to be developed

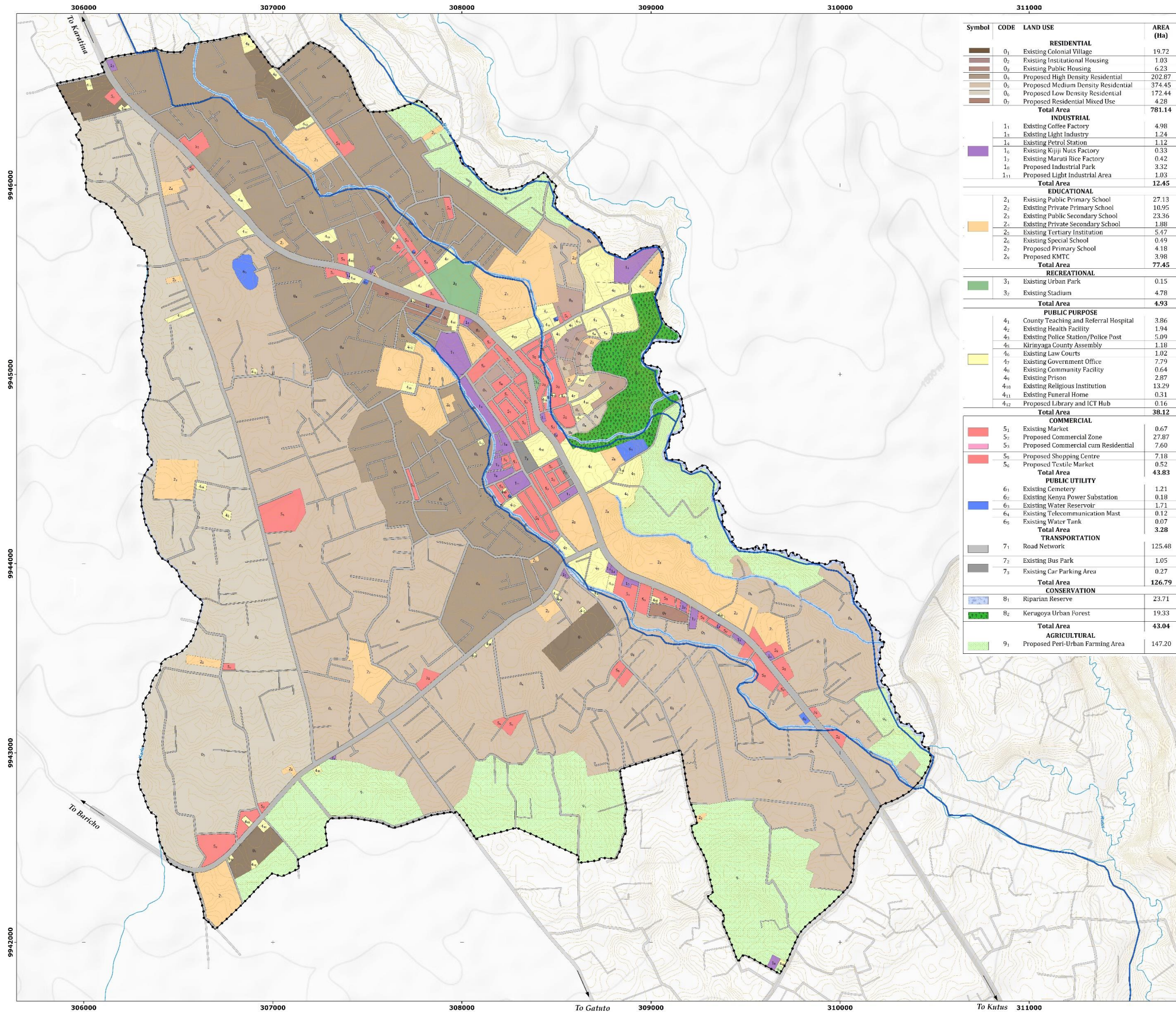
PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
				<p>small service centres within and outside the municipality as well as access roads.</p> <ul style="list-style-type: none"> • Access roads within the core urban area are of tarmac surface while those in residential areas are of earth surface. • Local distributor roads are not well developed. Most are narrow with varying widths. • The bus park within the town only serves long-distance transit vehicles. Local routes/taxis do not operate from the bus park. • There are inadequate parking facilities within the core urban area. Parking sites are not demarcated. Cars park on the roadside. 	<p>along this road especially the section passing through the CBD.</p> <ul style="list-style-type: none"> • All secondary roads linking the town to other service centres to maintain a reserve of 21m. • Local distributor roads linking primary and secondary roads are to have a minimum reserve of 12m. • All-access roads are to have a width/reserve of 6-9m. • All roads within the CBD are to be adequately marked with parking spaces. • Acquire land opposite the Kerugoya Bus Stop and construct a multi-storey parking facility.
8 ₁	Proposed Riparian Reserve	23.71	1.9	<ul style="list-style-type: none"> • Involves all rivers running through the town. • Most rivers running through the town have been encroached and diverted except river Rutui and Ngaci due to their sizes. A lot of activities (mostly industrial) are occurring along river banks. • Industrial activities and car washes adjacent to rivers are major sources of pollution. 	<ul style="list-style-type: none"> • River Rutui is to have a reserve of 60m (30m on each side of the highest recorded volume level). Development along the river reserve or on the river is discouraged. • The rivers running through the town are to have a reserve of 30m (15m on each side of the highest recorded volume level). Development along the river reserves or on the rivers is discouraged.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of Total	Existing Condition	Recommendation
8 ₂	Kerugoya Urban Forest	19.33	1.5	The urban forest is currently encroached on parts of land owned by private developers.	<ul style="list-style-type: none"> • Reclaim the forest land through the National Land Commission (NLC) and fence the site accordingly to discourage grabbing. • Decommission the dumpsite within the urban forest. • Reclaim and repurpose the land occupied by the dumpsite to be a mortuary for the Level 5 Hospital. • Fence the urban forest and provide walkways, benches, and street lighting. Repurpose the park to serve as an arboretum and provide facilitative infrastructure such as benches and walkways within the forest. • Install waste bins at different focal locations.
9	<u>Agriculture</u> Proposed Peri-Urban Farming Area	142.25	11.5	<ul style="list-style-type: none"> • Forms the periphery of the town. • Agricultural activities range from small-scale and large-scale crop farming. Crops grown range from vegetables, coffee, tea, maize, avocados, etc. This area forms the food production zone for the municipality and county. • Land subdivision is not rampant within this zone. • Roads within these areas are in poor condition and mostly of earth surface. 	<ul style="list-style-type: none"> • Tarmac all roads proposed as secondary and local distributor roads within the agricultural areas. • Land subdivision is to be kept to a minimum of 1Ha to enable agricultural productivity.

PART THREE: THE PLAN



Symbol	CODE	LAND USE	AREA (Ha)
RESIDENTIAL			
	0 ₁	Existing Colonial Village	19.72
	0 ₂	Existing Institutional Housing	1.03
	0 ₃	Existing Public Housing	6.23
	0 ₄	Proposed High Density Residential	202.87
	0 ₅	Proposed Medium Density Residential	374.45
	0 ₆	Proposed Low Density Residential	172.44
	0 ₇	Proposed Residential Mixed Use	4.28
		Total Area	781.14
INDUSTRIAL			
	1 ₁	Existing Coffee Factory	4.98
	1 ₂	Existing Light Industry	1.24
	1 ₃	Existing Petrol Station	1.12
	1 ₄	Existing Kijiji Nuts Factory	0.33
	1 ₅	Existing Maruti Rice Factory	0.42
	1 ₆	Existing Industrial Park	3.32
	1 ₁₁	Proposed Light Industrial Area	1.03
		Total Area	12.45
EDUCATIONAL			
	2 ₁	Existing Public Primary School	27.13
	2 ₂	Existing Private Primary School	10.95
	2 ₃	Existing Public Secondary School	23.36
	2 ₄	Existing Private Secondary School	1.88
	2 ₅	Existing Tertiary Institution	5.47
	2 ₆	Existing Special School	0.49
	2 ₇	Proposed Primary School	4.18
	2 ₈	Proposed KMTC	3.98
		Total Area	77.45
RECREATIONAL			
	3 ₁	Existing Urban Park	0.15
	3 ₂	Existing Stadium	4.78
		Total Area	4.93
PUBLIC PURPOSE			
	4 ₁	County Teaching and Referral Hospital	3.86
	4 ₂	Existing Health Facility	1.94
	4 ₃	Existing Police Station/Police Post	5.09
	4 ₄	Kirinyaga County Assembly	1.18
	4 ₅	Existing Law Courts	1.02
	4 ₆	Existing Government Office	7.79
	4 ₇	Existing Community Facility	0.64
	4 ₈	Existing Prison	2.87
	4 ₉	Existing Religious Institution	13.29
	4 ₁₀	Existing Funeral Home	0.31
	4 ₁₁	Proposed Library and ICT Hub	0.16
		Total Area	38.12
COMMERCIAL			
	5 ₁	Existing Market	0.67
	5 ₂	Proposed Commercial Zone	27.87
	5 ₃	Proposed Commercial cum Residential	7.60
	5 ₄	Proposed Shopping Centre	7.18
	5 ₅	Proposed Textile Market	0.52
		Total Area	43.83
PUBLIC UTILITY			
	6 ₁	Existing Cemetery	1.21
	6 ₂	Existing Kenya Power Substation	0.18
	6 ₃	Existing Water Reservoir	1.71
	6 ₄	Existing Telecommunication Mast	0.12
	6 ₅	Existing Water Tank	0.07
		Total Area	3.28
TRANSPORTATION			
	7 ₁	Road Network	125.48
	7 ₂	Existing Bus Park	1.05
	7 ₃	Existing Car Parking Area	0.27
		Total Area	126.79
CONSERVATION			
	8 ₁	Riparian Reserve	23.71
	8 ₂	Kerugoya Urban Forest	19.33
		Total Area	43.04
AGRICULTURAL			
	9 ₁	Proposed Peri-Urban Farming Area	147.20

KERUGOYA TOWN LAND USE PLAN (2020 - 2030)

Legend

- River
- 1650 Contour
- Main Sewerline
- Planning Area Boundary

Coordinate System: Arc 1960 UTM Zone 37S
 Projection: Transverse Mercator
 Datum: Arc 1960
 False Easting: 500,000.0000
 Central Meridian: 39.0000
 Scale Factor: 0.9996
 Latitude Of Origin: 0.0000
 Units: Meter

SCALE: 1:7,500

DATE: 2023.

DEPARTMENTAL REFERENCE NO:

PREPARED BY: GEODEV (K) LTD
 2nd Floor, SOMAK HOUSE
 Mombasa Road
 P.O. Box 14066-00100
 NAIROBI-KENYA
 Tel: +254-020-2721696, Mob: 0712151779
 E-mail: geodevkenya@yahoo.com

REGISTERED PLANNER:
 DAVID K. GICHUKI
 Reg. No. PP 0152
 P.O. BOX 14066-00100
 NAIROBI.
 Tel: 0721-232708

Signature: Date:

CLIENT:

COUNTY GOVERNMENT OF KIRINYAGA
 Department of Lands, Physical Planning
 and Urban Development,
 P.O. Box 260 - 10304,
 KUTUS - KENYA.

CERTIFIED BY:
 I certify that this Plan has been prepared as per the provisions of the
 Physical and Land Use Planning Act 2019.

County Director of Physical Planning
 Signature: Date:

CERTIFICATE BY:
 I certify that this Plan has been prepared as per the provisions of the
 Physical and Land Use Planning Act 2019.

County Executive Committee Member (CECM) in Charge of Physical and
 Land Use Planning.
 Signature: Date:

ADOPTED BY:
 THE MUNICIPAL MANAGER, KERUGOYA-KUTUS MUNICIPALITY,
 Signature: Date:

APPROVED BY:
 KIRINYAGA COUNTY ASSEMBLY
 Hansard No: Date:

APPROVED LPLUDP NO:

Map 6-2: Kerugoya Town Proposed Land Use Plan

PART THREE: THE PLAN

6.2.2 Kutus Town: THE KNOWLEDGE CENTRE

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
01	Existing Colonial Village	8.4	1	<ul style="list-style-type: none"> The proliferation of informal settlements and informal commercial activities. Inadequacy of basic utility facilities including water and electricity. Communal land ownership hence limited investment in housing. Poor solid waste disposal within these residential areas including indiscriminate dumping and burning. Characteristic of row housing: single-floor buildings. Inadequate access roads. 	<ul style="list-style-type: none"> Redevelopment of the colonial village through the construction of high-rise apartments and providing community facilities that may include a social hall and communal open spaces etc. Redevelopment to ensure the provision of adequate access roads within the village. Provide individual titles to the existing beneficiaries of the village after identification.
04	Proposed High-Density Residential	76.52	9.2	<ul style="list-style-type: none"> The average land size is 0.15Ha Narrow and poor access roads A mixture of housing typologies including bungalows, maisonettes, and student hostels opposite the Kirinyaga University. Limited agricultural activities within this zone. 	<ul style="list-style-type: none"> Provide paved access roads within the high-density residential areas. Minimum road width to be 6m. Provide waste skips within these zones and ensure regular waste collection (twice or thrice a week) by the municipal council or through organized groups Land subdivisions should not exceed the minimum average requirement of 0.03Ha. Promote densification within areas earmarked for the aforementioned use

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
					(three floors and higher) after application for change of use.
05	Proposed Medium-Density Residential	95.68	11.5	<ul style="list-style-type: none"> • Average land size of 0.84Ha • Poor condition of access roads. • Form the second ring of development from the CBD. • Lack of street lighting within these zones. • Area is poorly serviced with water and lacks sewerage infrastructure. • Poor waste disposal practices including indiscriminate dumping and burning. 	<ul style="list-style-type: none"> • Maintain the existing use and density of development. • Land subdivision should not exceed the average 0.045Ha to promote the intended medium-density residential use. • All-access roads to have a reserve of between 6 to 9 metres. • Provide street lighting or install high masts within this residential zone. • Adequately service the area with water and sewerage infrastructure.
06	Proposed Low-Density Residential	192	23.1	<ul style="list-style-type: none"> • Forms the urban fringe. • Housing predominantly consists of bungalows, maisonettes and farmhouses. • Narrow access roads (4m) of earth surface. • Agricultural activities are intensely practiced. • Average land size of 0.78Ha • Inadequate street lighting • Poor solid waste disposal practices in the form of burning. 	<ul style="list-style-type: none"> • Maintain the existing use and density of development. • Land subdivision should not exceed the average 0.2Ha. • All-access roads to have a reserve of between 6 to 9 metres. • Provide street lighting or install high masts within this residential zone. • Adequately service the area with water and sewerage infrastructure. • Undertake regular garbage collection i.e. twice a week within this zone.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
				<ul style="list-style-type: none"> Lack of a sewer reticulation system thereby over-reliant on pit latrines and septic tanks. 	
07	Proposed Mixed Residential Commercial Use-cum	3.54	0.4	<ul style="list-style-type: none"> Area is located next to the commercial areas and presents the opportunity of a mixture of use. Building typologies mostly consist of row housing. Inadequate street lighting Poor solid waste disposal practices in the form of burning and indiscriminate dumping. Lack of a sewer reticulation system thereby over-reliant on pit latrines and septic tanks. 	<ul style="list-style-type: none"> Promote densification through high-rise developments (three floors or higher) and a mix of use whereby the ground floor can be used for commercial activities while the upper floors can be used for residential activities. Provide waste skips and undertake regular garbage collection i.e. twice a week within this zone Provide street lighting or high masts for enabling prolonged business hours. Adequately service the area with water and sewerage services.
12	Existing Factory	1.76	0.2	<ul style="list-style-type: none"> The area is well-serviced with tarmac roads. The area is well-serviced with street lighting. 	<ul style="list-style-type: none"> Promote and maintain the existing use. Ensure connection of the facility to the local sewerage network.
13	Existing Light Industry	0.12	0.01	<ul style="list-style-type: none"> Small-scale garages and metal fabrication area Inadequacy of sanitation facilities The area is well serviced with tarmac roads and electricity 	<ul style="list-style-type: none"> Maintain the existing use. Ensure connection of the area to the local sewerage network

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
				<ul style="list-style-type: none"> The area is poorly serviced with street lighting. 	
14	Existing Petrol Station	0.37	0.04	<ul style="list-style-type: none"> Areas are well serviced with tarmac roads and electricity The area is well-serviced with street lighting. Onsite sanitation facilities in the form of septic tanks 	<ul style="list-style-type: none"> Maintain the existing use or convert to proposed abutting land uses upon application for development (change of use) Ensure connection of the area to the local sewerage network
18	Proposed industrial park	5.28	0.6	<ul style="list-style-type: none"> Currently utilized for agricultural activities Poor sanitation due to lack of sewerage infrastructure Well-serviced with a tarmac road and electricity The area is poorly serviced with street lighting 	<ul style="list-style-type: none"> Maintain the existing use. Allow for industrial densification upon connection of the area to the local sewerage network Provide street lighting along the main road Sagana- Samson's Corner. Ensure treatment of waste (liquid, solid, and smoke) before disposal or emission to the surrounding environment
19	Proposed Abattoir	2.32	0.3	<ul style="list-style-type: none"> Currently utilized for agricultural activities Area is poorly serviced with sanitation facilities Area is poorly serviced with street lighting Roads are of earth surface and poorly drained. 	<ul style="list-style-type: none"> Tarmac the access roads to the facility and construct proper drainage infrastructure. Ensure connection of the facility to the local sewerage network. Liquid waste should not be dumped directly in the river but subjected to frequent testing by concerned authorities. Service the site with electricity.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
110	Proposed Light Industry	5.52	0.7	<ul style="list-style-type: none"> Majorly utilized for agricultural activities with few activities of metal fabrication along the tarmacked road. The access roads are of earth surface and are poorly drained. The area is poorly serviced with sanitation facilities Poor street lighting in the area. 	<ul style="list-style-type: none"> Adequately fence the facility. Service the area with water and adequate electricity to promote the intensification of the proposed use. Encourage diversification in industrial activities to include metal fabrication and furniture making. Tarmac all access roads within the area.
21	Existing Public Primary School	5.58	0.7	<ul style="list-style-type: none"> Kutus Primary has adequate land to guarantee accommodation for the future pupil population. Kutus Muslim Integrated Schools does not have adequate land. 	<ul style="list-style-type: none"> Maintain Use. Promote densification in all public primary schools to ensure optimal use of land. Ensure the provision of adequate facilities such as ablution blocks and washing areas in the two public schools. Provide solar panels to augment the electricity supply to the institutions.
22	Existing Private Primary School	8.62	1	<ul style="list-style-type: none"> Inadequate land for all the private schools (below the recommended 3.9Ha) Adequately cover the town. 	<ul style="list-style-type: none"> Maintain use or change to a similar use upon change/extension of use. Roads leading to education facilities should be fitted with traffic calming facilities including speed humps and proper signage erected to support the safety to these institutions.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
24	Existing Private Secondary Schools	6.75	0.8	<ul style="list-style-type: none"> Adequate land for future expansion. Located next to a major road corridor. Informal commercial activities along the fence of the school. 	<ul style="list-style-type: none"> Maintain use(r) Ensure no informal commercial activities occur along the perimeter of the school. Promote densification within the institution to guarantee land for future expansion. Roads leading to the facility should be fitted with traffic calming facilities including speed humps and proper signage erected to support the safety of these institutions.
25	Existing Tertiary Institution	71.78	8.6	<ul style="list-style-type: none"> The school is separated by a major transport corridor. Adequate space for expansion Only a small percentage of land is under use. 	<ul style="list-style-type: none"> Maintain use Promote densification within the institution to utilize the available land. Provide adequate street lighting within the facility. Install solar-generating equipment to augment the electricity supply. The road leading to the facility should be fitted with traffic calming facilities including a footbridge and proper signage erected to support safety.
28	Proposed Special School	4	0.5	<ul style="list-style-type: none"> Agricultural use and farmhouses. 	<ul style="list-style-type: none"> Acquire land and equip the integrated special school to serve the needs of PLWD within the municipality. Install solar-generating equipment to augment the electricity supply.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
					<ul style="list-style-type: none"> The facility should be constructed to offer proper access to PLWDs. This includes the construction of ramps and the installation of lifts. Roads leading to education facilities should be fitted with traffic calming facilities including speed humps and proper signage erected to support the safety of these institutions.
3	Recreational	1.67	0.2	<ul style="list-style-type: none"> The town lacks a designated site for recreational use. The only site used for recreational purposes (adjacent to the university bound by Thiba River and Sagana-Embu Road) is fenced and lacks the requisite facilities including benches and designated walkways. Empty pockets of agricultural land within the core urban area. The location of the existing animal market along the river banks of Thiba, as well as a major arterial road, needs relocation. 	<ul style="list-style-type: none"> Reclaim the existing livestock market and landscape of an urban park promoting riverfront development. Develop an urban park within the core commercial area. Provide trees, benches, walkways, and street lighting within the facility to promote use throughout the day.
4 ₂	Existing Health Facilities	0.75	0.1	<ul style="list-style-type: none"> Health institutions and facilities/offices. 	<ul style="list-style-type: none"> Maintain use.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
					<ul style="list-style-type: none"> Staff and equip with requisite infrastructure, equipment, and facilities as per the level of service. Ensure proper sanitary conditions within all health facilities. Deploy an ambulance within each facility.
43	Existing police station/ post	0.51	0.1	<ul style="list-style-type: none"> Kutus police station consists of the station and tin houses while the police posts consist mainly of tin houses. 	<ul style="list-style-type: none"> Maintain use and allow for densification to ensure proper utilization of space. Construct proper housing units within the police station.
44	Kirinyaga County Headquarters	1.13	0.1	<ul style="list-style-type: none"> County offices, toilets, water tanks and parking areas There is additional open space at the back of the headquarters 	<ul style="list-style-type: none"> Heavily invest in solar power equipment to augment electricity supply, cut costs and enable service dispensation throughout the workweek
47	Existing Government Offices	0.81	0.1	<ul style="list-style-type: none"> County Headquarters 	<ul style="list-style-type: none"> Maintain use.
48	Existing community facility	1.38	0.2	<ul style="list-style-type: none"> A social hall and community centre 	<ul style="list-style-type: none"> Maintain use.
410	Existing religious institutions	11.65	1.4	Sites for existing churches	<ul style="list-style-type: none"> Maintain Use or change to proposed adjacent uses.
411	Existing Funeral Home	0.17	0.02		<ul style="list-style-type: none"> Maintain the use and privacy of the facility to avoid infringement/conflict of neighboring uses.
412	Proposed Library and ICT Hub	0.81	0.1	<ul style="list-style-type: none"> Agricultural use with no farmhouses 	<ul style="list-style-type: none"> Acquire land and construct a modern Library as well as a wing for ICT.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
					<ul style="list-style-type: none"> Provide the necessary equipment to enable the use
413	Proposed Disaster Management Centre	3.08	0.4	Agricultural land with no farmhouses.	<ul style="list-style-type: none"> Acquire land and construct a disaster management centre adjacent to the St. Triza Grils High School to serve the entire municipality. The centre is to incorporate a municipal yard, storage space, a municipal social hall for equipment as well as offices for the intended purpose.
414	Proposed Fire Station	0.57	0.1	<ul style="list-style-type: none"> Site for the existing informal livestock market 	<ul style="list-style-type: none"> Construct a fire station, garage, and offices. Connect the facility to electricity, water, and sewerage infrastructure. Ensure any liquid waste from the facility is not released into Thiba River untreated. Install solar harvesting equipment to the facility to augment the electricity supply and save on costs.
415	Proposed Level IV hospital	6.14	0.7	Agricultural use with farmhouses	<ul style="list-style-type: none"> Acquire land Construct a modern health facility with different sections for the maternity wing, laboratories, and radiology services etc. Adequately staff the facility as per the health standards requirements.

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
5 ₁	Existing Market	1.37	0.2	<ul style="list-style-type: none"> • Presence of a mixed produce market (textile, fresh produce, and cereal) i.e. Kutus Market which is currently under construction. • Most of the commercial activities in the town occur along the Kutus-Kimbimbi road and the Sagana-Embu Road. 	<ul style="list-style-type: none"> • Redevelop the Kutus market to adequately host the textile, fresh produce, and dry produce needs. • This includes the construction of the facility into a modern multistory premises. Different floors shall serve different market needs i.e. dry produce, fresh produce, and textile.
5 ₂	Proposed Commercial Area	62.12	7.5	<ul style="list-style-type: none"> • Commercial buildings within the town range from low to high-density commercial developments. • Commercial activities within the town are mostly characterized by mixed-use developments with the frontage of buildings having shops and the back hosting residential premises. 	<ul style="list-style-type: none"> • Encourage the densification of commercial developments in areas proposed to increase the range of commercial activities. • Ensure all access roads have a minimum width of 9m. Only back lanes/service lanes are to have a minimum width of 6m.
5 ₃	Proposed Commercial cum Residential	31.05	3.7	<ul style="list-style-type: none"> • Mixture of residential and agricultural use. • Small shops 	<ul style="list-style-type: none"> • Encourage densification of the area through the promotion of mixed-use developments with commercial use being dominant. • Ensure all roads within the area have a minimum width of 9m. Only backlanes/service lanes are to have a minimum width of 6m.
5 ₄	Proposed Livestock Market	0.97	0.1	<ul style="list-style-type: none"> • The town has an informal livestock market along the Sagana-Embu Road 	<ul style="list-style-type: none"> • Acquire land and construct a livestock market opposite the ICOSEED community

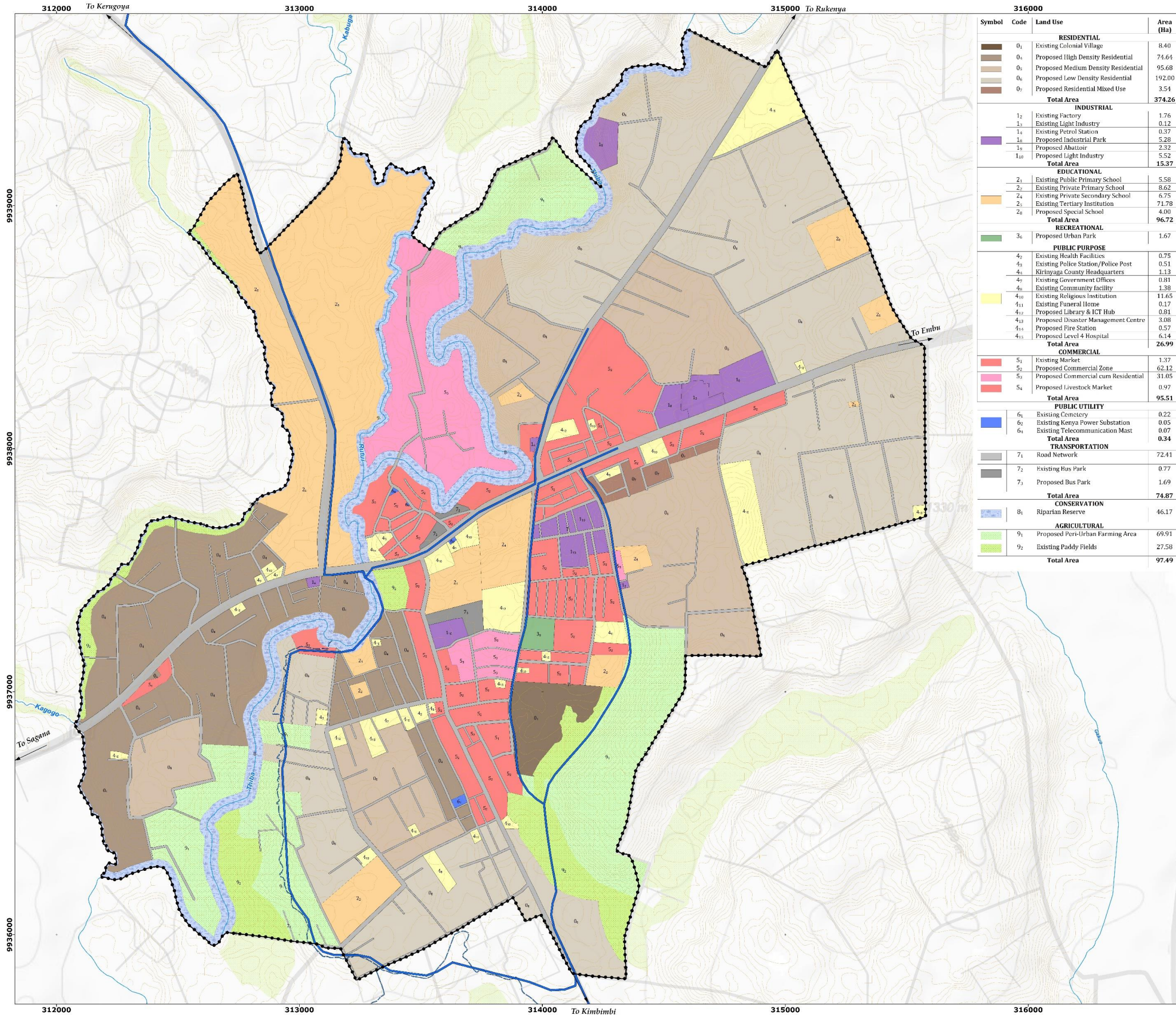
PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
				which highlights a demand for such as facility.	centre. Provide the necessary facilities on site such as livestock holding pens for shoats and cattle, an animal control office (Vet office), a loading and offloading area, toilets, and offices.
61	Existing Cemetery	0.22	0.03		Appropriately fence the cemetery. The site is then to be landscaped and frequently maintained. Planting of trees on the perimeter is encouraged.
62	Existing Kenya Power Substation	0.05	0.01	Utility lines and power transformers	Maintain use.
64	Existing Telecommunication Mast	0.07	0.01		Maintain use
7	Transportation	74.87	9	<ul style="list-style-type: none"> • Inadequate space of the bus park along the Sagana-Embu (B25) road. The bus park is divided into two disjointed parts. • Encroachment on road reserves by commercial activities along the Sagana-Embu Road. • Ongoing construction of parking spaces along the Sagana-Embu (B25) road. • Most roads in the town do not have drainage infrastructure. 	<ul style="list-style-type: none"> • Increase the space of the bus park to cover the proposed 2.7 ha. This shall involve the acquisition of lands occupied by the National Oil petrol station among other land owners. • Maintain the below-mentioned road reserves on the roads highlighted below: <ol style="list-style-type: none"> i. Sagana-Embu (B25)-40m reserve. ii. All roads highlighted as secondary- 15-21m reserve. iii. All roads highlighted as local distributors- 12m

PART THREE: THE PLAN

Code	Land Use	Size (Ha)	% of total	Existing condition	Recommendation
					<ul style="list-style-type: none"> iv. All roads are highlighted as access roads to have a reserve of between 6 and 9 metres. • Construct drainage infrastructure along all roads in the town. Areas with high commercial activities should have a closed drainage system.
8	Conservation	46.17	5.6	The major river cutting through the town is the Thiba River. Encroachment onto the river reserve is currently minimal due to its size.	River Thiba is proposed to have a reserve of 60m (30m on each side of the highest recorded volume level). Development along the river reserve or on the river is discouraged. Promote the planting of trees along the river.
9	Agriculture	97.49	11.7	Land use involves rice paddy fields along the banks of River Thiba and a section of Ahiti Ndomba having a plain topography. Large and small-scale agriculture is practised on the outer edge of the town. average land size within the agricultural area is 1.1Ha	<ul style="list-style-type: none"> • Land subdivision is to be kept to a minimum of 1 ha to enable agricultural productivity. • Development on or along areas highlighted as paddy fields is highly encouraged due to the unsuitable nature of these lands for urban development.

PART THREE: THE PLAN



KUTUS TOWN LAND USE PLAN (2020 - 2030)

Legend

- River
- Contour
- Canal
- Main Sewerline
- Planning Area Boundary

Coordinate System: Arc 1960 UTM Zone 37S
 Projection: Transverse Mercator
 Datum: Arc 1960
 False Easting: 500,000.0000
 False Northing: 0.0000
 Central Meridian: 39.0000
 Scale Factor: 0.9996
 Latitude Of Origin: 0.0000
 Units: Meter

SCALE: 1:5,000


DATE: 2023.

DEPARTMENTAL REFERENCE NO:

PREPARED BY: GEODEV (K) LTD
 2nd Floor, SOMAK HOUSE
 Mombasa Road
 P.O. Box 14066-00100
 NAIROBI-KENYA
 Tel: +254-020-2721696, Mob: 0712151779
 E-mail: geodevkenya@yahoo.com

REGISTERED PLANNER:
 DAVID K. GICHUKI
 Reg. No. PP 0152
 P.O. BOX 14066 -00100
 NAIROBI.
 Tel: 0721-232708

Signature: Date:

CLIENT:

COUNTY GOVERNMENT OF KIRINYAGA
 Department of Lands, Physical Planning
 and Urban Development,
 P.O. Box 260 - 10304,
 KUTUS - KENYA.

CERTIFIED BY:
 I certify that this Plan has been prepared as per the provisions of the Physical and Land Use Planning Act 2019.
 County Director of Physical Planning
 Signature: Date:

CERTIFICATE BY:
 I certify that this Plan has been prepared as per the provisions of the Physical and Land Use Planning Act 2019.
 County Executive Committee Member (CECM) in Charge of Physical and Land Use Planning.
 Signature: Date:

ADOPTED BY:
 THE MUNICIPAL MANAGER, KERUGOYA-KUTUS MUNICIPALITY,
 Signature: Date:

APPROVED BY:
 KIRINYAGA COUNTY ASSEMBLY
 Hansard No: Date:

APPROVED LPLUDP NO:

Map 6-3: Kutus Town Proposed Land Use Plan

PART THREE: THE PLAN

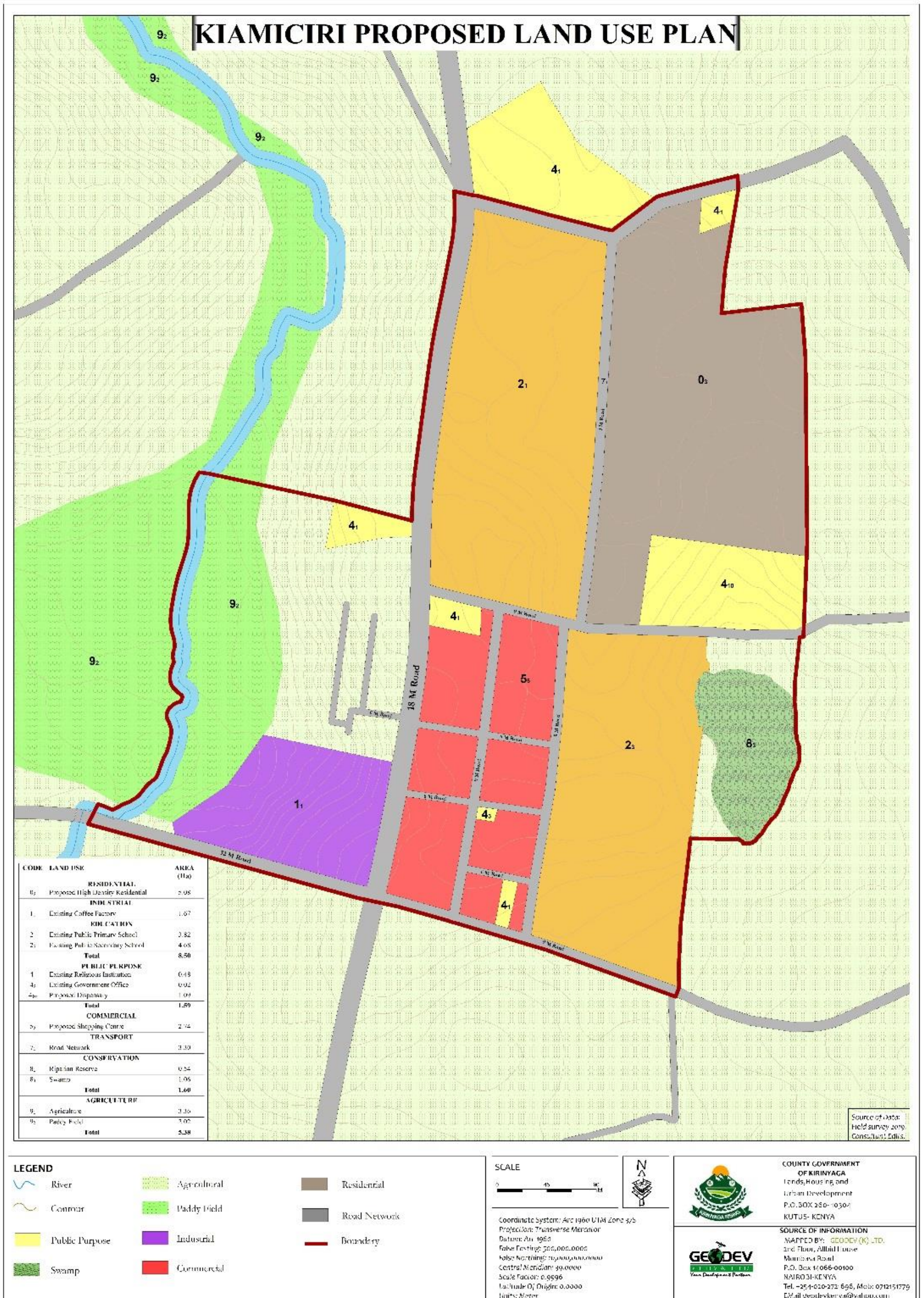
6.2.3 Kiamiciri Centre: **SERVICE CENTRE**

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
03	Proposed High-Density Residential	5.08	17.33	<ul style="list-style-type: none"> Currently consists of farmhouses with small-scale agricultural activities. The average land size is 0.5Ha. 	<ul style="list-style-type: none"> Small-scale densification of the area into residential developments not exceeding two floors (ground plus two). Allow for subdivision of land to not less than 0.03Ha.
11	Existing Coffee Factory	1.67	5.7	Small-scale coffee drying and collection factory located along the Kabuga River.	Intensification of industrial activities within the coffee factory to involve the processing of coffee for local sale.
2	Educational	8.5	29	<ul style="list-style-type: none"> Presence of two schools: Kiamiciri Primary and Secondary School both covering a total area of 8.55Ha. (4.66 and 3.89Ha respectively). The area covered by the secondary school is below the required 4.5Ha. This is due to the presence of a swamp adjacent to the school. 	Allow for the densification of buildings within the secondary school to utilize the available land.
41	Existing Religious Institution	0.48	1.64	Existing Churches	Maintain Use or change to abutting proposed land uses.
43	Existing Government Office	0.02	0.07	Chief's office/camp	Maintain use and upgrade the facilities.
410	Proposed Dispensary	1.09	3.72	Vacant agricultural land	<ul style="list-style-type: none"> Acquire land and construct a dispensary. Appropriately staff and equip the facility to its level of service.

PART THREE: THE PLAN

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
5	Commercial	2.74	9.35	Consists of mixed land use i.e. Shops on the front and residential use at the back within a single building.	Allow for densification of the current uses into multiple floors (5) commercial buildings.
7	Road Network	3.3	11.26	<ul style="list-style-type: none"> • Consists of earth roads, both secondary and local distributors, linking to other regions within the municipality. • Presence of a boda boda shed within the centre. 	<ul style="list-style-type: none"> • The secondary road passing through the centre is proposed to have a width of 18m. • Construct a <i>bodaboda</i> shed within the commercial area.
8	Conservation	1.6	5.46	<ul style="list-style-type: none"> • Consists of an area buffered as the river reserve and the swamp next to the commercial area. 	<ul style="list-style-type: none"> • Observe a riparian reserve of 15m for river Kabuga.
9	Agriculture	4.83	16.48	Medium to large-scale agricultural activities including maize and rice farming on the banks of the Kabuga River.	Maintain agricultural use within the areas proposed.

PART THREE: THE PLAN



Map 6-4: Kiamiciri Area Land Use Plan

PART THREE: THE PLAN

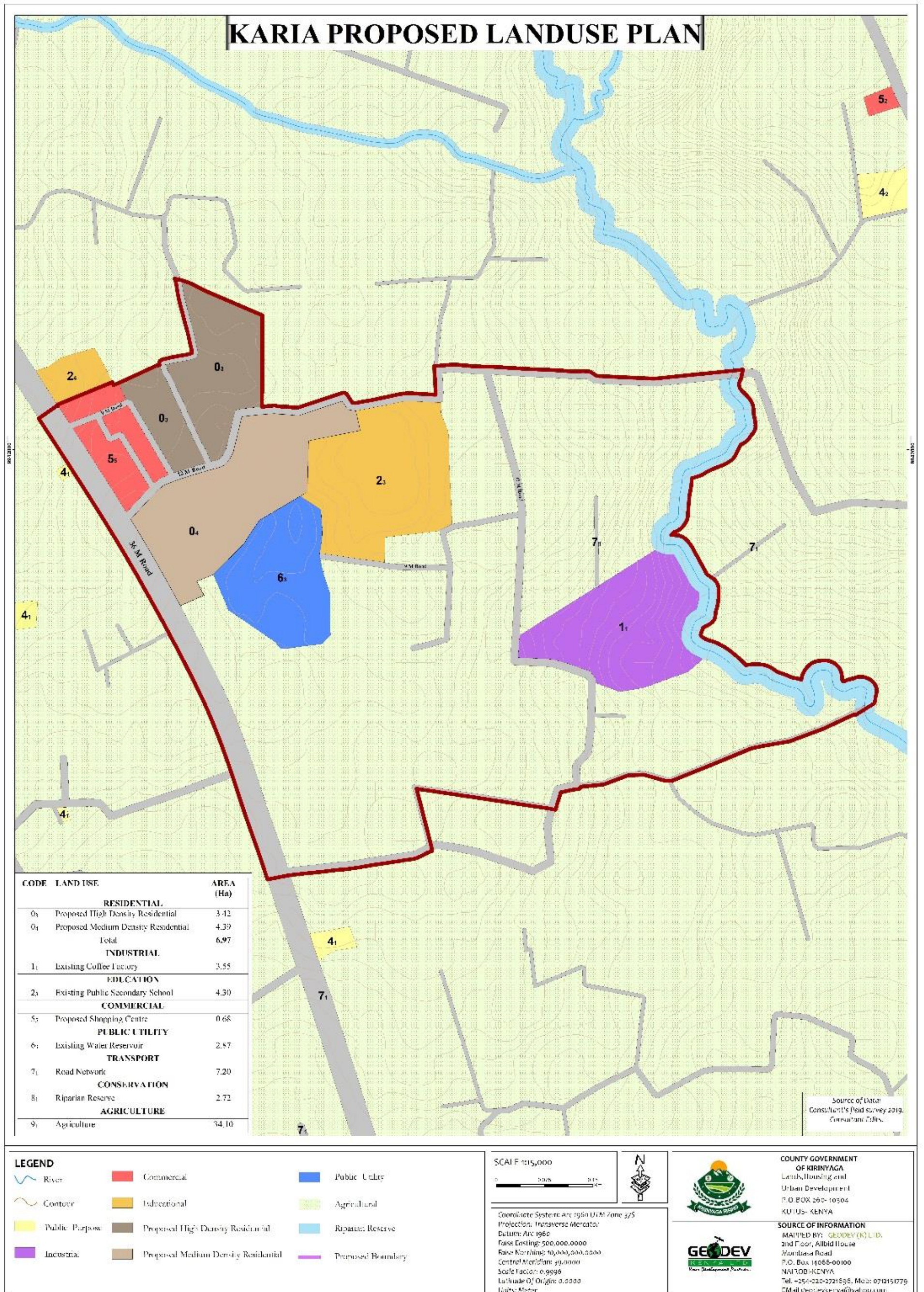
6.2.4 Karia Centre (along Kutus-Karatina, B27, road): **SERVICE CENTRE**

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
0 ₁	Proposed high density residential	3.42	5.41	<ul style="list-style-type: none"> Consists of row housing, flats, and bungalows with minimal access roads to houses. Signs of informality within a section of the current high-density land use. A section of the existing use has farmhouses with small-scale agriculture practiced. The area lacks sewerage infrastructure and is highly dependent on pit latrines for 	<ul style="list-style-type: none"> Redevelopment and densification within the sections exhibiting informality. Densification shall involve the development of apartments (maximum of three floors). Allow for subdivision of land to not less than 0.03Ha.
0 ₂	Proposed medium density residential	4.39	6.94	<ul style="list-style-type: none"> Average land size of 0.48Ha. Currently consists of farmhouses with small to medium-scale agricultural activities. 	<ul style="list-style-type: none"> Allow for subdivision of land to be not less than 0.045Ha. Residential developments are to be limited to bungalows, maisonettes, and farmhouses to limit the densification of the area.
1 ₁	Existing Coffee Factory	3.55	5.61	Small-scale industrial activities including coffee drying and collection at the factory located along the Rutui River.	Intensification of industrial activities within the coffee factory to involve the processing of coffee for local sale.
2	Educational	4.30	6.80	<ul style="list-style-type: none"> The presence of a public secondary school, Karia Boys High School, covers a total area of 4.3Ha. The area covered by the secondary school is below the required 4.5Ha. 	Densification of buildings within the secondary school to utilize the available land.
5 ₅	Proposed Shopping Centre	0.68	1.08	Mixed-use commercial developments along the Kutus-Karatina (B27) road serving the area and the adjacent hinterlands.	Densification of the current use into storied commercial buildings offering a wider range of services to the immediate hinterland.
6 ₃	Existing Water Reservoir	2.87	4.54	This is the water pan that provides water for domestic and agricultural activities within the centre.	<ul style="list-style-type: none"> Maintain the current use of the utility facility.

PART THREE: THE PLAN

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
					<ul style="list-style-type: none"> Fence the site and provide access points.
7	Road Network	7.2	11.39	<ul style="list-style-type: none"> Consists mainly of access roads that serve individual plots within the residential and commercial areas. The roads are of varying width ranging from 5 to 8 metres. Presence of a bodaboda shed. 	<ul style="list-style-type: none"> All roads are highlighted as access roads to have a reserve of 9m. All roads highlighted crossing through the centre as local distributors to have a reserve of 12m. Construct a bus stop and a boda boda shed along the Kutus-Karatina (B2) road.
8 ₁	Riparian Reserve	2.72	4.30	<ul style="list-style-type: none"> River Rutui passes to the east of the centre adjacent to the coffee factory 	<ul style="list-style-type: none"> Maintain a reserve of 15m (both sides of the river channel). Activities within this area should be limited to agriculture.
9	Agriculture	34.1	53.93	<ul style="list-style-type: none"> Practiced on a greater part of the centre. Agriculture is practiced at small and medium scale. 	<ul style="list-style-type: none"> Maintain agricultural use within areas proposed. Avoid subdivision of land to below 0.45Ha

PART THREE: THE PLAN



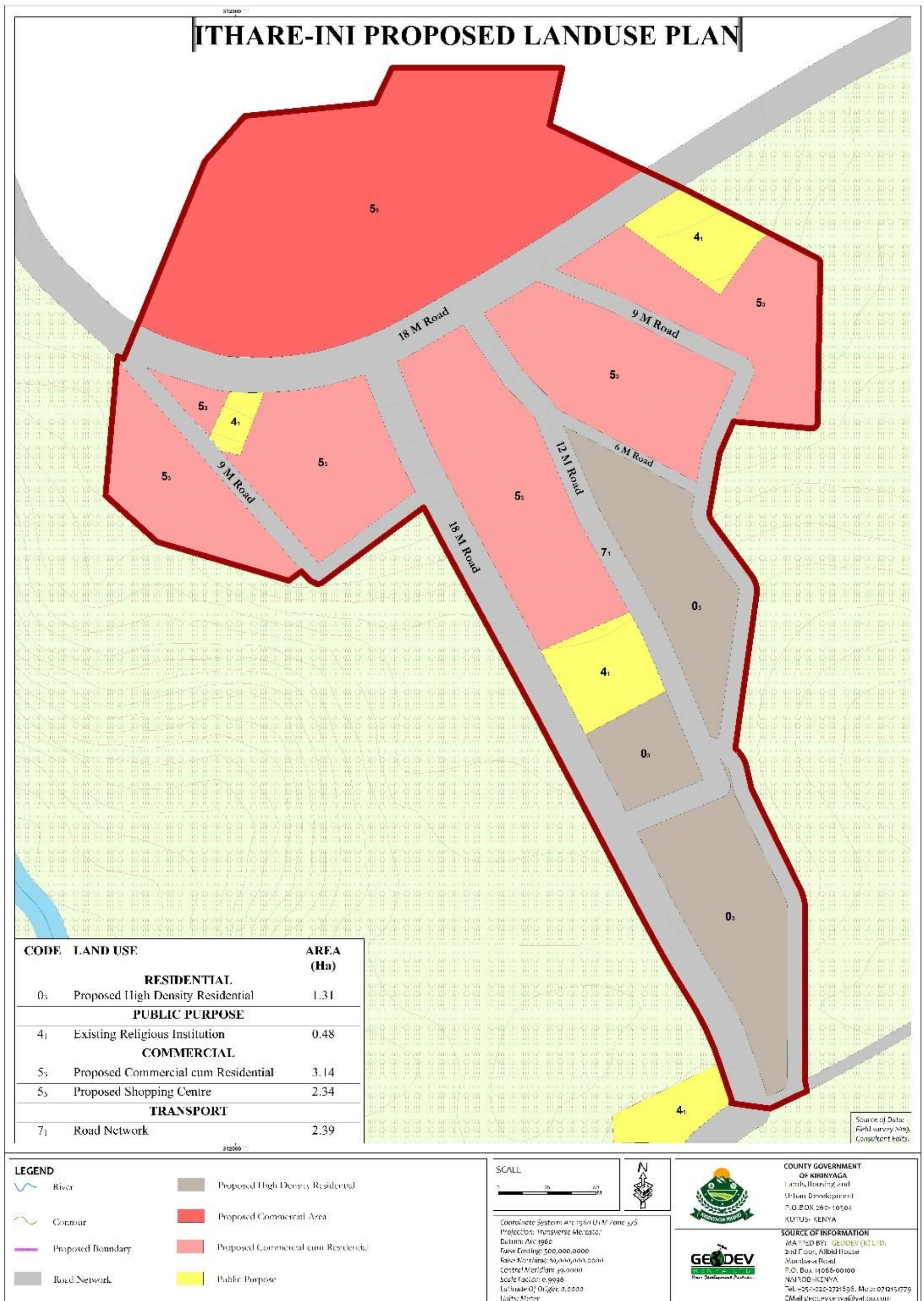
Map 6-5: Karia Area Land Use Plan

PART THREE: THE PLAN

6.2.5 Ithare-ini: SERVICE CENTRE

Code	Land uses	Size (Ha)	Percentage (% of total)	Existing condition	Recommendation
03	Proposed High-Density Residential	1.31	13.6	<ul style="list-style-type: none"> Mixed-use developments along the road Farmhouses as you move further from the road 	<ul style="list-style-type: none"> Redevelopment and densification within the sections exhibiting informality. Densification shall involve the development of apartments up to a maximum of three floors. Allow for subdivision of land to not less than 0.03Ha.
41	Existing Religious institution	0.48	5.0	Currently used as religious institutions	Maintain use and limit development within the plot allocated to the use.
53	Proposed Commercial cum Residential	3.14	32.7	<ul style="list-style-type: none"> Mixed-use developments along the main road (Ithare-Gakoigo road) 	Densification of the area to have medium to high-rise buildings containing a mixture of commercial and residential activities.
55	Proposed Shopping Centre	2.34	24.3	<ul style="list-style-type: none"> Lower-order commercial services Local market centre 	<ul style="list-style-type: none"> Redevelopment and densification of the commercial area to offer higher level/order services to the neighboring hinterland. Densification will assist in the use of space within the market centre.
7	Road Network	2.34	24.3	<ul style="list-style-type: none"> Narrow access roads of a maximum of 4 metres. All roads except the Kabare-Gakoigo road are of earth surface and impassable during the rainy season. 	<ul style="list-style-type: none"> Expand all roads to have a minimum width of 9 metres. Tarmac all roads identified as primary, secondary, and local distributor roads within the municipality.

PART THREE: THE PLAN



Map 6-6: Ithare-Ini Area Land Use Plan

PART THREE: THE PLAN

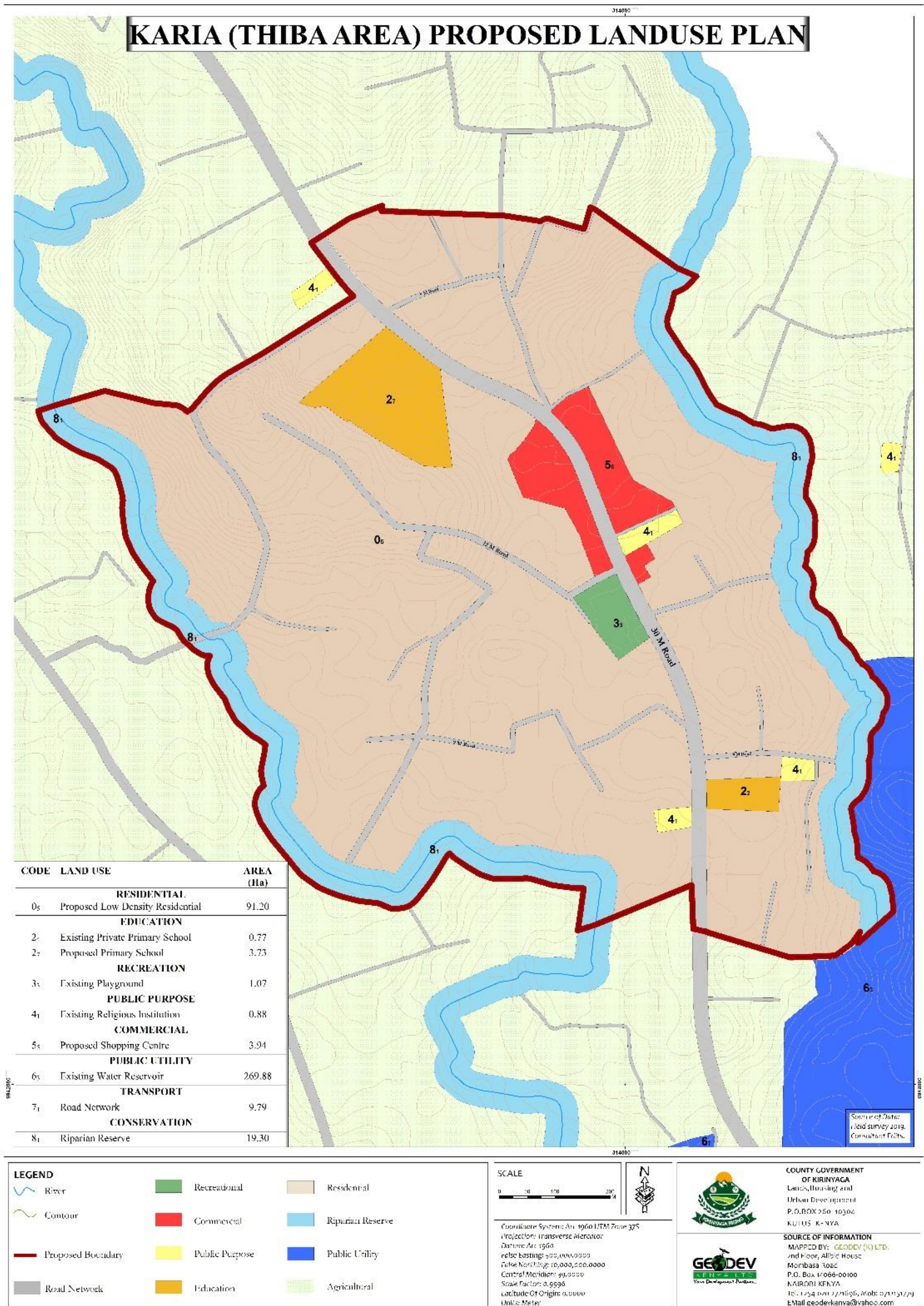
6.2.6 Karia (Adjacent to Thiba Dam): **THE RESORT CENTRE**

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
05	Proposed low density residential	91.2	22.77	<ul style="list-style-type: none"> • Currently consists of farmhouses with small to large-scale agricultural activities taking place • The residential area lacks street lighting. • Lack of solid waste infrastructure within the centre. The main forms of solid waste management include burning and re-use. • Lack of sewerage infrastructure hence the dependence on pit latrines for liquid waste disposal. • The average land size is 0.6Ha. 	<ul style="list-style-type: none"> • Development of resorts within the area to boost tourism in anticipation of the completion of Thiba Dam which shall be the main source of attraction in the area. • Land subdivision should not exceed the average 0.2Ha. • All roads highlighted for access to have a width of between 6 to 9 metres. • Provide street lighting or install high masts within this residential zone. • Adequately service the area with water and sewerage infrastructure. • Strategically position waste skips and undertake regular garbage collection i.e. twice a week minimum.
24	Existing Private Primary School	.77	0.19	Area consists of only one private primary school highlighting a need for provision for such a public facility.	Provide a primary school to serve the anticipated resident population within the area.
27	Proposed Primary School	3.73	0.93		
33	Existing Playground	1.07	0.27	Presence of an undeveloped playground that lacks the facilitative infrastructure to support use.	<ul style="list-style-type: none"> • Maintain use. • Fence and develop the playground by providing the necessary facilitative infrastructure including flood lights, spectator stands, and goalposts

PART THREE: THE PLAN

Code	Land uses	Size (Ha)	% of Total	Existing condition	Recommendation
4 ₁	Existing Religious Institution	0.88	0.22	This use comprises churches	<ul style="list-style-type: none"> Undertake regular maintenance of the facility. Maintain use.
5 ₅	Proposed Shopping Centre	3.94	0.98	Strip mixed-use developments along the road to Kabare.	<ul style="list-style-type: none"> Increase the commercial use through densification to cover the intended area proposed. Develop a shopping centre to have a mix of commercial activities that shall appropriately support the surrounding residential area
6	Existing Water Reservoir	269.88	67.38		Anticipated Thiba dam reservoir. Area shall hold water for irrigation downstream and is intended to act as a major tourist attraction for the municipality.
7 ₁	Road Network	9.79	2.44	<ul style="list-style-type: none"> Consists mainly of access roads that serve individual plots within the residential areas. The road to Kabare facilitates external connection. The roads are of varying width ranging from 5 to 8 metres. 	<ul style="list-style-type: none"> Maintain a 27m road reserve for the Rukenya-Kabare road. All roads identified as access to have a width of between 6 to 9 metres as proposed. Provide a bus stage along the Rukenya-Kabare road within the proposed commercial area. Install traffic calming facilities i.e. speed humps, zebra crossings, and traffic signs along the Rukenya-Kabare road. This is to be erected within the proposed commercial centre.
8 ₁	Riparian Reserve	19.3	4.82	Consists of rivers Kaboyo and Kiringa	<ul style="list-style-type: none"> Maintain a river reserve of 60m (30m on both sides of the river channel) for the two rivers forming the boundaries for the centre to the West and East respectively.

PART THREE: THE PLAN

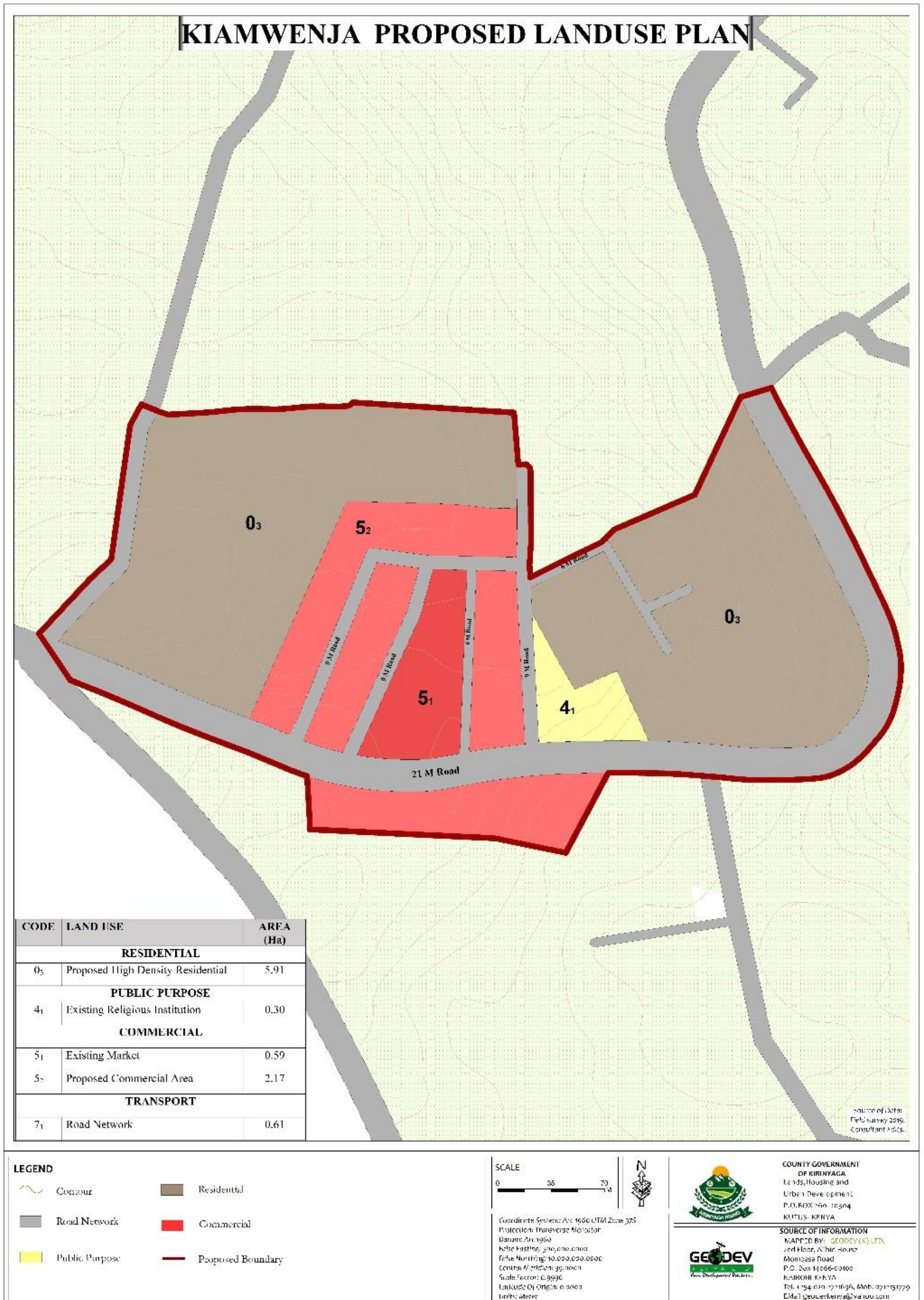


Map 6-7: Karia (Thiba Dam) Area Land Use Plan

PART THREE: THE PLAN

6.2.7 Kiamwenja: SERVICE CENTRE

Code	Land Uses	Size (Ha)	% of Total	Existing Condition	Recommendation
0 ₃	Proposed High Density Residential	5.91	61.69	<ul style="list-style-type: none"> • Characteristic of farmhouses. • Small-scale agricultural activities. • Average land size of 0.34Ha. • Lack of street lighting 	<p>Allow for subdivision of land to not less than 0.03Ha.</p> <p>Provide street lighting or a high mast to serve the centre as well as the residential area.</p>
4 ₁	Existing Religious Institution	0.3	3.13	This use comprises only a church	Maintain use.
5 ₁	Existing Market	0.59	6.16	Market is currently under construction.	<ul style="list-style-type: none"> • Maintain and encourage use of the facility. • Ensure regular clean-ups within the marketplace to promote hygiene. • Provide water and electricity to the facility. • Install solar harvesting equipment to augment the electricity supply.
5 ₂	Proposed Commercial Area	2.17	22.65	Small-scale commercial activities along the Gakoigo-Kiamuthambi road.	Densification of the current use into storied commercial buildings offering a wider range of services to the immediate hinterland.
7	Road Network	0.61	6.37	<ul style="list-style-type: none"> • Consists mainly access roads that serve individual plots within the commercial area • The road to Kiamuthambi facilitates external connection is currently tarmacked. • Poor condition of access roads of varying width ranging from 4 to 8 metres. 	<ul style="list-style-type: none"> • Maintain a 21m road reserve for the Gakoigo-Kiamuthambi road. • All roads identified as access to have a width of between 6 to 9 metres as proposed. • Provide a bus stage and a boda boda stand off the Gakoigo-Kiamuthambi road within the proposed commercial area. • Install traffic calming facilities i.e. speed humps, zebra crossings and traffic signs along the Gakoigo-Kiamuthambi road. This are to be erected on the sharp bends characteristic in the area to promote road user safety.



Map 6-8: Kiamwenja Area Land Use Plan

PART THREE: THE PLAN

6.3 Area Zoning Plans

Overview

Regulations shall be used to guide development within the municipality. The zoning regulations presented in this section are for Kerugoya and Kutus Towns, the proposed commercial nodes, and the agricultural areas.

The zoning policy outlines the standards that should be maintained regarding land subdivision, restrictions on the density of development within specified areas, and permitted and unpermitted uses within defined zones. The services that should be provided within each land use zone are also prescribed.

These zoning regulations/policy guidelines are expected to guide the use of land within the built-up and agricultural areas. This shall consequently assist in promoting order in development and limiting conflict in land use within each specified zone.

Definition of Terms

i. M.P.S (Minimum Plot Size)

This refers to the least land size an individual can hold upon sub-division of the original size.

ii. P.C. (Plot Coverage)

Maximum area for which development on allotted land shall cover or the portion of the horizontal area of a site where a building is permitted to be built.

iii. P.R. (Plot Ratio)

This is a ratio of the gross floor area of a building (ground and subsequent floors) to the area of the site on which the building is erected. This determines the intensity of land usage.

iv. Building Setback

This is the point from the property line beyond which the foundation of a building shall not extend or the limitations of the development of a structure within a plot.

PART THREE: THE PLAN

6.4 Kerugoya Town

Zone	Sub-zone	Description	M.P. S (Ha)	Standards			P.C. (%)	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				Setbacks F	S	R					
1		Main commercial area (CBD)	0.025	3	-	2	80	560	<ul style="list-style-type: none"> • High-rise commercial developments of up to 7 floors. (Ground plus six [6] floors) • Mixed-use developments (Commercial cum Residential) • Hotels and restaurants • Banks and ATMs • Urban Park • Bus stage and station • Cinema halls • Bars • Religious institutions (churches, Mosques, and temples) • Wholesale and retail stores • Private offices • Fresh produce and textile market • Petrol station and filling station • Printing services • Laundry services • Cooperative societies 	<ul style="list-style-type: none"> • University campuses • Medium and Low-Density Residential developments (bungalows and Maisionettes) • Car washes • Small-scale agriculture (crop farming and livestock keeping) • Informal animal markets and animal holding bays • Metal fabrication workshops • Water Treatment works 	<ul style="list-style-type: none"> • All buildings having more than 3 floors (ground plus two) to provide onsite parking. • All buildings having more than 5 floors (ground plus 4) to provide lifts for easy mobility within the premises • All waste skips located within the CBD to be emptied daily. • Construction of high-rise developments is to be dependent on the provision of piped water to the development. • Construction of high-rise developments is to be allowed upon connection to sewerage services. • Provide street lighting on all roads. • Provide stormwater drainage on all roads and ensure frequent maintenance.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P. S (Ha)	Standards			P.C. (%)	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided		
				F	S	R							
											<ul style="list-style-type: none"> • Clinics and dispensaries • Pharmacies • Polytechnic • Multi-storey parking facility 		<ul style="list-style-type: none"> • All roads identified as local distributors have a minimum width of 12m. • All-access roads to have a width 9m as proposed except service lanes which shall be of 6m width minimum.
2A		Industrial Area	0.05						<ul style="list-style-type: none"> • Furniture workshops • Garages and auto repair shops • Metal fabrication • Warehouses/godowns • Restaurants • Power substation • Petrol stations 	<ul style="list-style-type: none"> • Hotels with accommodation facilities • Bars • Private commercial offices 	<ul style="list-style-type: none"> • Provide municipal waste management for the industrial area. • Provide piped water to the industrial area. • Ensure connection of industrial developments to sewerage services. • Provide street lighting on all roads. • Provide stormwater drainage on all roads. Ensure frequent maintenance. • All roads identified as local distributor to have a minimum width of 12m. • All-access roads to have a width of 6 to 9m as proposed. 		

PART THREE: THE PLAN

Zone	Sub-zone	Description	Standards					Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided	
			M.P. S (Ha)	Setbacks F	S	R	P.C. (%)				P. R.
2B		Coffee Factory	-	-	-	-	-	-	<ul style="list-style-type: none"> Collection centre Drying sheds/stands Kilns Offices Ablution blocks All other buildings auxiliary to coffee processing 	<ul style="list-style-type: none"> All other uses are not complimentary to coffee processing. 	<ul style="list-style-type: none"> Provide piped water, and sewerage services to the industry. Fence and deploy adequate security services to the premises.
3	3A	Part of Kerugoya, Kiaritha	0.03	2.5	1	1.5	70	350	<ul style="list-style-type: none"> Education institutions Flats/Apartments with maximum building height of five (5) floors (ground plus four) Corner shops/Retail shops Religious institutions Clinics Playgrounds/open spaces Bank ATMs Telecommunication masts Water tanks Boda stations/sheds boda 	<ul style="list-style-type: none"> Low-density residential units (bungalows and maisonettes) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regularly provide piped water (minimum of 4 days per week) to the area. Allow for high-rise developments upon connection to sewerage services. Allow for the densification of all education facilities within this zone to enable higher student intake in the future. Allow for densification of all primary and secondary schools to accommodate a larger student population. Provide street lighting on all roads. Provide stormwater drainage on all roads and ensure frequent maintenance.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P. S (Ha)	Standards			P.C. (%)	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				Setbacks F	S	R					
										<ul style="list-style-type: none"> All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of between 6 to 9m as proposed. 	
	3A	Ndimi Area (1)	0.045	4	1.5	2	65	65	<ul style="list-style-type: none"> Bungalows and maisonettes Education institutions (primary and secondary only) Small-scale agricultural activities Corner shops/Retail shops Religious institutions Clinics Playgrounds/open spaces Telecommunication masts Water tanks 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regularly provide piped water (minimum of 4 days per week) to the area. Provide sewerage infrastructure to the area. Provide street lighting on all roads or flood lights where applicable. Acquire land and provide a primary school to serve the zone. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of 6 to 9m as proposed.
	3C	Ndimi Area (2)	0.2	6	7.5	4	50	50	<ul style="list-style-type: none"> Small-scale agricultural activities. 	<ul style="list-style-type: none"> High-density residential 	<ul style="list-style-type: none"> Regularly provide piped water (minimum of 4 days per week) to the area.

PART THREE: THE PLAN

Zone	Sub-zone	Description	Standards				P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
			M.P. S (Ha)	Setbacks F S R	P.C. (%)					
								<ul style="list-style-type: none"> Housing typology to include Bungalows and maisonettes only. Education institutions (primary and secondary only) Religious institutions within areas assigned. Clinics Playgrounds/open spaces Telecommunication masts Water tanks 	<ul style="list-style-type: none"> developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Provide sewerage infrastructure to the area. Provide street lighting on all roads or flood lights where applicable. Provide stormwater drainage on all roads. Ensure frequent maintenance. Allow for the densification of all education facilities within this zone to enable higher student intake in the future. All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of 6 to 9m as proposed.
4	4A	Civic Area	0.025	3 - 2	80	560	<ul style="list-style-type: none"> Government offices Private offices Printing stations Restaurants Retail shops Government housing 	<ul style="list-style-type: none"> Solid waste transfer stations Bars and adult entertainment places Boda boda sheds/stations 	<ul style="list-style-type: none"> Provide piped water Provide sewerage infrastructure Install and regularly maintain streetlights No parking of vehicles along the roads Maintain a road reserve of 15m for the secondary road passing through the area. 	

PART THREE: THE PLAN

Zone	Sub-zone	Description	Standards						Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
			M.P. S (Ha)	F	S	R	P.C. (%)	P. R.			
	4B	Urban Forest	-	-	-	-	-	-	<ul style="list-style-type: none"> Arboretum/urban park Benches/sitting areas Walkpaths/walkways Street lighting Ablution blocks 	<ul style="list-style-type: none"> All uses/facilities from the enumerated permitted. 	<ul style="list-style-type: none"> Security for maintaining the park.
	4C	Cemetery	-	-	-	-	-	-	Security offices and store	<ul style="list-style-type: none"> All uses/facilities from the enumerated permitted 	<ul style="list-style-type: none"> Security for maintaining the park.
5	5a	Kaitheri	0.045	4	1.5	2	65	65	<ul style="list-style-type: none"> Education institutions Corner shops/Retail shops Shopping centres Religious institutions Clinics Playgrounds/open spaces Bank ATMs Telecommunication masts Water tanks Boda boda stations/sheds Small-scale agricultural activities 	<ul style="list-style-type: none"> Low-density residential units (bungalows and maisonettes) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Maximum building height to be five (5) floors (ground plus four) Regularly provide piped water. Provide sewerage infrastructure to the area. Allow for densification of Mukinduri Primary School to enable higher student intake in the future. Regularly undertake solid waste collection within the area at least two (2) times a week. Provide street lighting on all roads. Provide stormwater drainage on all roads.

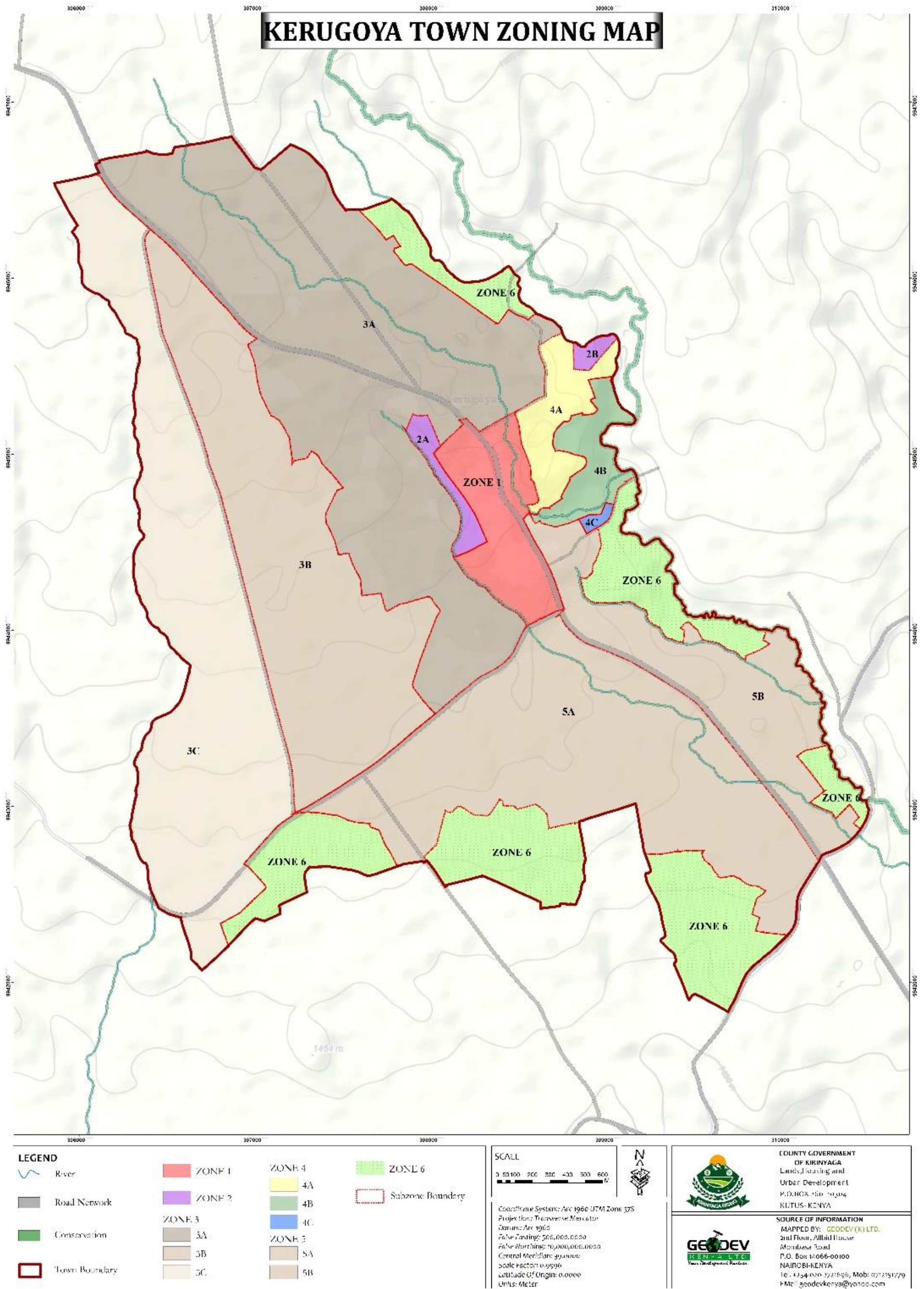
PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P. S (Ha)	Standards			P.C. (%)	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
										<p>Ensure frequent maintenance.</p> <ul style="list-style-type: none"> All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of 6 to 9m as proposed. 	
	5b	Kimandi	0.045	4	1.5	2	65	65	<ul style="list-style-type: none"> Education institutions Flats/Apartments and row houses Hotels/motels/guest houses Retail shops Petrol stations Religious institutions Clinics Playgrounds/open spaces Bank ATMs Telecommunication masts Water tanks Cemetery Small to medium-scale agricultural activities. Boda boda stations/sheds 	<ul style="list-style-type: none"> Low-density residential units (bungalows and maisonettes) Solid waste transfer stations Dumpsite Bars and adult entertainment places. 	<ul style="list-style-type: none"> Maximum building height to be five (5) floors (ground plus four) Regularly provide piped water. Provide sewerage infrastructure to the area. Allow for densification of all education facilities within this zone to enable higher student intake in the future. Regularly undertake solid waste collection within the area at least two (2) times a week. Provide street lighting on all roads. Provide stormwater drainage on all roads.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P. S (Ha)	Standards			P.C. (%)	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											Ensure frequent maintenance. <ul style="list-style-type: none"> • All roads identified as local distributor have a minimum width of 12m. • All access roads to have a width of 6 to 9m as proposed.
6		Agricultural	1	6	7	4	50	50	<ul style="list-style-type: none"> • Farm houses • Bungalows and Maisonettes • Small to medium scale agricultural activities 	<ul style="list-style-type: none"> • High Density Residential buildings • Solid Waste transfer stations • Bars and adult entertainment places • Petrol stations • Hotels 	<ul style="list-style-type: none"> • Service the area with utility infrastructure (piped water and sewerage). • Expand all roads to the recommended standards and murram all access roads

PART THREE: THE PLAN



Map 6-9: Kerugoya Town Zoning Plan

PART THREE: THE PLAN

6.5 Kutus Town

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
1		Main Commercial Area (CBD)	0.025	3	-	2	80	400	<ul style="list-style-type: none"> Hotels and restaurants Banks and ATMs Urban Park Bus station Cinema halls Bars Religious institutions (churches, Mosques, and temples) Wholesale and retail stores Private offices Fresh produce and textile market Petrol stations and filling stations Printing services Laundry services Cooperative societies Clinics and dispensaries Pharmacies Mixed-use developments 	<ul style="list-style-type: none"> University campuses Medium and Low-Density Residential developments (bungalows and maisonettes) Car washes Informal animal markets and animal holding bays Metal fabrication workshops Water Treatment works Small-scale agricultural activities. 	<ul style="list-style-type: none"> Maximum number of floors 5 (Ground plus 4) All buildings having more than 3 floors (ground plus two) to provide onsite parking. All buildings having more than 4 floors (ground plus 3) to provide lifts for easy mobility within the premises All waste skips located within the CBD are to be emptied daily. Provide piped water to all developments. Allow for high-rise developments upon connection to sewerage services. Provide street lighting on all roads. Provide stormwater drainage on all roads

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> and ensure frequent maintenance. All roads identified as local distributors to have a minimum width of 12m All access roads to have a width of 6 to 9m as proposed.
2		Industrial Area	0.05						<ul style="list-style-type: none"> (Residential cum commercial) Education institutions (primary and secondary schools, colleges) Police patrol base Light industrial establishments. 	<ul style="list-style-type: none"> Hotels with accommodation facilities Bars Private commercial offices 	<ul style="list-style-type: none"> Provide municipal waste management for the industrial area. Provide piped water to the industrial area. Allow for intensive industrial establishments upon connection to sewerage services. Provide street lighting on all roads. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor to have a minimum width of 12m.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> All-access roads to have a width of 6 to 9m as proposed.
3	3a	Medium Density Residential Zone	0.045	4	1.5	2	65	65	<ul style="list-style-type: none"> Education institutions (only those existing) Bungalows and maisonettes Corner shops/Retail shops Religious institutions Clinics Playgrounds/open spaces Telecommunication masts Water tanks Rice farming is only in areas having swampy conditions. 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regular provision of piped water. All developments are to be connected to the local sewerage network. Provide street lighting on all roads or flood lights where applicable. Allow for the densification of all education facilities within this zone to enable higher student intake in the future. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor to have a minimum width of 12m.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> All access roads to have a width of 6 to 9m as proposed.
	3b	Low Density Zone	0.2	6	7.5	4	50	50	<ul style="list-style-type: none"> Small-scale agricultural activities. Education institutions (primary and tertiary only) Housing typology to include bungalows and maisonettes only. Religious institutions. Hospital Playgrounds/open spaces Telecommunication masts Water tanks 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regular provision of piped water. All developments are to be connected to the local sewerage network. Provide street lighting on all roads or flood lights where applicable. Acquire land and provide an integrated special school within this zone to effectively service the future population. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor have a minimum width of 12m.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> All access roads to have a width of 6 to 9m as proposed.
4	4a	High Density Residential Zone	0.03	2.5	1	1.5	70	350	<ul style="list-style-type: none"> Education institutions Flats/Apartments and row houses Religious institutions Playgrounds/open spaces Bank ATMs Telecommunication masts Water tanks 	<ul style="list-style-type: none"> Low-density residential units (bungalows and maisonettes) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Maximum building height to be five (5) floors (ground plus four) Regularly provide piped water. Allow for high rise developments upon connection to sewerage services. Allow for the densification of all education facilities within this zone to enable higher student intake in the future. Provide street lighting on all roads. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor to have a minimum width of 12m.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> All access roads to have a width of 6 to 9m as proposed.
	4b	Medium Density Residential zone	0.045	4	1.5	2	65	65	<ul style="list-style-type: none"> Bungalows and maisonettes Corner shops/Retail shops Religious institutions Health Centre Playgrounds/open spaces Telecommunication masts Water tanks 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regular provision of piped water. All developments to be connected to the local sewerage network. Provide street lighting on all roads or flood lights where applicable. Provide stormwater drainage on all roads. Ensure frequent maintenance. All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of 6 to 9m as proposed.
	4c	Low Density Residential Zone	0.2	6	7.5	4	50	50	<ul style="list-style-type: none"> Small-scale agricultural activities. Education institutions (primary and secondary only) 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations 	<ul style="list-style-type: none"> Regular provision of piped water. Provide sewerage infrastructure to the area.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
									<ul style="list-style-type: none"> Housing typology to include Bungalows and maisonettes only. Religious institutions within areas assigned. Clinics Playgrounds/open spaces Police Post Community Centre Telecommunication masts Water tanks 	<ul style="list-style-type: none"> Bars and adult entertainment places. 	<ul style="list-style-type: none"> Provide street lighting on all roads or flood lights where applicable. Provide stormwater drainage on all roads. Ensure frequent maintenance. Acquire land and provide a primary school within this zone to effectively service the future population. All roads identified as local distributor to have a minimum width of 12m. All access roads to have a width of 6 to 9m as proposed.
5	5a	Kirinyaga University	-	-	-	-	-	-	<ul style="list-style-type: none"> Hostels Restaurants All other uses are auxiliary to the university. 	<ul style="list-style-type: none"> Residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Ensure connection to the local sewerage network in the institution. Provide road signage and speed humps on all road binding/adjacent to the university.

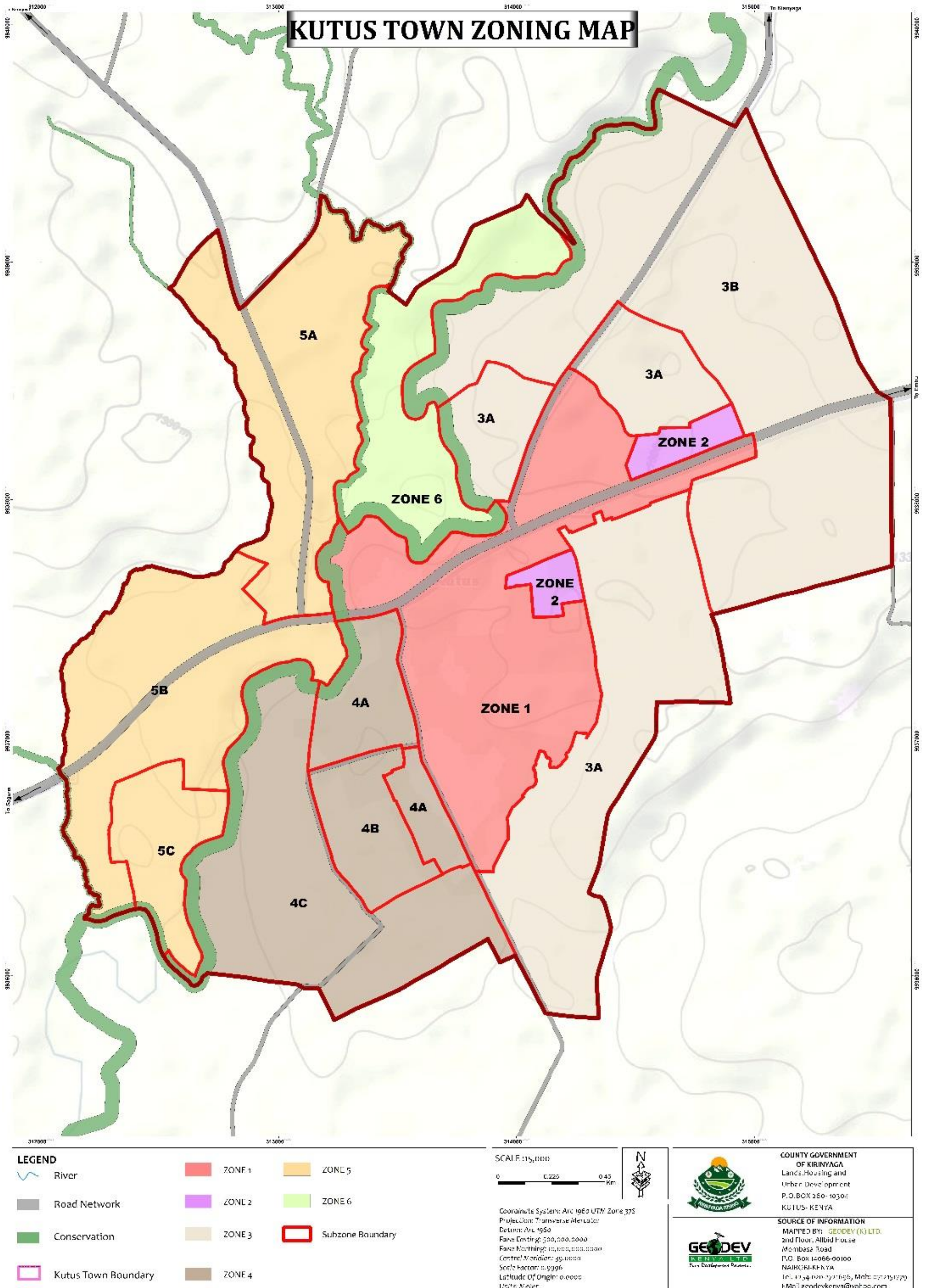
PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> • Install high masts within the vicinity of the university.
	5b	High Density residential zone	0.03	2.5	1	1.5	70	350	<ul style="list-style-type: none"> • Apartments/flats • Row houses • Small-scale agricultural activities • Hostels • Corner shops/retail shops • Religious institutions • Hospitals/clinics • Playgrounds/open spaces • Telecommunication masts • Water tanks • Livestock Market (as designated on the detailed land use plan) 	<ul style="list-style-type: none"> • Low-density residential developments including bungalows and maisonettes • Solid waste transfer stations • Bars and adult entertainment places. 	<ul style="list-style-type: none"> • Maximum floors 4 (ground plus three) • Regular provision of piped water. • Allow for high-rise residential developments upon connection to the local sewerage network. • Provide street lighting on all roads or flood lights where applicable. • Provide stormwater drainage on all roads. Ensure frequent maintenance. • All roads identified as local distributor have a minimum width of 12m. • All access roads to have a width of 6 to 9m as proposed.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
	5c	Low Density Residential Zone	0.2	6	7.5	4	50	50	<ul style="list-style-type: none"> Bungalows and Maisonettes Small-scale agricultural activities 	<ul style="list-style-type: none"> High-Density Residential buildings Solid Waste transfer stations Bars and adult entertainment places Petrol stations Hotels 	<ul style="list-style-type: none"> Regular provision of piped water. Ensure all developments are connected to the local sewerage network. Provide street lighting on all roads or flood lights where applicable.
6		Agricultural	0.2	6	7	4	50	50	<ul style="list-style-type: none"> Farmhouses Bungalows and Maisonettes Small to medium-scale agricultural activities 	<ul style="list-style-type: none"> High-Density Residential buildings Solid Waste transfer stations Bars and adult entertainment places Petrol stations Hotels 	<ul style="list-style-type: none"> Service the area with utility infrastructure (piped water and sewerage). Construct a proper bridge to link this area to Kutus Town. Expand all roads to the recommended standards and murram all access roads

PART THREE: THE PLAN



Map 6-10: Kutus Town Zoning Plan

PART THREE: THE PLAN

Zoning Standards for Residential areas

Plate 6-1: Sample of setbacks for a High-Density Residential Area

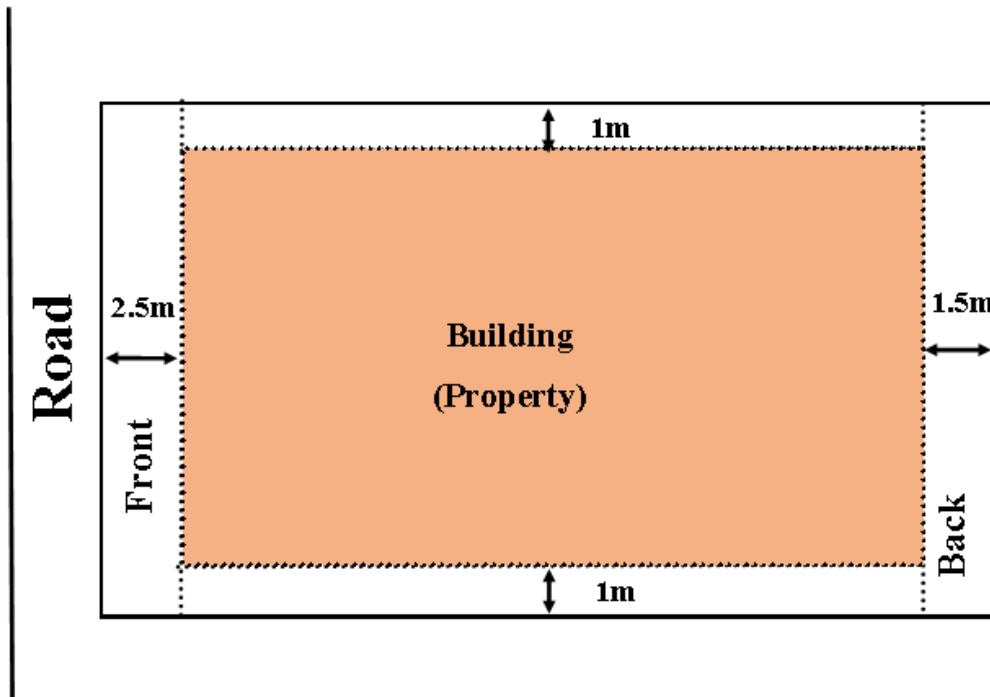
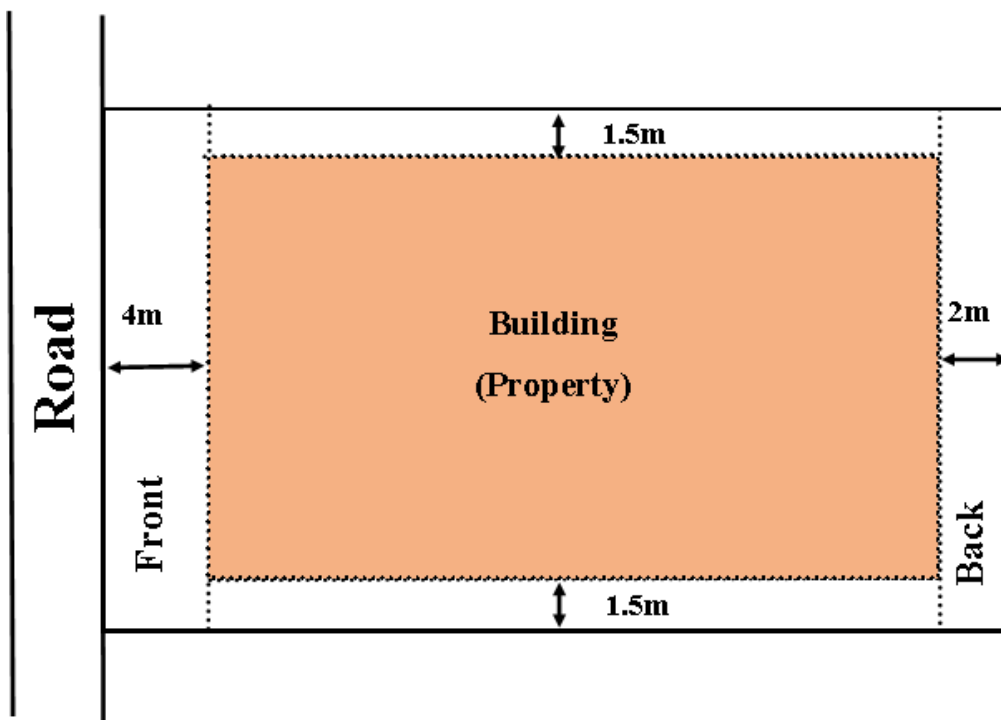
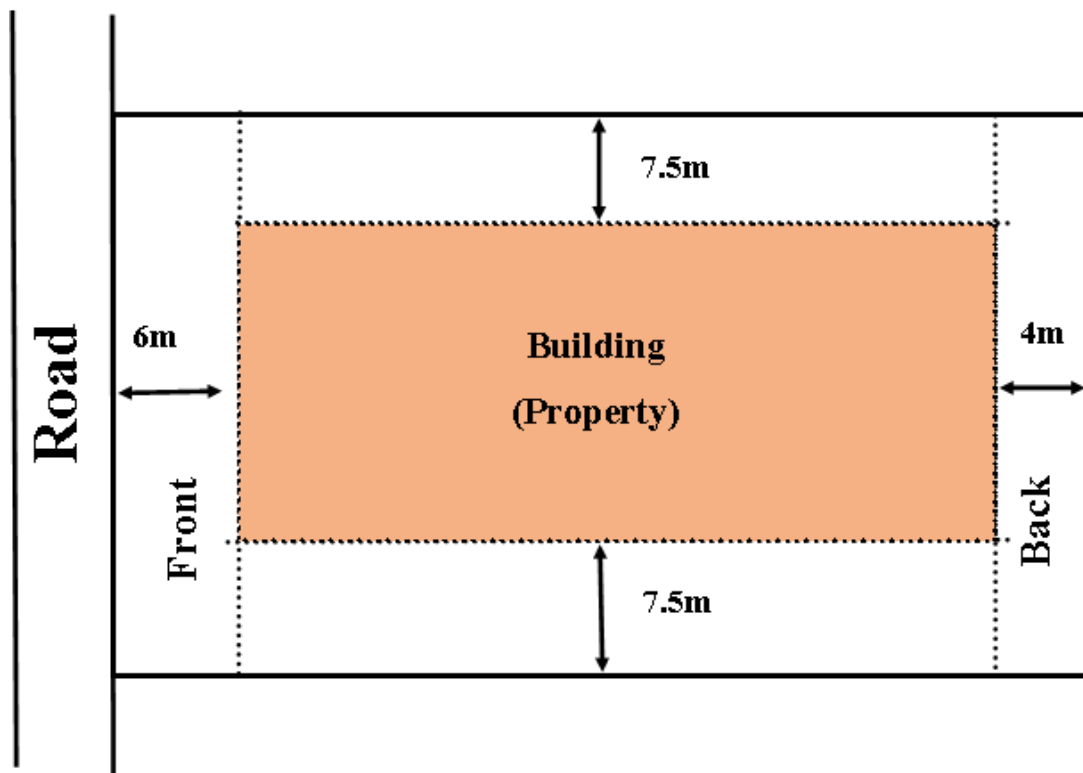


Plate 6-2: Sample of setbacks for a Medium Density Residential Area



PART THREE: THE PLAN

Plate 6-3: Sample of setbacks for a Low-Density Residential Area



PART THREE: THE PLAN

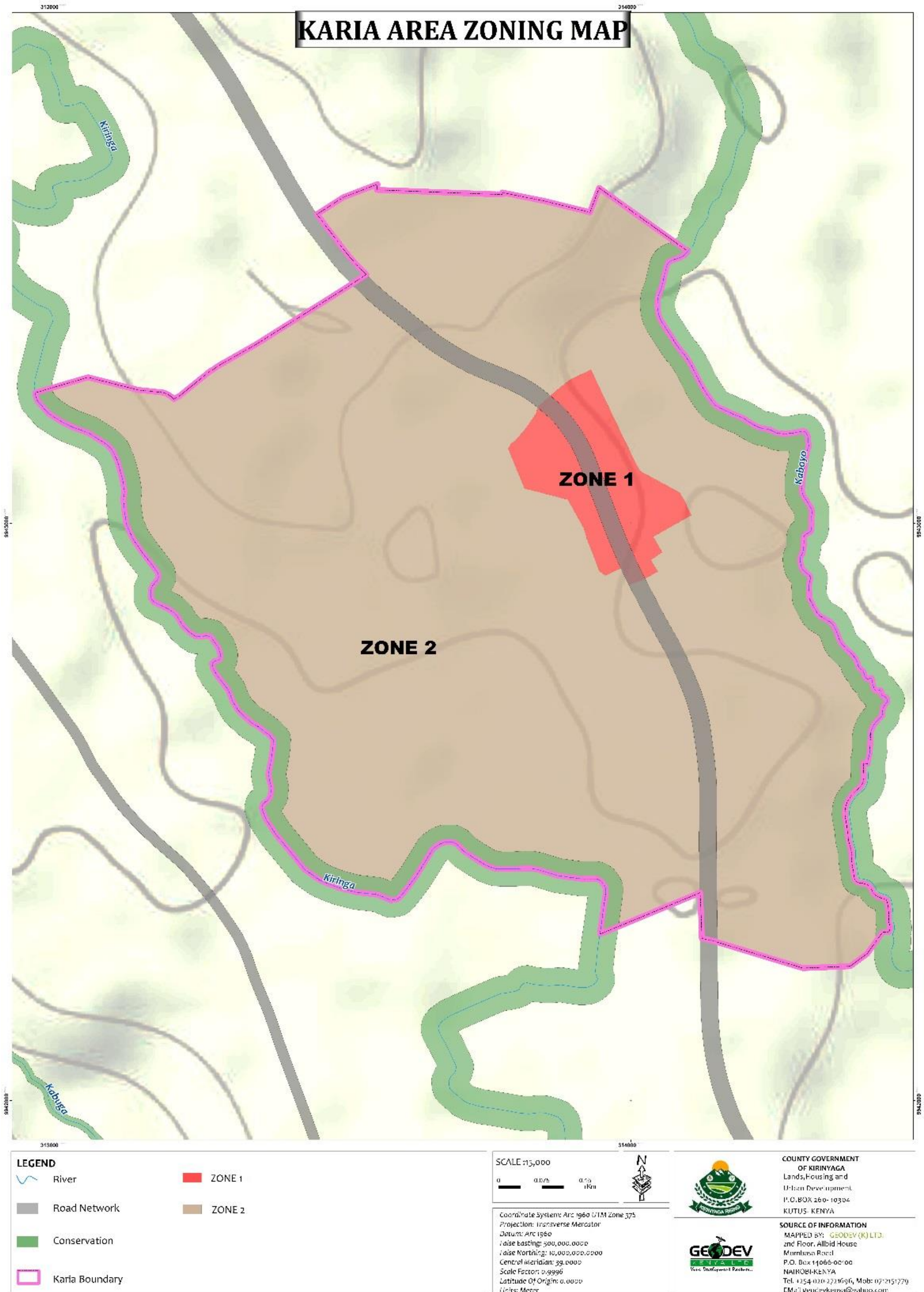
6.6 Karia Resort Area (Next to Thiba Dam)

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
Zone 1	-	Commercial Area	0.025	3	-	2	80	560	<ul style="list-style-type: none"> • High-rise commercial developments of up to 7 floors. (Ground plus six [6] floors) • Mixed-use developments (Commercial cum Residential) • Hotels and restaurants • Banks and ATMs • Bus stage • Cinema halls • Bars • Religious institutions (churches, mosques, or temples) • Wholesale and retail stores • Private offices • Petrol station/filling station • Printing services • Laundry services • Clinics and pharmacies 	<ul style="list-style-type: none"> • University campuses • Medium and Low-Density Residential developments (bungalows and Maisionettes) • Car washes • Small-scale agriculture (crop farming and livestock keeping) • Informal animal markets and animal holding bays • Metal fabrication workshops • Water Treatment works 	<ul style="list-style-type: none"> • All buildings having more than 3 floors (ground plus two) to provide onsite parking. • All buildings having more than 5 floors (ground plus 4) to provide lifts for easy mobility within the premises • Provide Waste skips and ensure emptying daily. • Construction of high-rise developments to be dependent on connection to piped water. • Construction of high-rise developments is to be allowed upon connection to the local sewerage network. • Provide solar-powered street lighting. • Provide stormwater drainage on all roads and ensure frequent maintenance.

PART THREE: THE PLAN

Zone	Sub-zone	Description	M.P.S (Ha)	Standards			P.C.	P. R.	Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
				F	S	R					
											<ul style="list-style-type: none"> Tarmac all roads within the area.
Zone 2	2a	Low Density Residential Areas	0.2	6	7.	4	50	50	<ul style="list-style-type: none"> Housing typology to include bungalows and maisonettes only. Education institutions (primary and/secondary only) Religious institutions. Clinics Playgrounds/open spaces Telecommunication masts Small-scale agricultural activities. Water tanks 	<ul style="list-style-type: none"> High-density residential developments (flats/apartments) Solid waste transfer stations Bars and adult entertainment places. 	<ul style="list-style-type: none"> Regular provision of piped water to the area. All developments are to be connected to the local sewerage network. Provide street lighting on all roads or flood lights where applicable. Acquire land and provide an integrated special school within this zone to effectively service the future population. Provide stormwater drainage on all roads. Ensure frequent maintenance. Construct a road of 9m reserve to buffer the development of the dam Undertake tree planting in areas adjoining the dam.
	2b										

PART THREE: THE PLAN



Map 6-11: Karia (Thiba Area) Zoning Plan

PART THREE: THE PLAN

6.7 Agricultural Areas

In order to promote agriculture within the agricultural areas the following are the regulations that shall apply to areas earmarked for agricultural activities as shown in the structure plan.

Zone	Description	Standards						Permitted Land Use	Unpermitted Land Uses	Auxiliary services to be provided
		M.P. S (Ha)	F	Setbacks S R	P.C.	P. R.				
Agricultural zone	Agricultural areas within the proposed urban limits and beyond as highlighted in the structure plan	1	-	-	-	-	-	<ul style="list-style-type: none"> • Livestock keeping • Crop farming • Farmhouses including bungalows and maisonnettes • Animal sheds • Hay stores/granaries • Education facilities are limited to primary, secondary, and Vocational training centres only. • Tea/coffee collection points/centres • Corner shops • Health clinics • All other uses auxiliary to agricultural activities. 	<ul style="list-style-type: none"> • High-rise residential developments. • Bars and adult entertainment establishments. • Solid waste transfer stations/collection points • Large-scale industrial activities • Hotels and restaurants • Warehouses/go-downs • <i>Juakali</i> sheds • Petrol stations 	Service the agricultural areas with piped water and sewerage infrastructure.

PART THREE: THE PLAN

Restricted Land Uses within Agricultural Zones

1. Large-scale industries (processing and manufacturing) – owing to the large chunks of land, large-scale industrial complexes shall be allowed with strict regulations and restrictions in terms of:
2. Emission of waste/effluence (air, solid and liquid) should be treated and tested by the relevant authorities including the county government, WRA and NEMA.
3. Agro-processing industries are encouraged within the agricultural zones.
4. Land for setting up such industries should not be less than 0.5Ha.
5. Ensure engagement of the local community before permitting industrial development.

7 ACTION AREAS

Overview

An action area is an area exhibiting unique characteristics that require urgent and subsequent planning to:

- i. Improve the character and form of the area based on existing challenges
- ii. Improve the livelihoods of the people within that area.
- iii. Create an efficient system to improve mobility and or increase safety.

Two areas have been chosen for action. These include all the colonial villages within the municipality as well as the Proposed Kutus Bus station.

Colonial villages within the municipality include Kibingo, Mukinduri, Kaitheri, Kiaritha (in Kerugoya), and Mjini and Thangari in Kutus Town. These villages are characteristic of similar challenges. The areas are undergoing decay (social and physical) due to the nature of communal land tenure, which has limited investment in housing within the settlements. Challenges affecting communal land ownership include inadequacy in infrastructure provision due to dense, unorganized settlement patterns and limits on controlled development. These challenges arose in the colonial settlements.

The proposed site for the Kutus Bus Station is off the Kutus-Kimbimbi Road, approximately 0.27 km (270m) south of the junction at Kutus Catholic Church. The space is generally unoccupied except for structures along the Kutus-Kimbimbi Road. The bus park presents the potential for improving mobility in Kutus Town and subsequently moving traffic from the busy Sagana-Samsons Corner road as a result of spillage from transportation-related activities. Additionally, the bus park also presents the potential to increase commercial activities within its vicinity after its construction thereby changing the character and livelihoods of the area.

7.1 Colonial Villages

The table below presents the colonial villages within the municipality in terms of their size and the estimated resident population.

Village	Land Size (Ha)	Estimated No. of Houses	Current Estimated Resident Population
Kibingo	5.55	69	276
Mukinduri	1.34	55	220

PART THREE: THE PLAN

Village	Land Size (Ha)	Estimated No. of Houses	Current Estimated Resident Population
Kaitheri	5.85	82	328
Kiaritha	6.46	78	312
Mjini (Kutus)	6.37	254	1,016
Thangari	7.79	82	328

Table 7-1: Profile of the Colonial Villages

Strategy

Provide proper housing and requisite infrastructure to improve the livelihoods of people living within the existing colonial villages.

Challenges	Improvements/Actions	Estimated Cost
<ul style="list-style-type: none"> • Inadequate piped water • Narrow access roads • The proliferation of informal settlements is a result of a lack of ownership of the land by the residents. • Poor housing conditions. Most houses have wood and iron sheets as wall and roof material. • Lack of land ownership documents/communal land ownership. • Increase in informal commercial activities thereby changing the intended use from residential to mixed use. • High rate of insecurity • Indiscriminate dumping of solid waste. • Lack of recreational open spaces and playgrounds 	<ul style="list-style-type: none"> • Construction of apartment blocks of two floors (medium high-rise developments), each block housing six (6) households. The apartment blocks to be constructed are as follows: <ol style="list-style-type: none"> i. Kibingo- 13 blocks ii. Mukinduri- 11 blocks iii. Kaitheri- 14 blocks iv. Kiaritha- 14 blocks v. Thangari- 14 blocks 	Kshs1,452,000,000 (Estimated Cost of 1 block is Kshs22,000,000) Total number of blocks due for construction- 66
	<ul style="list-style-type: none"> • Construction of apartment blocks of three floors, each block housing nine (9) households in Mjini in Kutus. The total number of blocks to be constructed is 30. 	Kshs660,000,000
	Provide piped water to each household and sewerage services to each colonial village.	
	Construct a solid waste collection point for each settlement (6 collection points in total) and ensure regular waste collection by the municipal council. Waste collection is to be done twice a week within each settlement.	Kshs4,200,000 (Cost of construction of each solid waste holding facility is kshs700,000)

PART THREE: THE PLAN

Challenges	Improvements/Actions	Estimated Cost
<ul style="list-style-type: none"> High rates of unemployment for youth living in the colonial village 	Provide street lights or four (4) 30m flood masts per settlement.	Kshs60,000,000 (Cost of installation of each 30m high flood mast is kshs2,500,000)
	Construct a social hall for each colonial village (6 social halls in total)	Kshs60,000,000 (Cost of construction of a social hall is estimated at kshs10,000,000)
	Survey and offer title deeds (Joint) for the joint ownership of each colonial village.	

7.1.1 A Case for Redevelopment of Mukinduri Colonial Village

Site Appreciation



Figure 7-1: Existing Profile of Mukinduri Colonial Village

- Analysis of the site (the colonial village) shows the informality of the settlement. The layout of buildings within the village has a constriction on the provision of services including roads, water, sewerage etc.
- There is a proliferation of informal commercial activities within the settlement. This is largely due to the poor living conditions of the residents dwelling within the village.
- There is a lack of community facilities including open spaces and playgrounds for children
- The lack of land ownership documents has a simultaneous effect on the proliferation of informality within the settlement.

PART THREE: THE PLAN

Area Improvement Measures

The following are the measures proposed to improve the livelihoods of the residents within Mukinduri Colonial Village. The measures include:

1. Identification of the number of beneficiaries for land ownership within the settlement. This can include the original beneficiaries and where members are not present the immediate family to be enlisted as beneficiaries.
2. Survey and provision of individual title deeds for the identified beneficiaries within the settlement.
3. Service the settlement with water and sewerage infrastructure and ensure individual household connection from the resulting proposed housing redevelopment for the residents in the village
4. Construct modern two-bedroomed houses for the identified beneficiaries within the settlement. The houses shall be single-storied. The total number of houses to be constructed for the anticipated beneficiaries (households) total 84. The houses shall be constructed as blocks each housing a total of six households. The total number of blocks to be constructed within the settlement is fourteen (14).
5. Construct a social hall for the settlement which can be used for different purposes and hiring where necessary.
6. Construct and functionally equip a playground as well as open spaces within the proposed residential layout. These shall adequately serve the recreational requirements of the colonial village.
7. A section of the village along the road to Baricho has been preserved for commercial purposes based on the existing demand and land use activities within the area. Construct a shopping centre and designate parking slots. This can be the source of income for the settlement and municipality.

The following are the graphic representations of the above-mentioned measures for the improvement of Mukinduri colonial village. The implementation of the plan is subject to intense public participation and acceptance by residents of the settlement.

The representation can also be used for the development of public housing areas in the municipality. The public housing areas include Biafra, Congo, Kamukunji, and Forty Rental government housing units.

PART THREE: THE PLAN

Plate 7-1: Site Plan for Mukinduri Colonial Village



PART THREE: THE PLAN

Plate 7-2: Residential area comprising of storied houses and the proposed shopping centre.



Plate 7-3: Proposed Social Hall and community playground



Plate 7-4: Open spaces for recreational use within the residential area.



PART THREE: THE PLAN

7.2 Development of Kutus Bus Station

Strategy

Increasing connectivity to the municipality.

Opportunity presented	Possible Development Actions	Estimated Cost
<ul style="list-style-type: none"> • Diversion of traffic from the main highway, Sagana-Samson's Corner. • Increased commercial activities within the location of the proposed bus park • Increased income for the municipality in terms of parking fees and tolling at the bus park • Increased movement of human traffic within Kutus Town thereby increasing livelihood options for residents • Improved surface conditions of the roads area around the bus park 	Construct passenger waiting bays	<ul style="list-style-type: none"> • Cost of ESMMP (Environmental and Social Monitoring and Management Plan)-Kshs 4,000,000 • Construction of fifty stalls- Kshs- 50,000,000 • Construction of bus park- Kshs 500,000,000
	Pave the bus bays to bitumen standards.	
	Install three high-capacity water storage tanks	
	Construct a modern solid waste management chamber.	
	Construct two toll stations for revenue collection. This shall assist in the maintenance of the bus park	
	Construct an ablution block within the bus park that can cater to large pedestrian traffic during pick hours.	
	Construct fifty (50) commercial stalls within the bus park. The stalls should have two floors (ground plus one)	
	Demarcate the parking spaces within the bus park.	

PART THREE: THE PLAN

7.2.1 A Case Development of the Proposed Kutus Bus Station

Site Appreciation



Plate 7-5: Site for the Proposed Bus Park in Kutus

The area for the proposed bus park covers approximately 1.6 ha. The site is majorly undeveloped except for commercial shops along the Kutus-Kimbimbi road. The neighbouring area is mostly under agricultural use and hardware warehouses. Except for the Kutus-Kimbimbi and the road to Kutus Market from St. Triza Kutus Girls School being tarmacked, the access roads connecting the two roads remain unpaved. The bus park thus presents an opportunity to improve access roads within the area to facilitate non-motorized and vehicular movement and the development of businesses within the area.

Proposed Actions for Development

The following are the measures proposed for the development of the Kutus Bus Station. The measures include:

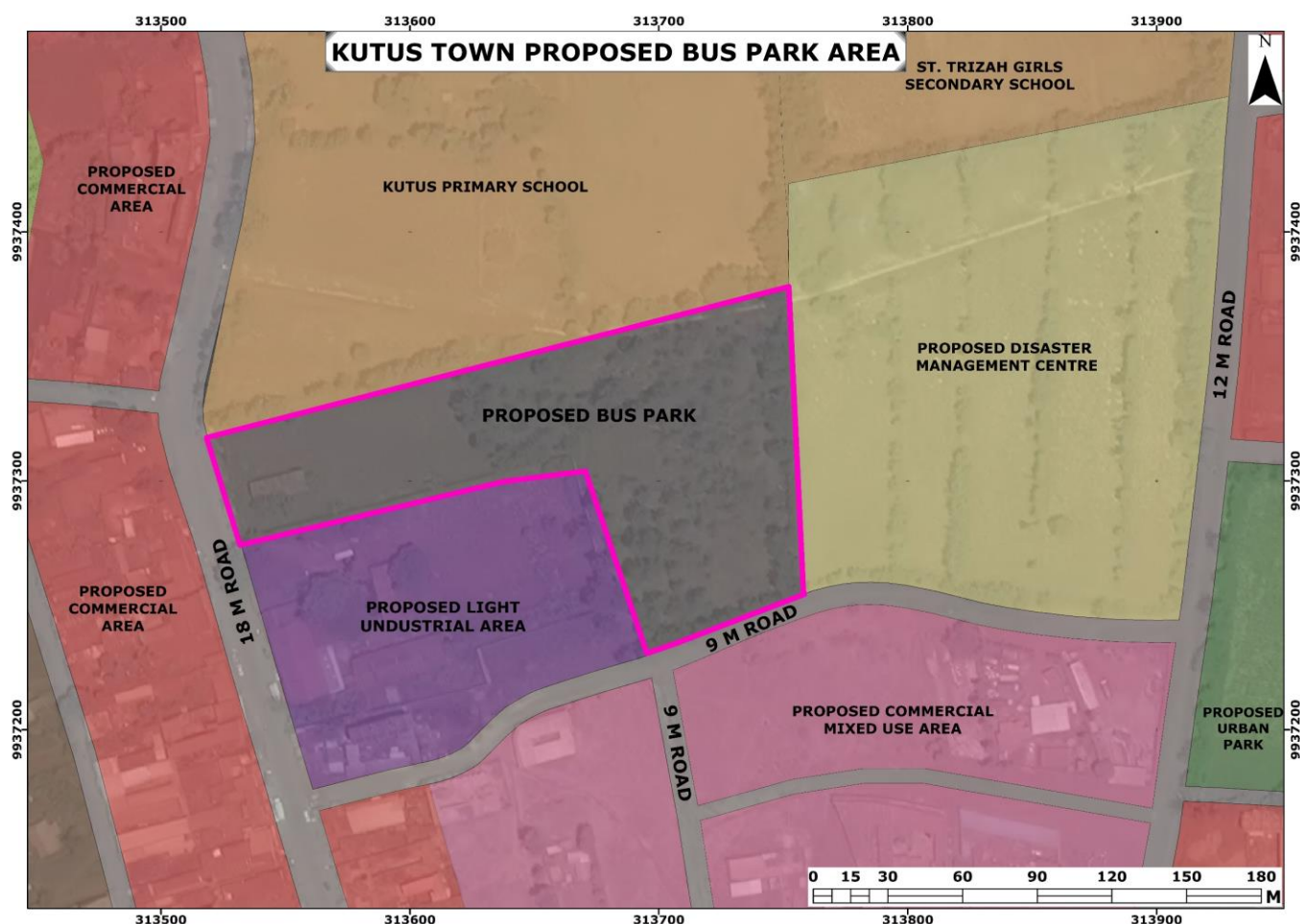
- i. Construct passenger waiting bays
- ii. Pave the bus bays to bitumen standards.
- iii. Install three high-capacity water storage tanks
- iv. Construct a modern solid waste management chamber.

PART THREE: THE PLAN

- v. Construct two automated toll stations for revenue collection. This shall assist in the maintenance of the bus park.
- vi. Construct an ablution block within the bus park that can cater to large pedestrian traffic during pick hours.
- vii. Construct fifty (50) commercial stalls within the bus park. The stalls should have two floors (ground plus one)
- viii. Adequately demarcate the parking spaces within the bus park.
- ix. Develop a route map for movement into and out of the bus park for easy traffic management in the area.

The map below shows the site of the proposed bus park in context to the plan for the surrounding area.

Map 7-1: Context of the Kutus Town Proposed Bus Park



PART THREE: THE PLAN

The following are the graphic representations of the above-mentioned measures for the improvement of the bus station.

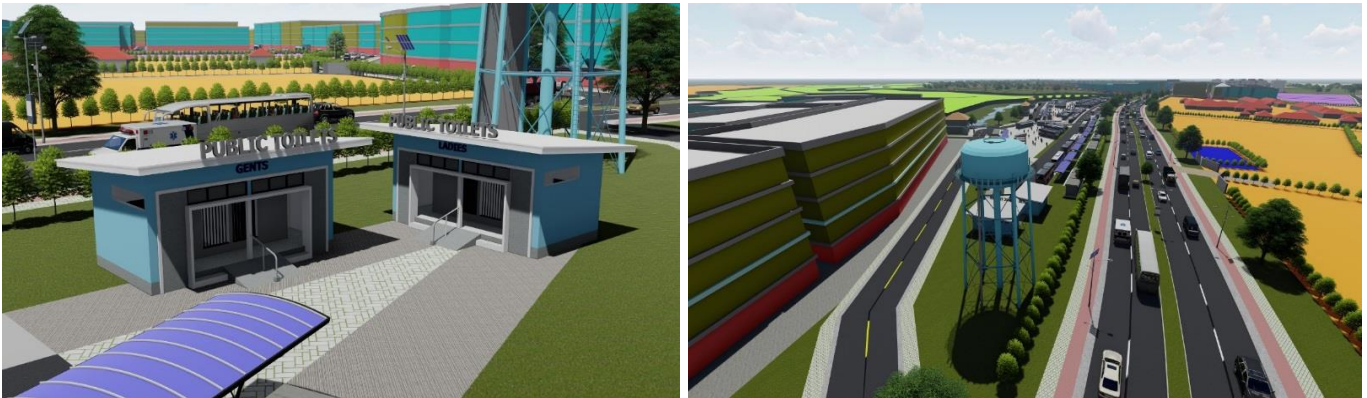
Plate 7-6: The Bus Park and Passenger bays



Plate 7-7: Retail Shops



Plate 7-8: Public Toilets and Water Tank



PART THREE: THE PLAN

Plate 7-9: A toll Station at the Entrance of the Bus Station



8 SECTOR DEVELOPMENT STRATEGIES

Overview

This section gives the different strategies of how the municipality intends to achieve its development objectives in improving the lives of its citizens. This section also outlines the projects and programmes that shall help in achieving the identified objectives for the municipality. The strategies proposed are based on the transport sector, local economic development, infrastructure improvement, and provision as well as urban management.

8.1 Transportation Strategy



Strategy

Enhance the road network within the municipality to offer better connectivity and inclusion in road use.

Objective

To provide an integrated transportation system that shall offer seamless connectivity.

PART THREE: THE PLAN

Projects

1. Expand and murrum all access roads (widths of 6 and 9 metres) within the areas earmarked as agricultural zones.
2. Undertake regular maintenance of all access roads, especially after the rainy season.
3. Tarmack all roads identified as **primary, secondary, and local distributor** roads (Total distance for tarmacking 115.4km). The proposed road hierarchy is shown in Map 9-1.
4. Undertake street addressing within the municipality.
5. Construct the Kutus-Karatina (B27) and Sagana-Embu (B25) roads to a dual carriageway standard.
 - a. Distance for dualling Kutus Karatina- 15.7km
 - b. Distance for dualling Sagana-Embu- 16.5km
6. Install traffic calming facilities (speed humps, traffic lights and signage) along major junctions within Kerugoya and Kutus. These can be installed at the convergence of either two primary roads or a primary and secondary road.
7. Develop the proposed bus park in Kutus as shown in the plan and as detailed in section 7.2.
8. Install bus stops along the roads passing through Riagithiga, Kiamirici, Karia, Mukinduri, Kibingo, Ithare, Karia (adjacent to Thiba Dam), and Githioro.
9. Construct walkways along:
 - The Kutus-Karatina road (2.8 km) from Kerugoya Good Shepherd Academy down to Kaitheri Youth Polytechnic.
 - Along the road from Kerugoya Stadium to Kiaritha colonial village. (1.4km)
 - Along the road to the county commissioners' office via huduma centre and the Kerugoya Law Courts. (1km and 600m)
 - All the access roads within the core urban area in Kerugoya.
 - Kutus-Kimbimbi road from the junction at Kutus Primary (distance 1.45km).
 - All access roads within the core urban area in Kutus.
10. Introduce a bus shuttle service for the municipality and other short-distance urban areas within the municipality.

PART THREE: THE PLAN

Plate 8-1: Road Profile for Kutus-Karatina (40m Reserve) Road

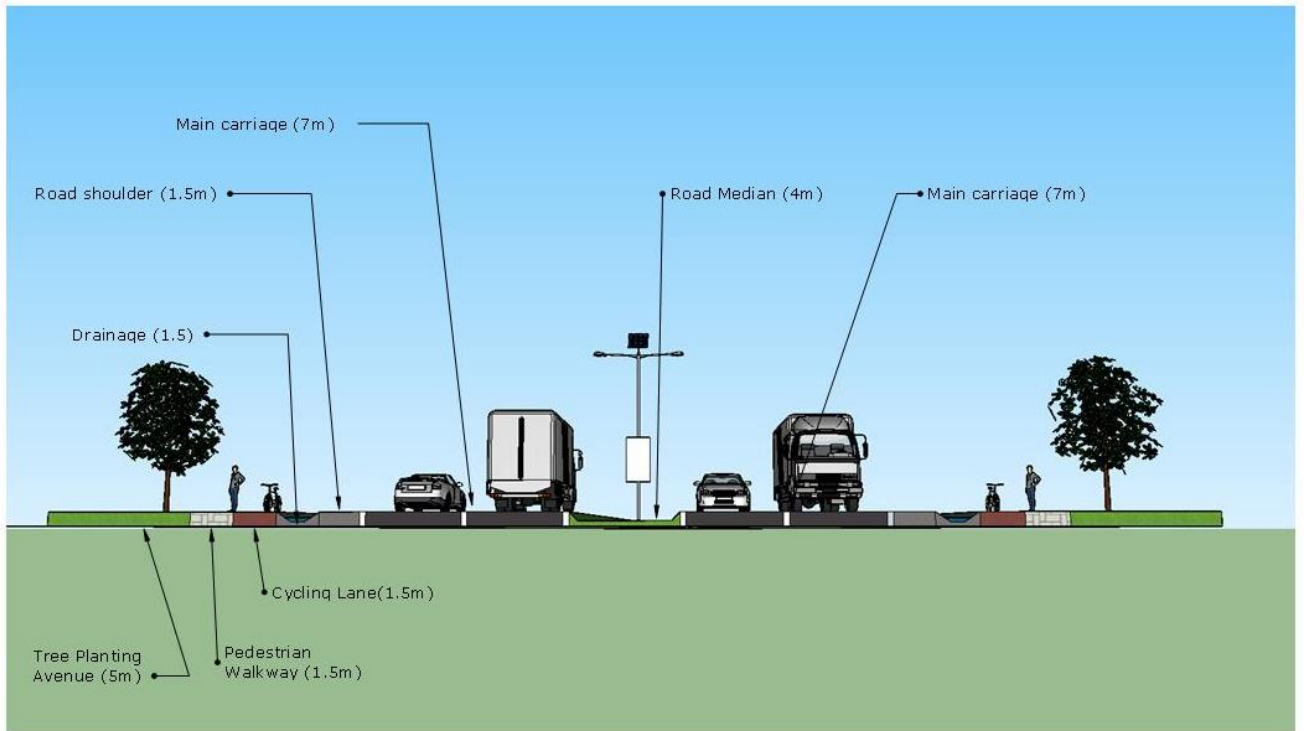
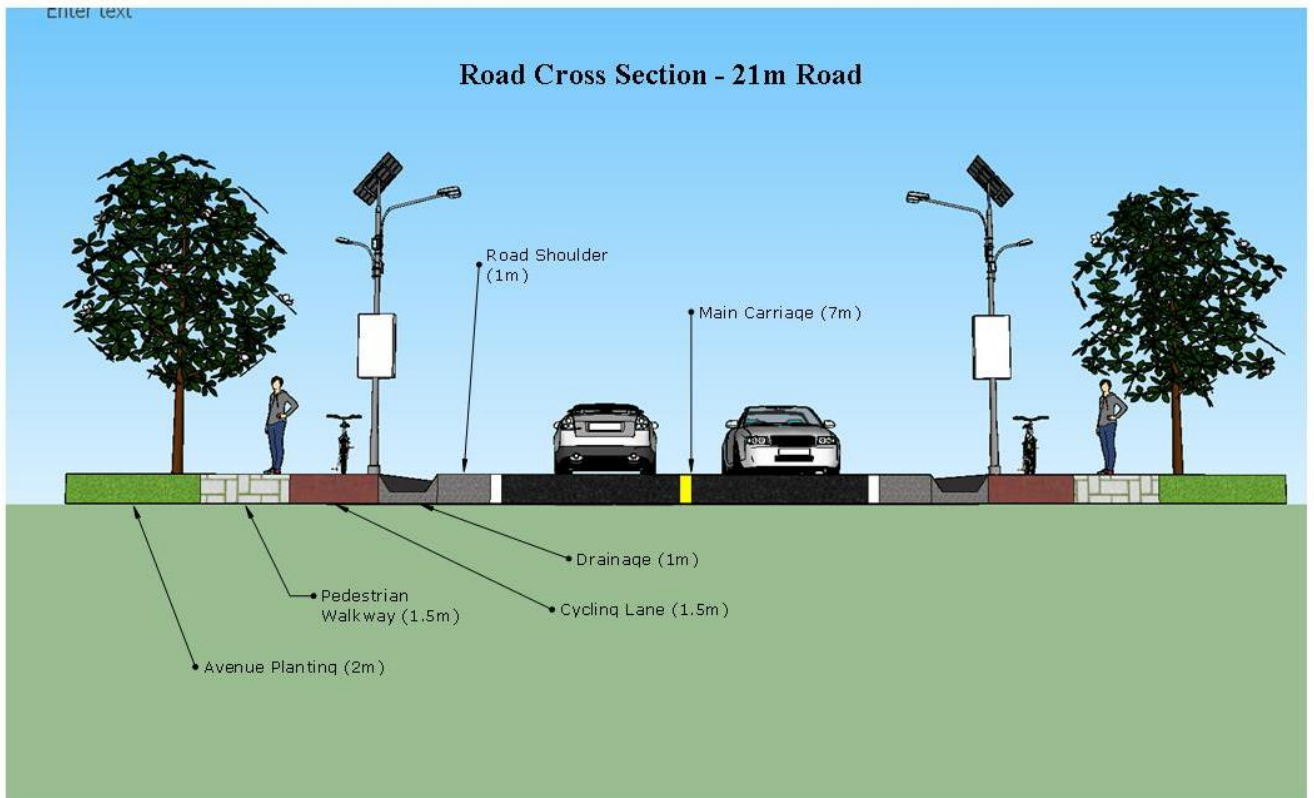
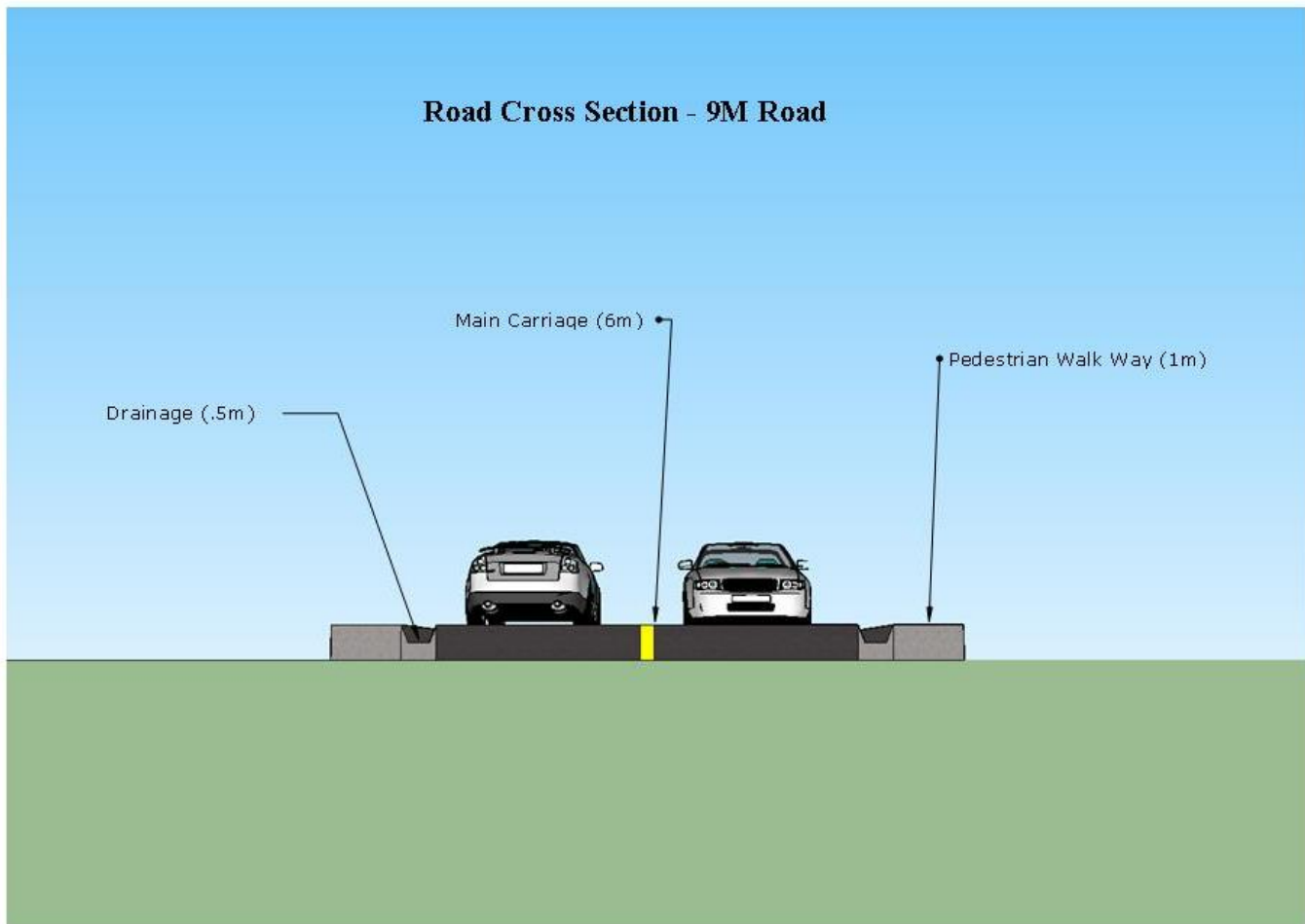


Plate 8-2: Road Cross Section Profile for 21m Secondary roads

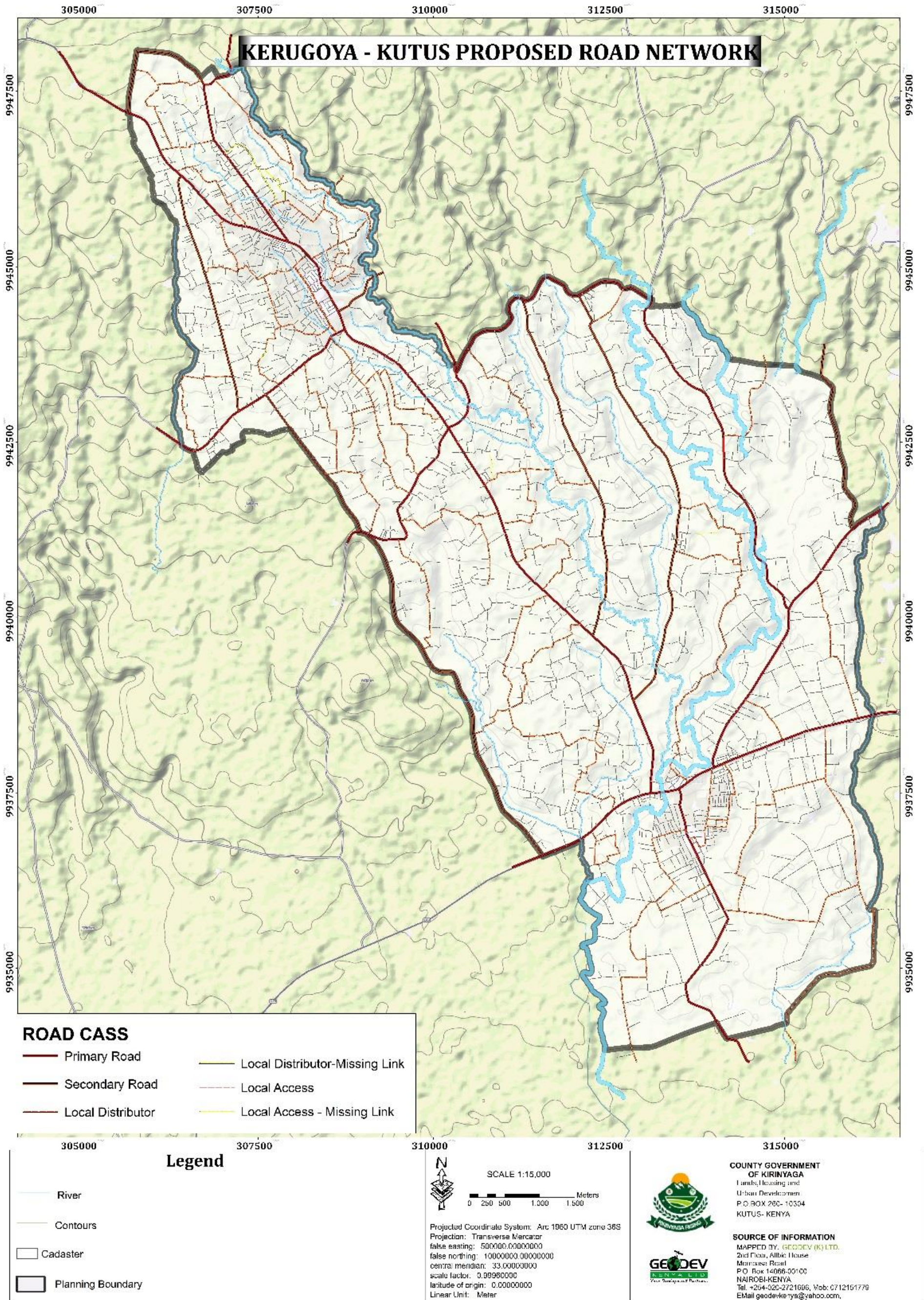


PART THREE: THE PLAN

Plate 8-3: Road Cross Section for 9m Access Road

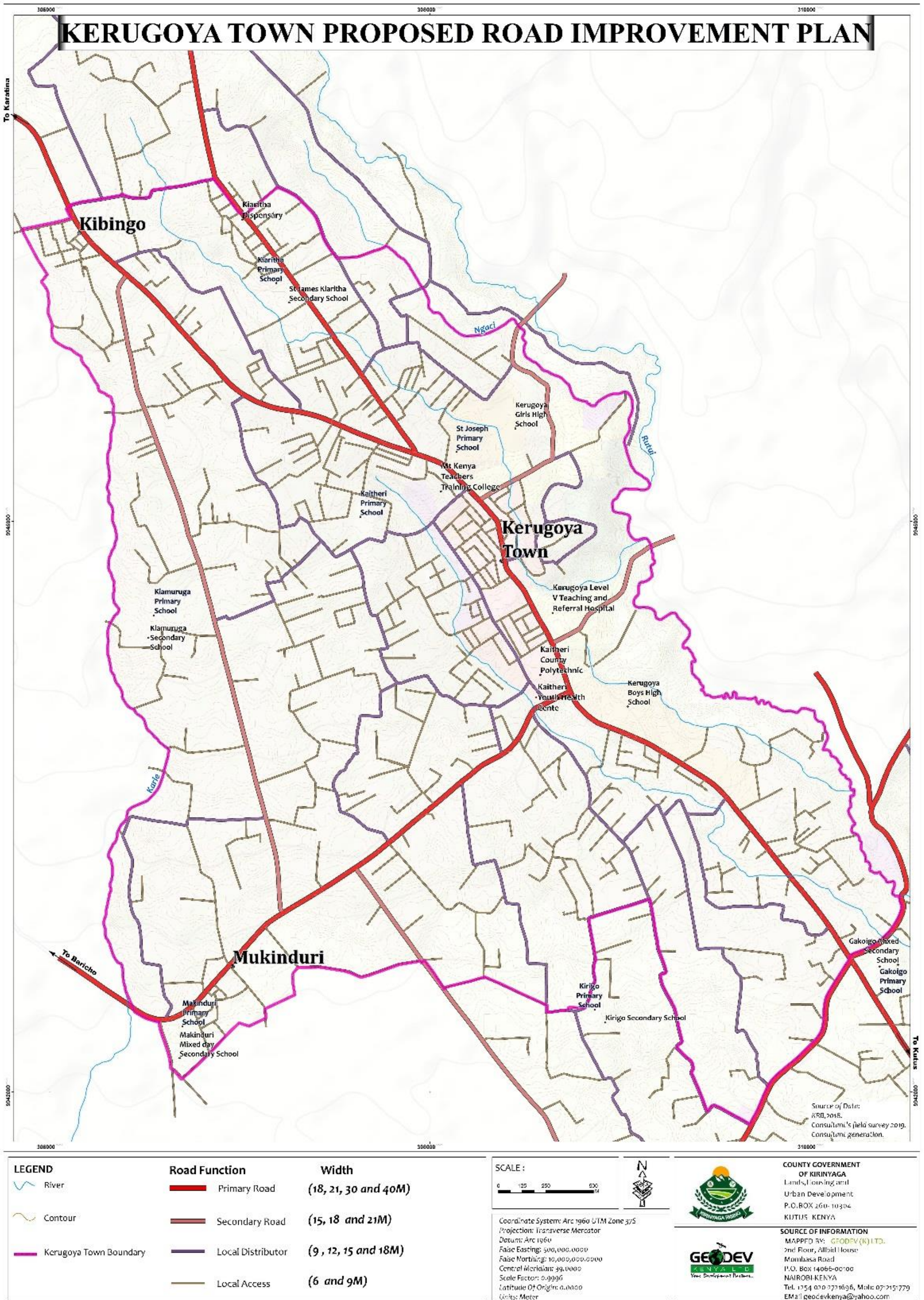


PART THREE: THE PLAN



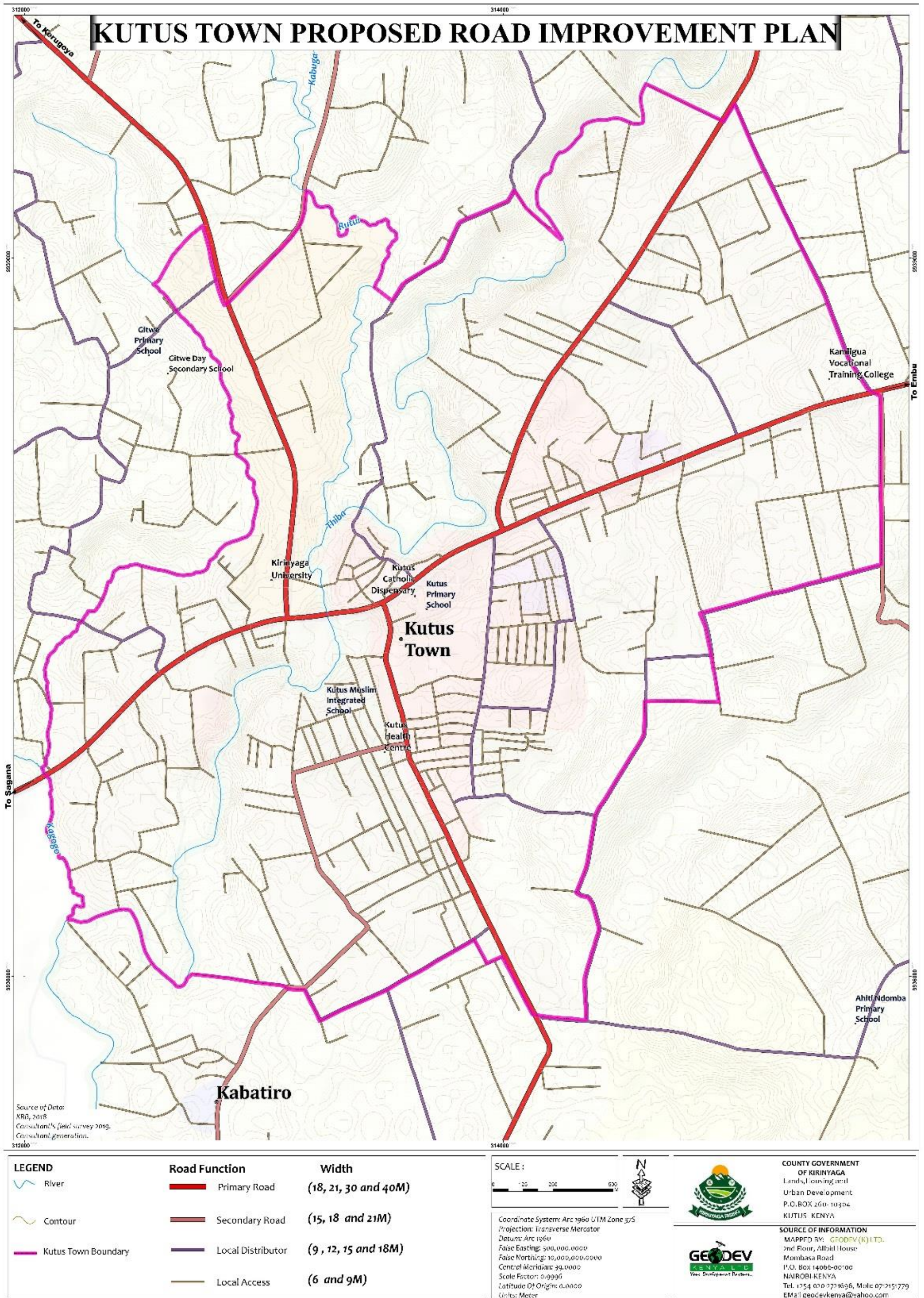
Map 8-1: Kerugoya/Kutus Municipality Proposed Road Hierarchy

PART THREE: THE PLAN



Map 8-2: Kerugoya Town Proposed Road Network

PART THREE: THE PLAN



Map 8-3: Kutus Town Proposed Road Network

8.2 Local Economic Development Strategy



Strategy

Enhance the economic drivers of the municipality to stimulate economic activities and spur economic growth.

Objective

- To create better spaces for promoting formal and informal commercial and industrial activities throughout the municipality.
- To promote increased agricultural production within the rich agricultural hinterlands.
- To increase employment opportunities.

Projects

1. Upgrade the Kibingo market to a modern textile market. Construct stalls, an ablution block as well as a loading bay.
2. Construct an animal market opposite the ICOSEED Community Centre. The market is to have an animal holding pen, inspection bay, and ablution block among other facilitative infrastructure.

PART THREE: THE PLAN

3. Increase the number of extension officers to offer services in better animal husbandry and crop production at the sub-county level.
4. Areas proposed as exclusive commercial zones to be promoted for commercial activities. This shall in turn increase revenue for the municipality in terms of business permits.
5. County government to harmonize business license application services.
6. Relocate the juakali site (opposite the stadium) to the land occupied by the Ministry of Agriculture (Veterinary Services). Construct an open *juakali* premises and provide the necessary services and infrastructure including security, water, electricity, and toilets.
7. County to assist in the marketing of agricultural produce by different regions within the county.
8. Subsidize licensing fees for small and medium enterprises within the municipality.
9. Offer incentives for crop production based on suitability studies on best crop production per region.

8.3 Physical Infrastructure Development Strategy

8.3.1 Water Supply Strategy

Strategy

Enhance the water reticulation system to adequately serve the entire municipality.

Objective

To increase access to clean potable water.

Projects

1. Increase the water reticulation system to fully cover the Kutus and Kerugoya Core Areas.
2. Map the entire water reticulation system, including community water projects, within the municipality. This shall assist in:
 - i. Maintenance of the water reticulation system through identification of hotspot areas in terms of water theft and leakages.
 - ii. Maintenance of the water reticulation system during the construction of roads and other development.
 - iii. Expansion of the reticulation system to areas not covered.
 - iv. Servicing of the dilapidated reticulation system.
3. Replace/repair the dilapidated water reticulation system.

PART THREE: THE PLAN

4. Develop a high-capacity water treatment plant at Murateri to serve the anticipated water demand of 45,000m³ for the municipality by the year 2030.

8.3.2 *Liquid Waste Management Strategy*

Strategy

Provide an efficient liquid waste management system.

Objective

1. To ensure connection to an efficient municipal sewer system
2. To enhance proper liquid waste disposal in the municipality.

Projects

1. Construct the trunk sewer lines for the municipality and subsidize individual connection to achieve 50% connection, within the municipality, by the year 2030.
2. Complete construction and commission of the Ahiti Ndomba sewer treatment plant to service the liquid waste needs of the municipality. All liquid waste for the municipality is to be managed on this site before the completion of the construction of the trunk sewer lines.
3. Formulate a municipal liquid waste management service.
4. Procure five liquid waste exhausters to assist in the management of liquid waste within the municipality. Liquid waste collected by the municipal exhauster service is to be drained in Ahiti Ndomba for treatment.
5. Construct modern public toilets at key activity areas in Kerugoya and Kutus Town.
 - Public toilets in Kerugoya are to be constructed within the juakali industrial area, the urban park, and the bus station.
 - Public toilets in Kutus should be constructed at the proposed urban park within the town, the animal market, and the bus park.

8.3.3 *Solid Waste Management Strategy*

Strategy

Ensure better solid waste management within the municipality.

Objective

To enhance solid waste management within the municipality to offer a clean environment in the municipality.

PART THREE: THE PLAN

Projects

1. Procure and provide waste skips in Ithare, Karia (along Kutus-Karatina road), Mukinduri, Kaitheri, Kiamirici, and Karia (adjacent to Thiba Dam).
2. Reclaim and repurpose the dumpsite behind Kerugoya County Referral Hospital to form part of the urban forest.
3. Develop the Kabatiro dumpsite into a modern landfill to ensure proper and environmentally friendly waste management practices on site. Adequately buffer the site with trees to protect the neighbouring Kabatiro village from pollution resulting from waste management on site.
4. Procure five skip loaders and two waste compactors to effectively manage solid waste from the various points in the municipality.
5. Employ municipal waste collectors to assist in proper waste management in both Kutus and Kerugoya towns.
6. Ensure implementation of the Solid Waste Management Policy for Kerugoya/Kutus Municipality.

N/B: All municipal waste is to be managed at the Kabatiro dumpsite.

8.3.4 Storm Water Drainage Strategy

Strategy

Manage and effectively channel excessive stormwater in the municipality.

Objective

To manage flooding within the municipality (especially in Kutus Town).

Projects

1. Construct and link drainage infrastructure along all roads identified as primary, secondary, and local distributors in Kutus Town to drain in Thiba or Gakuro River.
2. Construct dykes within Ahiti Ndomba area to appropriately channel excessive surface runoff/flood waters.
3. Install closed drains along all roads classified as primary passing through Kerugoya and Kutus Towns.
4. Install open drains along sections of primary roads having less development activity (existing and proposed).
5. Install open concrete drains along all secondary and local distributor roads.
6. All the proposed access roads are to have open earth drains.

PART THREE: THE PLAN

7. Regular maintenance through unclogging of storm water drains within Kerugoya and Kutus Town.

8.4 Social Infrastructure

8.4.1 Health Service Provision Strategy



Strategy

Provide better health facilities within the municipality.

Objective

To increase access to better health care.

Projects

1. Renovate the Kiamuruga Ndimi dispensary to offer services including limited normal delivery, rehabilitative care, health census of the population, and health education among others.
2. Acquire land, construct and equip a Level 4 (sub-county) hospital along the Kutus-Kianyaga road. The hospital is to be equipped with an incinerator, maternal and general wards. Services to be offered include radiology, oral health, emergency obstetric care

PART THREE: THE PLAN

services, surgery on an inpatient basis, and specialized laboratory tests among other lower-level services.

3. Acquire land, construct and equip a dispensary (level 2 hospital) at Kiamiciri next to the Kiamiciri Secondary School.
4. Employ more doctors, nurses, and clinical officers in the county to serve different health facilities within the municipality.
5. Equip and staff the Kiamwenja and Kiaritha dispensaries to enable frequent use/service to the immediate population.

8.4.2 Education Provision Strategy

Strategy

Provide better education facilities within the municipality.

Objective

To increase access to quality education for all.

Projects

1. Ensure employment and deployment of more teachers within primary schools to increase the student-teacher ratio.
2. Acquire land and construct two (2) primary schools. One in Ndimi area and another in Kutus off the Kutus-Kianyaga road.
3. Employ more teachers within the public secondary schools.
4. Ensure regular maintenance of all public primary and secondary schools in the municipality.

8.4.3 Community Facilities Provision Strategy

Strategy

Provide essential community facilities to enhance the livelihood of the residents of the municipality.

Objective

To provide facilitative community facilities.

Projects

1. Ensure completion and regular maintenance of the municipal stadium.
2. Employ staff to ensure regular maintenance of the municipal stadium.

PART THREE: THE PLAN

3. Acquire land and construct a modern library along the Kutus-Karatina road (About 860m from the municipal stadium).
4. Acquire land, construct and equip a library opposite the Kenya Forest Service offices in Kerugoya.
5. Provide an ablution block within Kerugoya Park. Ensure regular maintenance and cleanup of the park by the municipal council.
6. Acquire land and landscape in an urban park. The proposed park is 200m opposite the County Headquarters.
7. Fence and develop the playground at Karia (adjacent to Thiba Dam).
8. Within the plan implementation period, the county government and the municipality is to engage the residents of the municipality to provide a site for a cemetery.

8.4.4 Disaster Risk Management Strategy

Strategy

Promote better disaster management within the municipality.

Objective

To enhance disaster preparedness, response, and management.

Projects

1. Acquire land, construct and equip a disaster management centre with adequate staff and requisite equipment including tents, water bowsers, tractors, bulldozers, etc. The centre is to host the municipal disaster department and storage space/rescue hal.
2. Formulate and institutionalize a municipal disaster management policy for the municipality.
3. Equip the disaster management centre with requisite equipment including tents, water bowsers, tractors, a bulldozer etc.
4. Construct and equip a fire station opposite the Kutus Police Station.
5. Employ disaster management staff including firemen, construction engineers etc.
6. Procure a fire fighting vehicle/fire engine.
7. Install two fire hydrants within Kerugoya and Kutus. One hydrant is to be constructed within the disaster management centre another within the confines of the municipal stadium.

8.5 Housing Development Strategy

Objective

To provide quality affordable housing.

Projects

1. Vertical redevelopment of all public housing areas through intergovernmental partnerships or public-private partnerships.
2. Acquire more land for public housing development.
3. Reclamation and fencing of grabbed public land especially the highlighted public housing areas through the NLC.
4. Ensure regular renovation and maintenance of public houses.
5. Institute functional revenue programmes to monitor the collection of rents for the maintenance of public houses.
6. Develop and implement a county housing policy.
7. Employ more enforcement officers within the housing department.

8.6 Environment

Objective

To protect and conserve the environment

Projects

1. Protection of all rivers and streams in the Municipality through restricting developments on the proposed buffer zones.
2. Sensitization of the community on proper methods of conservation of rivers through sustainable agriculture and reduction of use in pesticides and inorganic fertilizers.
3. Implementation of the solid waste management policy for the municipality.
4. Decommission and rehabilitate the land occupied by the dumpsite in Kerugoya into an urban forest.
5. Encourage agroforestry to increase tree cover within the municipality
6. Undertake annual tree planting programmes, especially along the proposed buffer zones of the rivers in the municipality.

PART THREE: THE PLAN

8.7 Governance Strategy

Strategy

Improve municipal management to offer better service delivery and inclusive leadership.

Objective

To enhance urban management and participatory decision-making in the municipality.

Projects

1. Employ more staff in the environment, infrastructure development, revenue management and enforcement units/departments to adequately dispense municipal duties. Other employment gaps to be filled within the municipal staffing structure are as identified in the municipality's organogram.
2. Prepare an Integrated Development Plan for Kerugoya/Kutus Municipality to guide the operations of the municipal board. This shall assist in strategizing the development of the municipality and prioritization of community needs.
3. Undertake regular capacity building of the municipal staff. This is focal to plan implementation.
4. Ensure gender and youth mainstreaming in the development agenda of the municipality.
5. Divide/organize the municipality into units for promotion of public participation. Each unit is to have a representative who champions for the interests of the represented community.
6. Employ modern technology and automation of payments to the municipality in order to boost revenue collection.

9 IMPLEMENTATION FRAMEWORK

Overview

Implementation describes the process or set of activities that are undertaken to ensure the plan proposals are executed in a deliberate order. This shall in turn bring a desired change (tangible benefits) in the lives of the people within the municipality. Moreover, it outlines the anticipated time for project actualization as well as the institutions/agencies which are to be involved during the project cycle. The objectives for each chosen thematic area of improvement are outlined in the framework herein presented.

Project implementation requires sufficient political leadership, continuous monitoring, periodic adjustments, sufficient capacity at all levels, and sustainable financial mechanisms and technologies.

The Kerugoya/Kutus implementation frame presents projects for implementation, their location, the time within which they can be achieved, and the main actors responsible for their implementation. The Kerugoya/Kutus LPLUDP is a ten-year plan. The projects proposed have therefore to be undertaken before the ten-year period elapses or pending review of the plan accordingly. The projects highlighted for implementation are categorized into five time-bound parts as discussed below:

- **Immediate** - These are projects that can take 100 days to implement. They are less capital intensive, achievable, and do not involve as much capital or consultation for implementation. These projects set the ground for the implementation of projects that have a longer implementation timeframe than 100 days.
- **Short Term** - These projects are achievable within a period of 1 to 3 years. These projects also serve the immediate needs of the community, are slightly less costly, and do not involve many actors. They also form a basis for medium and long-term projects. The expected period of full implementation is the year 2023.
- **Medium Term (2024-2026)** – These are projects that are achievable within 4-6 years. They require more collaborators than short-term projects, extensive research before commencement, acquisition of land, and need wider consultations among all partners involved. The projects highlighted as medium-term projects are set to be achieved on or before the year 2026.

PART THREE: THE PLAN

- **Long Term** – These are projects that can take a period of between 7 to 10 years for full implementation. They are expected to have been achieved by the end of the planning period (the year 2030) and require consequent phasing for ease of achievement. Long-term projects require feasibility studies to be undertaken before commencement, are capital intensive, and require wider consultations.
- **Long-Term Continuous** - Some of the projects proposed are continuous and shall therefore be implemented throughout the entire plan implementation period and beyond. These projects are characteristic of constant public participation and civic education. They form an integral part of upholding the plan's integrity during implementation.

PART THREE: THE PLAN

Table 9-1: Implementation Framework

Project	Location	Timelines	Actor
Theme; Transport			
Objective: To provide an integrated transportation system that shall offer seamless connectivity.			
Expand and murram all access roads while maintaining recommended widths of 6 and 9 metres and install open earth drains	Entire municipality	Short-term (2021-2023)	<ul style="list-style-type: none"> • KeRRA • KURA
Undertake regular maintenance of all access roads, especially after the rainy season	Entire municipality	Long-term, continuous	<ul style="list-style-type: none"> • KeRRA • KURA
Tarmac all roads identified as primary, secondary, and local distributor roads (Total distance for tarmacking 115.4km)	Entire municipality	Medium-term (2024-2026)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA
Construct the Kutus-Karatina (B27) and Sagana-Embu (B25) roads to a dual carriageway standard. <ul style="list-style-type: none"> a. Distance for dualling Kutus Karatina-15.7km b. Distance for dualling Sagana-Embu-16.5km 	<ul style="list-style-type: none"> • Kagumo Market Centre to Kirinyaga University • Kagio Market Centre to Makutano Junction 	Long Term (2027-2030)	<ul style="list-style-type: none"> • KeNHA
Install closed drains along all primary roads passing through Kerugoya and Kutus Towns. Primary Roads are: <ul style="list-style-type: none"> • Kutus-Karatina (B27) • Sagana-Makutano Junction (B25) • Kutus-Kianyaga (C526) 	Entire municipality	Short-term (2021-2023)	KeNHA
Install open drains along sections of primary roads having less activity (existing and proposed)	Entire municipality	Short term(2021-2023)	KeNHA

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Install open concrete drains along all secondary and local distributor roads	Entire municipality	Short term(2021-2023)	<ul style="list-style-type: none"> • KeRRA • KURA
Undertake street addressing within the municipality	Entire Municipality (Special Focus within Kerugoya and Kutus Towns)	Short term(2021-2023)	<ul style="list-style-type: none"> • Department of Lands, Physical Planning and Housing • Department of Transport and Public Works
Install traffic calming facilities (speed humps and signage) along major junctions within Kerugoya and Kutus	Kerugoya and Kutus	Short-term (2021-2023)	Department of Transport and Public Works
Acquire land and construct a multi-storey parking facility in Kerugoya Town.	Kerugoya Bus Station	Medium-term (2024-2026)	Department of Transport and Public Works
Establish proper on-street car parking on roads with 15m road widths	Kerugoya Kutus	Short-term (2021-2023)	Department of Transport and Public Works
Install bus stops along the roads passing through Riagithiga, Kiamirici, Karia, Mukinduri, Kibingo, Ithare, Karia (adjacent to Thiba Dam), and Githioro.-	Strategic points in between Kerugoya, Kutus, and all nodes	Short-term (2021-2023)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Construct walkways along <ol style="list-style-type: none"> i. The Kutus-Karatina road (2.8 km) from Kerugoya Good Shepherd Academy down to Kaitheri Youth Polytechnic) ii. Along the road from Kerugoya Stadium to Kiaritha colonial village. (1.4km) iii. Along the road to the county commissioners' office via huduma centre and via the Kerugoya Law Courts. (1km and 600m) iv. All the access roads within the core urban area in Kerugoya. v. Kutus-Kimbimbi road from the Junction at Kutus Primary (distance 1.45km) 	Total distance for tarmacking- 7.25	Long term(2027-2030)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA • Department of Transport and Public Works
Theme; Local Economic Development Objective: To promote avenues for economic development through agriculture, commerce and industry.			
Strict implementation of the zoning regulations and planning standards	Entire municipality	Long-term, continuous	Department of Lands, Physical Planning and Housing
Increase the number of extension officers to offer services in better animal husbandry and crop production at the sub-county level	Entire municipality	Short-term (2021-2023)	Department of Agriculture and Livestock
Offer incentives for crop production based on suitability studies on best crop production per region.	Entire municipality	Long-term, continuous	Department of Agriculture and Livestock
County to assist in marketing of crops produced by different regions.	Kirinyaga County	Long-term, continuous	Department of Agriculture and Livestock

PART THREE: THE PLAN

Project	Location	Timelines	Actor
County government to harmonize business license application services.	Entire municipality	Immediate (Within 100 days)	Department of Trade and Cooperatives
Subsidize licensing fees for small and medium enterprises within the municipality.	Entire municipality	Short term(2021-2023)	Department of Trade and Cooperatives
Acquire land and construct a modern livestock market within Kutus Town.	Kutus Town	Short term(2021-2023)	Department of Trade and Cooperatives
Acquire land and construct an open <i>juakali</i> premises within the area proposed for industrial use.	Kerugoya Town Kutus Town	Short term(2021-2023)	Department of Trade and Cooperatives
Establish proper revenue collection mechanisms to optimize municipal revenue collection.	Entire Municipality	Short term(2021-2023)	<ul style="list-style-type: none"> • Department of Finance and ICT • Municipal Board
PHYSICAL INFRASTRUCTURE			
Water			
Objective: To increase access to clean potable water.			
Increase the water reticulation system to cover the entire municipality.	Entire municipality	Medium-term (2024-2026)	Kirinyaga Water and sewerage company
Map the entire water reticulation system, including community water projects, within the municipality		Short-term (2021-2023)	Kirinyaga Water and sewerage company
Replace/repair the dilapidated water reticulation system.	Entire municipality	Medium-term (2024-2026)	Kirinyaga Water and sewerage company
Develop a high-capacity water treatment plant at Murateri to serve the anticipated water demand of 45,000m ³ for the municipality by the year 2030.	Murateri	Medium-term (2024-2026)	Kirinyaga Water and sewerage company

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Subsidize cost of water connection at the household level	Kirinyaga County	Long-term, continuous	Kirinyaga Water and sewerage company
Liquid Waste Management			
Objective: To enhance proper liquid waste disposal in the municipality through an efficient sewer system			
Construct the trunk sewer lines for the municipality and subsidize individual connections to achieve 50% connection, within the municipality, by the year 2030.	Entire municipality	Long term(2027-2030)	Kirinyaga Water and sewerage company (KIRIWASCO)
Complete construction and commission the Ahiti Ndomba sewer treatment plant to service the liquid waste needs of the municipality.	Ahiti Ndomba	Short term(2021-2023)	Kirinyaga Water and sewerage company
Formulate a municipal liquid waste management service.	Entire municipality	Short-term (2021-2023)	Kirinyaga Water and sewerage company Municipal Board
Procure five liquid waste exhausters to assist in the management of liquid waste within the municipality.	Entire municipality	Short-term (2021-2023)	Kirinyaga Water and sewerage company
Construct public toilets at key activity areas in Kerugoya and Kutus Town	<ul style="list-style-type: none"> • Kerugoya Town • Kutus Town 	Short-term (2021-2023)	Department of Health and Sanitation
Solid Waste Management			
Objective: To enhance solid waste management within the municipality to offer a clean environment for the municipality's livelihood			
Procure and provide waste skips in Ithare, Karia (along Kutus-Karatina road), Mukinduri, Kaitheri, Kiamirici, and Karia (adjacent to Thiba Dam)	Ithare, Karia Mukinduri, Kaitheri, Kiamirici, and Karia	Immediate (Within 100 days)	Department of Health and Sanitation

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Reclaim and repurpose the dumpsite behind Kerugoya County Referral Hospital to form part of the urban forest.	Kerugoya	Short-term (2021-2023)	Department of Health and Sanitation
Develop the Kabatiro dumpsite into a modern landfill to ensure proper and environmentally friendly waste management practices on site. Adequately buffer the site with trees to protect the neighbouring Kabatiro village from pollution resulting from waste management on site.	Kabatiro	Short-term (2021-2023)	Department of Health and Sanitation
Procure five skip loaders and two waste compactors to effectively manage solid waste from the various points in the municipality.	Entire municipality	Short-term (2021-2023)	Department of Health and Sanitation
Employ municipal waste collectors to assist in proper waste management in both Kutus and Kerugoya towns.	Kerugoya Kutus	Immediate (Within 100 days)	Department of Health and Sanitation
Provide a site for proper disposal of asbestos from all public houses.	Kabatiro	Immediate (Within 100 days)	Department of Health and Sanitation
Provide waste skips/waste holding bays in underserved housing areas and ensure regular waste collection.	Entire municipality	Immediate (Within 100 days)	Department of Health and Sanitation
Storm Water Drainage			
Objective: To manage flooding within the municipality			
Construct and link drainage infrastructure along all roads identified as primary, secondary, and local distributors in Kutus Town to drain in Thiba or Gakuro River.	Primary, secondary, and local distributors in Kutus Town	Medium-term (2024-2026)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA

PART THREE: THE PLAN

Project	Location	Timelines	Actor
			<ul style="list-style-type: none"> • Department of Transport and Public Works
Construct and link drainage infrastructure along all roads identified as primary, secondary, and local distributors in Kutus Town to drain in Thiba or Gakuro River.	Primary, secondary, and local distributors in Kutus Town	Medium-term (2024-2026)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA • Department of Transport and Public Works
Construct dykes within Ahiti Ndomba area to appropriately channel excessive surface runoff/flood waters.	Ahiti Ndomba	Short-term (2021-2023)	Department of Transport and Public Works
Install closed drains along all roads classified as primary passing through Kerugoya and Kutus Towns.	Primary roads passing through Kerugoya and Kutus	Medium-term (2024-2026)	KeNHA
Install open drains along sections of primary roads having less development activity	Primary roads with less development activity	Medium-term (2024-2026)	KeNHA
Install open concrete drains along all secondary and local distributor roads.	All secondary and local distributor roads.	Medium term (2024-2026)	<ul style="list-style-type: none"> • KeRRA • KURA • KeNHA
Regular maintenance through unclogging of storm water drains within Kerugoya and Kutus Town.	Kerugoya Kutus	Long-term, continuous	Department of Transport and Public Works

PART THREE: THE PLAN

Project	Location	Timelines	Actor
SOCIAL INFRASTRUCTURE			
Health			
Objective: To increase access to better health care.			
Acquire land and construct 2 dispensaries. One at Karia and another at Mukinduri.	Karia Mukinduri	Short term (2021-2023)	Department of Health and Sanitation
Equip and staff the Kiamwenja, Kiamuruga Ndimi, and Kiaritha dispensaries to enable frequent use/service to the immediate population.	Kiamwenja Kiaritha and Kiamuruga Ndimi dispensaries	Short term (2021-2023)	Department of Health and Sanitation
Employ more doctors, nurses, and clinical officers in the county to serve different health facilities within the municipality.	All health facilities within the municipality	Short term (2021-2023)	Department of Health and Sanitation
Acquire land, construct and equip a Level 4 (sub-county) hospital along the Kutus-Kianyaga road.	Along the Kutus-Kianyaga road	Medium-term (2024-2026)	Department of Health and Sanitation
Education			
Objective: To increase access to quality education			
Ensure employment and deployment of more teachers within primary schools to increase the student-teacher ratio to the recommended standards.	All primary schools in the municipality	Medium-term (2024-2026)	Teachers service commission
Acquire land and construct two (2) primary schools. One in Ndimi area and another in Kutus off the Kutus-Kianyaga road.	Ndimi Kutus	Medium-term (2024-2026)	Ministry of Education
Employ more teachers within the public secondary schools.	All public secondary schools in the municipality	Medium-term (2024-2026)	Teachers service commission

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Ensure regular maintenance of all public primary and secondary schools in the municipality.	All public primary and secondary schools in the municipality	Long-term, continuous	Ministry of Education
Ensure the construction of fully functional ECDE centres in all primary schools that don't have the units	All primary schools in the municipality that don't have ECDE units	Short term (2021-2023)	Department of Education and Public Service
Community Facilities			
Objective: To provide facilitative community facilities.			
Ensure completion and regular maintenance of the municipal stadium.	Kerugoya Municipal stadium	Long-term, continuous	Department of Youth and Sport
Acquire land and construct a modern library along the Kutus-Karatina road (About 860m from the municipal stadium).	Kerugoya along the Kutus-Karatina road	Short term (2021-2023)	Ministry of education
Acquire land, construct and equip a library opposite the Kenya Forest Service offices in Kerugoya.	Opposite the municipal stadium in Kerugoya	Short term (2021-2023)	Department of Youth and Sport
Provide an ablution block within Kerugoya Park. Ensure regular maintenance and cleanup of the park by the municipal council.	The Kerugoya Park	Short term (2021-2023)	Department of Transport and Public Works
Acquire land and develop an urban park in Kutus Town.	Kutus opposite the County Headquarters	Short term (2021-2023)	Department of Transport and Public Works
Fence and develop the playground at Karia (adjacent to Thiba Dam).	Karia	Short term (2021-2023)	Department of Youth and Sports

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Disaster Management Objective: To enhance disaster preparedness, response, and management.			
Acquire land, construct and equip a disaster management centre with adequate staff and requisite equipment including fire engines, tents, water bowsers, tractors, a bulldozer etc. The centre is to host the municipal disaster department, storage space/rescue hall as well as a fully equipped fire station.	Kutus, along the road to the Kutus Market.	Short term (2021-2023)	Department of Transport and Public Works
Formulate and institutionalize a municipal disaster management policy for the municipality.		Immediate (Within 100 days)	Department of Transport and Public Works
Install fire hydrants at strategic points within Kerugoya and Kutus.	<ul style="list-style-type: none"> • The disaster management centre in Kutus • Confines of the municipal stadium. 	Short term (2021-2023)	Department of Transport and Public Works
Housing Objective: To provide quality affordable housing			
Vertical redevelopment of all public housing areas through intergovernmental partnerships or public-private partnerships.	All public housing areas (Kamukunji, Forty Rentals, Congo, Milimani, Biafra)	Short term (2021-2023)	The Intergovernmental Relations Committee
Acquire more land for public housing development.	Entire municipality	Short term (2021-2023)	The Intergovernmental Relations Committee

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Reclamation and fencing of grabbed public land through NLC	Entire municipality	Short term (2021-2023)	National land commission
Ensure regular renovation and maintenance of public houses	Entire municipality	Long-term, continuous	The Intergovernmental Relations Committee
Institute functional revenue programmes to monitor the collection of rents for the maintenance of public houses	Entire municipality	Immediate (Within 100 days)	<ul style="list-style-type: none"> • Department of Finance and ICT • The Intergovernmental Relations Committee
Develop and implement a county housing policy.	County	Immediate (Within 100 days)	Department of Lands, Physical Planning and Housing
Employ more enforcement officers within the housing department.		Immediate (Within 100 days)	Department of Lands, Physical Planning and Housing
Environment			
Objective: To protect and conserve the environment			
Protection of all rivers and streams in the Municipality through restricting developments on the proposed buffer zones.	Entire municipality	Long-term, continuous	Water Resources Authority
Sensitization of the community on proper methods of conservation of rivers through sustainable agriculture and reduction of use in pesticides and inorganic fertilizers.	Entire municipality	Long-term, continuous	Department of Environment and Natural Resources
Implementation of the solid waste management policy for the municipality.	Entire municipality	Immediate (Within 100 days)	Department of Health and Sanitation

PART THREE: THE PLAN

Project	Location	Timelines	Actor
Decommission and rehabilitate the land occupied by the dumpsite in Kerugoya into an urban forest.	Kerugoya	Immediate (Within 100 days)	NEMA
Encourage agroforestry to increase tree cover within the municipality	Entire municipality	Long-term, continuous	Department of Environment and Natural Resources
Undertake annual tree planting programmes especially along the proposed buffer zones of the rivers in the municipality.	Entire municipality	Long-term, continuous	Department of Environment and Natural Resources
<p>Governance and Urban Management</p> <p>Objective: To enhance better urban management and participatory decision-making in the municipality</p>			
Employ more staff in the municipal council to adequately dispense municipal duties.		Short-term (2021-2023)	The municipal council
Prepare an Integrated Development Plan for Kerugoya/Kutus Municipality to guide the operations of the municipal board.	Entire municipality	Short Term (2021-2023)	<ul style="list-style-type: none"> • Department of Lands, Physical Planning and Housing • Municipal Board

10 CAPITAL INVESTMENT PLAN

Overview

A capital investment plan is a tool, spanning several years, that identifies capital projects for investment based on priority and scale of impact to better people's lives. Capital investment planning includes capital investment by the government itself or investment by the private sector through public-private partnerships (PPPs). It inter-relates asset management and financial management. A CIP is therefore a link between spatial planning aspects and financial capacities and realities. For a capital investment plan to prove its effectiveness over time, the following are the key considerations:

- i. The local government needs to have the responsibility and authority to plan and make capital investments for a set of specified functions.
- ii. The local government should have economic autonomy that enables it to raise funding for its capital investment either through local taxes, fees, and other local sources or through borrowing or involving the private sector i.e. influencing outside funding
- iii. The local government should have the authority to independently carry out its budgeting process to align the capital investment plan to the local budgeting cycle.

The above-mentioned considerations are characteristics of the devolved governance system in Kenya thereby underlining the need to have implementable capital investment plans that are linked to the annual local budgeting process. The CIP is intended to provide practical and realistic guidance regarding the next steps in implementing the capital development aspects of this plan.

To be realistic, this CIP is built upon two principles:

- i. Affordability within the current budgetary conditions and
- ii. Effectiveness in responding to the aspirations and expectations of the people of Kerugoya/Kutus Municipality.

The product of this CIP is a multiyear program of capital investment projects prioritized by year with anticipated beginning and completion dates, annual estimated costs, and proposed financing methods.

PART THREE: THE PLAN

10.1 Process of Development of the CIP

The development of this CIP was undertaken through objective project selection in a series of six steps as outlined below:

- Step 1:** Preparation of a catalog -of all proposed projects
- Step 2:** Establishment of Project selection/prioritization criteria
- Step 3:** Project selection/prioritization
- Step 4:** Costing of the selected projects
- Step 5:** Matching the selected projects with available funding and financing options

10.2 List of selected Capital Projects

The following is a list of the selected capital investment projects chosen for the development of the municipality.

- Prepare an **Integrated Development Plan** for Kerugoya/Kutus Municipality to guide the operations of the municipal board.
- Procure five skip loaders and two waste compactors to effectively manage solid waste from the various points in the municipality.
- Redevelopment (vertical development) of all public housing areas including Kamukunji, Forty Rental, Congo, Biafra, and Old Posta.
- Undertake street addressing within the municipality.
- Acquire land, construct and equip a disaster management centre with adequate staff and requisite equipment including tents, water bowsers, tractors, a bulldozer etc. The centre is to host the municipal disaster department and storage space/rescue hall.
- Acquire land and construct a modern library opposite the KFS Offices.
- Acquire land and construct a dispensary at Kiamiciri.
- Acquire land, construct and equip a Level 4 (sub-county) hospital along the Kutus-Kianyaga road.
- Acquire land and construct a modern library along the Kutus-Kianyaga road.

PART THREE: THE PLAN

Table 10-1: Capital Investment Projects

Project	Description of Works	Number of Units	Estimated Cost	Financing Options
Prepare an Integrated Development Plan for Kerugoya/Kutus Municipality to guide the operations of the municipal board	<ul style="list-style-type: none"> • Analysis of development conditions • Development of Strategies • Identification of projects for implementation • Integration of the plan to other national, regional and county plans. • Plan approval by the county assembly 	1	Kshs15,000,000	<ul style="list-style-type: none"> • Municipal board • Public Private Partnerships
Procure five skip loaders and two waste compactors to effectively manage solid waste from the various points in the municipality.	Procurement Shipping	<ul style="list-style-type: none"> • 5 – Skip Loaders • 2 – Waste Compactors 	<ul style="list-style-type: none"> • Skip Loaders Kshs50,000,000 • (@Kshs10,000,000) • Waste Compactors Kshs24,000,000 (@Kshs12,000,000) 	<ul style="list-style-type: none"> • Municipal Board • County Government through the department of transport and public works
Redevelopment (vertical development) of all public housing areas including Kamukunji, Forty Rental, Congo, Biafra, and Old Posta.	<ul style="list-style-type: none"> • Survey of existing plot boundaries • Enlistment of households to be affected • Resettlement of the residents affected • Demolition of houses 	450 housing units	Kshs1,500,000,000 (Estimated Cost of Each unit is Kshs2,300,000)	<ul style="list-style-type: none"> • National Government through the State Department of Housing and Urban Development • County Government through the Department of Housing • Public Private Partnerships

PART THREE: THE PLAN

Project	Description of Works	Number of Units	Estimated Cost	Financing Options
	<ul style="list-style-type: none"> Construction of apartment blocks 			
Undertake street addressing within the municipality	<ul style="list-style-type: none"> Stakeholder Participation Forums Mapping 		Kshs20,000,000	<ul style="list-style-type: none"> Municipal Board County Government through the Department of Transport and Public Works
Acquire land, construct and equip a disaster management centre with adequate staff and requisite equipment including fire engines, tents, water bowsers, tractors, a bulldozer, etc. The centre is to host the municipal disaster department, storage space/rescue hall as well as a fully equipped fire station.	<ul style="list-style-type: none"> Acquisition of 4.6Ha of land Construction of offices, a hall, store/godown, toilets and a fire station. Procurement of disaster preparedness equipment including fire engines, tents, tractors, bulldozers etc. 	Construction of 8 buildings dependent on function and size; <ul style="list-style-type: none"> 5 offices A hall A godown A fire station 	Kshs100,000,000	<ul style="list-style-type: none"> Municipal Board County Government through the Department of Transport and Public Works
Acquire land and construct a modern library opposite the KFS offices	<ul style="list-style-type: none"> Acquisition of 0.5ha of land Construction of a modern library Equipping the library with the necessary equipment. 	4 Units including; <ul style="list-style-type: none"> Library Ablution Block 	Kshs45,000,000	<ul style="list-style-type: none"> Municipal Board County Government through the Department of Education and Public Service Public Private Partnerships

PART THREE: THE PLAN

Project	Description of Works	Number of Units	Estimated Cost	Financing Options
Acquire land, construct and equip a Level 4 (sub-county) hospital along the Kutus-Kianyaga road.	<ul style="list-style-type: none"> • Acquire 6.13Ha of land • Construct: • Maternity wards, General wards, consultation Offices, Kitchen, Toilets, Incinerator, Offices 	<ul style="list-style-type: none"> • 2 Maternity wards • 2 General wards • 5 consultation Offices • Kitchen • Toilets • Incinerator • 3 Offices 	Kshs40,000,000	<ul style="list-style-type: none"> • County Government through the Department of Health and Sanitation • Public Private Partnerships