



COUNTY GOVERNMENT OF LAIKIPIA

LOCAL PHYSICAL AND LAND USE DEVELOPMENT PLAN (2021-2031)

RUMURUTI MUNICIPALITY



DRAFT FINAL REPORT

NOVEMBER 2021

CLIENT:



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Vision: *Delivering Sustainable Communities; Settlements; and Places*

Mission: *Value Driven and Action Oriented service*

ENDORSEMENTS, CERTIFICATIONS & APPROVAL

I Certify that this Plan has been prepared and published as per the requirements of the County Governments Act, 2012; the Urban & Areas Cities Act, 2011; the Physical & Land Use Planning Act, No. 13 of 2019; and other Planning standards and guidelines.

Signed

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Approved

..... Date

The County Assembly
County Government of Laikipia

Hansard No.

.....

FOREWORD



It is with utmost pleasure and pride that My Government presents the Local Physical and Land Use Development Plan for Rumuruti Municipality (2021-2031) to the residents of Rumuruti Municipality. The plan has been prepared pursuant to the County Governments Act (2012), Urban Areas and Cities Act (2011), and the Physical and Land Use Planning Act No. 13 of 2019.

The GIS based Plan defines a clear vision for both the present and future growth of the municipality over the next 10 years and provides an overall integrated framework for urban growth of the Municipality. This plan will be a tool to guide investment decisions and also for development control to ensure proper and orderly spatial development.

The plan was prepared through a participatory process aimed at achieving the common vision of the community for their municipality “**A prosperous, culturally diverse and peaceful destination to live, work and invest**”. This vision can only be achieved through a collaborative effort between Rumuruti residents, the County Government of Laikipia, the National Government, both local and international investors and all other stakeholders in ensuring that Rumuruti, our County Headquarter develops in an orderly and sustainable manner.

I believe that this plan offers a great opportunity for development of infrastructure, social-economic development and promoting industrialization at a County wide scale through the development of the proposed Export Processing Zone and Special Economic Zone. For this reason, I am confident that the commitment, hard work and objectivity in the implementation of this plan will be key towards propelling the economy of our County to greater heights. I therefore take this opportunity to urge the people of Rumuruti Municipality to actively take part and support the implementation of this plan and commit myself to appropriate funding, support and marketing of this plan for its actualization.

A handwritten signature in black ink, appearing to read 'Ndritu'.

HON. NDIRITU MURIITHI
H.E Governor, Laikipia County.

PREFACE



Rumuruti Municipality is rapidly urbanizing owing to the recent economic competitiveness it has assumed as a result of elevating it as the County headquarters. Accordingly, there has been a huge population influx into the Municipality. Previous efforts to come up with a responsive, citizen oriented and concrete plan to guide development in the area have not borne fruits.

It in the backdrop of this situation that the plan preparation process was initiated to ensure fulfillment of sustainable development both in the present and in the future. The accomplishment of the planning process could not have been possible without a great deal of support, participation and contributions from the residents, practitioners, technical personnel of the County government among other institutions.

This Local Physical and Land Use Development Plan Presents the desired spatial framework and zoning regulations for Rumuruti Municipality to guide development between 2021-2031. The plan directly speaks to other county, regional and national plans as it provides strategies for boosting the local economy, innovation, industrialization, development of physical and social infrastructure in an integrated manner. Through undertaking SWOT analysis, the plan identifies the various strengths, weaknesses, opportunities and threats within the municipality, and capitalizes on the existing opportunities to make proposals for strategic interventions that will ensure achievement of the desired future as envisioned by community members. Participatory planning was largely used as a strategy to come up with a responsive and implementable plan that resonates not only with the local community, but also meet the desires and visions of the County Government of Laikipia.

It is therefore expected that this plan will play a major role towards making Rumuruti a competitive and robust Municipality with stimulated socio- economic development that will impact growth on all other sectors within the County. It is for this reason that I call upon the people of Rumuruti Municipality to support the implementation of this plan in the spirit of our desired transformation agenda for the great county of Laikipia.

A handwritten signature in blue ink, appearing to read 'Njaleh'.

HON. JOSEPH N. SHUEL

County Executive Committee Member

Infrastructure, Land, Housing, Energy and Physical Planning

ACKNOWLEDGEMENT

Preparation of this Local Physical and Land Use Development Plan for Rumuruti Municipality will ensure proper and sustainable use and management of land over the next 10 years. The purpose of the plan is to outline a deliberate and informed spatial and physical land use plan with an aim of achieving the optimum level of sustainable land utilization while at the same time promoting the principle of public participation. Successful preparation of this plan was a joint effort of many players both from within and outside the municipality. It is for this reason that I thank the Ministry of Land, Housing and Urban Development, Urban Development Department (UDD); for funding the process through the Kenya Urban Support Program (KUSP).

I wish to thank the Laikipia County Government Staff led by H.E Governor Nderitu Muriithi for their utmost goodwill and immense support during preparation of this Plan. I wish to thank members of Laikipia County Assembly for the active role-played during preparation and approval of the plan. These actions have thus ensured that Rumuruti Municipality gets a tool that will not only dictate investment decisions but also guide and control present and future developments within the Municipality. Equally, I also wish to thank all stakeholders and the great citizens of Rumuruti Municipality for their continuous support, belief and willingness to actively participate in the plan making process from inception till approval of the Plan. It is my wish and prayer that they will continue collaborating with the County government to implement the Plan.

Further, I wish to acknowledge the efforts of the following Technical Staff from the County Department of Physical Planning for their immense input and tireless contribution in preparation of this plan;

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Finally, I am also grateful to the support we got from the technical officers from the National Government i.e National Land Commission, Council of Governors and the team of consultants from KREIS Spatial Planning and Consulting Associates led by Plan. Samuel Mburu and Solomon Karani who jointly with the County Department of Physical Planning prepared this plan.



JACKSON MAINA KIBOCHA
Municipal Manager-Rumuruti Municipality
County Government of Laikipia

EXECUTIVE SUMMARY

In the next decade, Kenya will experience an unprecedented urban transformation that will significantly impact the way people live, work, socialize and do business. This urban transition is likely to present enormous social and economic opportunities as well as significant challenges. It is anticipated that urbanization will bring about agglomeration and socio-economic benefits that will spur economic growth and reduce poverty. However, urbanization may also pose governance, infrastructure, housing, environmental and resource challenges that may hamper progress and development. Rumuruti Municipality is soon to experience an explosion in population growth but the basic infrastructure present is not enough to cater for the demand that will be brought about by these events. There is also a lack of a harmonious planning framework that can integrate various socio-economic factors and guide development by making provision for sustainable urban infrastructure.

The Rumuruti Local Physical and Land Use Development Plan is a 10-year plan prepared by Rumuruti municipality under the county government of Laikipia through wide stakeholder participation to provide an overall spatial framework for development. The report is geared towards the facilitating of development through sectors plans and formulation of development control policies that will guide the preparation of physical and land use plan proposals.

The Municipality functions are drawn from the Rumuruti Municipality Charter and its powers are drawn from the Urban Areas and Cities Act of 2011, the County Government Act and the Municipality by-laws. The functions of the Municipality as defined by the existing policy framework are the driving force behind the formulation of this report. These functions include land control, land sub-division, land development and zoning by public and private sectors for any purpose, including industry, commerce, markets, residential areas, recreational areas, parks, transport infrastructure and agriculture.

This plan is organized in sections that outline a systematic way of analysis, review and recommendation of plan proposals that suit the urban context of Rumuruti Municipality. The primary objectives of this Development Plan are:

- To prepare a participatory based plan that addresses the citizens priority needs and demands through stakeholder forums.
- To identify potential areas within the planning region through geographic and socio-economic profiling.
- To identify space for future growth and allocate it for different land uses in a manner that promotes harmonious land use and sustainable land use practises.
- To provide a basis for infrastructure and service provision for present and projected population over the plan period.
- To provide a basis for development control and investment decisions by preparing short- and medium-term plans to guide compact urban development, including action area plans, advisory or zoning plans and regulations and other reference materials

The Local Physical and Land Use Development Plan is organized in four parts expounded below:

- Part One outlines the goals and objectives of the plan, a vision statement derived from the plan stakeholders, scope of works, expected outputs, methodology and approaches used during the planning process, locational context, history of the town and lastly existing planning interventions and projects. In addition, policy guidelines and legal framework that were used to guide the planning process, the institutional and governance framework of the municipality, and the emerging issues are articulated.
- Part two covers thematic based situational analysis depicting the current status of various sectors within the municipality. It starts by analysing the natural and physiographical characteristics, population and demographic characteristics, economic profile, revenue generation, settlement structures, urbanization trends, transport networks and distribution, utility services and social infrastructure e.g health, education facilities. It then continues to outline the current land tenure and land ownership dynamics within Rumuruti Municipality including land use analysis and the challenges and opportunities experienced in regard to land and land use

within the planning area. Risk and disaster management and mitigation strategies are also explored and elaborated in this part of the report.

- Part three outlines the Plan formulation process. Here, overarching planning principles and theories that form the basis of the Plan are outlined and discussed as part of the conceptual framework towards plan preparation.
- Part four presents the proposed Local Physical & Land Use Development Plan together with its attendant land use regulation and development standards. Later, the strategic interventions as an implementation framework are discussed
- Part five presents the Capital Investment Plan (CIP), an implementation schedule for the capital costs as well as a monitoring and evaluation framework that will assist the various implementing agencies as identified by the plan to zero down on the projects of choice to ensure full realization of the objectives and vision of this plan.
- Part six of the report presents the reference documents upon which some information was sourced.

In the interest of guided growth of the Municipality, it is my hope that the proposals contained in this Plan are implemented with periodic reviews as necessary.



DORCAS KORIR
Chief Officer, Department of Lands, Housing, Energy and Physical Planning
County Government of Laikipia

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LIST OF ACRONYMS

CBO	Community Based Organization
CFA	Community Forest Association
CGL	County Government of Laikipia
CGL-RM	County Government of Laikipia – Rumuruti Municipality
CIDP	County Integrated Development Plan
CIP	Capital Investment Plan
CSP	County Spatial Plan
DP	Development Partner
GDP	Gross Domestic Product
GIS	Geo-Information System
ICT	Information Communication & Technology
IUDP	Integrated Urban Development Plan
KeNHA	Kenya National Highways Authority
KeRRA	Kenya Rural Roads Authority
KFS	Kenya Forest Service
Km	Kilometer
KR	Kenya Railways
KURA	Kenya Urban Roads Authority
KUSP	Kenya Urban Support Programme
LPLUDP	Local Physical & Land Use Development Plan
MoITE	Ministry of Industrialization, Trade, and Enterprise
NEMA	National Environment Management Authority
NLC	National Land Commission
NMoE	National Ministry of Environment
PPP	Public Private Partnership
SoK	Survey of Kenya
UACA	Urban Areas & Cities Act
UDD	Urban Development Department

1 INTRODUCTION

1.1 Introduction

This report presents the Local Physical & Land Use Development Plan (LPLUDP) for Rumuruti Municipality. The plan has been prepared pursuant to The Physical and Land Use Planning Act No. 13 of 2019, the Urban Areas and Cities Act 2011 and the County Governments Act of 2012.

The purpose of this plan is to;

- Clearly define a vision for future growth and development of the municipality for the next 10 years.
- To provide an overall integrated physical framework for urban growth of Rumuruti Municipality that fulfills needs for both the present and future populations
- To provide a realistic implementation framework for all projects identified in the plan and a capital investment plan that will provide a basis for coordinated programming of projects and budgeting in the short term.

This report, supported by requisite maps and illustrations presents the situation analysis of Rumuruti municipality that comprehensively captures the existing situation in Rumuruti Municipality, proposed planning strategies and development management guidelines, policies, measures, actions and standards that will ensure the vision statement of the residents of Rumuruti Municipality is achieved.

1.2 Goals and Objectives of the Plan

The main objective of this plan was to provide an overall urban integrated framework for Rumuruti Municipality. The plan has provided a detailed framework for integrated land use planning and management for the municipality linked to international and national policies together with legal frameworks including Kenya's vision 2030, the National Spatial Plan, Laikipia County CIDP, Rumuruti Municipality IDeP, the Municipal Charter, Laikipia County Spatial Plan and other policies and legislations.

The specific objectives of this plan included and entailed;

- The preparation of a **'citizen-based plan for Rumuruti Municipality'** by conducting participatory planning exercises to identify citizens' issues, opportunities, priorities and vision for the municipality

- The identification of **environmental issues and concerns affecting the municipality** and propose strategies to address them
- The identification of **development potentials of the planning area** (social, economic and environmental profiling)
- **The allocation of sufficient space for various land uses** to ensure efficient function and convenience of users and accommodate future growth
- To determination of demographic changes in the municipality overtime and through the entire planning period and how these relates to economic changes, welfare and administrative shifts
- The provision of adequate land for recreation and open spaces
- The provision of a basis for **infrastructure and service provision** for present and projected population over the plan period
- The enhancement and promotion of **safety and security**
- Upholding **innovative civic and urban design** that enhances the character and form of the municipality
- Development of an implementation and monitoring framework for the Plan
- Provision of a basis for development control and investment decisions by preparing **short- and medium-term** plans to guide compact urban development, including action area plans, advisory or zoning plans and regulations and other reference materials

1.3 Vision Statement

The overall vision statement of the plan was developed through an intensive participatory process that included stakeholders from the local community, national and County Government Stakeholders, Development partners and Civil Society groups. The overall vision of the Plan was discussed and determined to be “A prosperous, culturally diverse and peaceful destination to live, work and invest”.

1.4 Scope of Work

The scope of the planning area covered the entire extent of the delineated Rumuruti Municipality including the demarcated township boundary covering an approximate area of 28 km² as the primary area of preference where development should be focused on within the next 10 years as contained in this Plan. The adjoining hinterland determined by

a 10 km radius from the edge of the township boundary and covering an approximate area of 780 km² being the neighbourhoods of Thome, Maundu Ni Meri, Lorien, Ndurumo, Gatundia and some parts of Salama and Sosian are seen to be the areas that will absorb the associated impacts of the growth and development of Rumuruti Municipality. The map below shows the planning area in context of the surrounding areas.

1.5 Approach and Methodology

1.5.1 Approach

During preparation of this plan, an integrated approach was adopted entailing, evidence based, strategic and participatory approaches with direct engagement of all the key stakeholders as envisaged by the Constitution of Kenya 2010, Physical and Land Use Planning Act, 2019, the County Governments Act, 2012 and the Urban Areas and Cities Act, 2011 (revised 2019). This was done with the intent of satisfying the following aims: securing the plan ownership, supporting the plan preparation and implementation, giving the local community power through active participation in the plan preparation, and subsequently obtaining knowhow of solving development challenges by coming up with viable solutions among others.

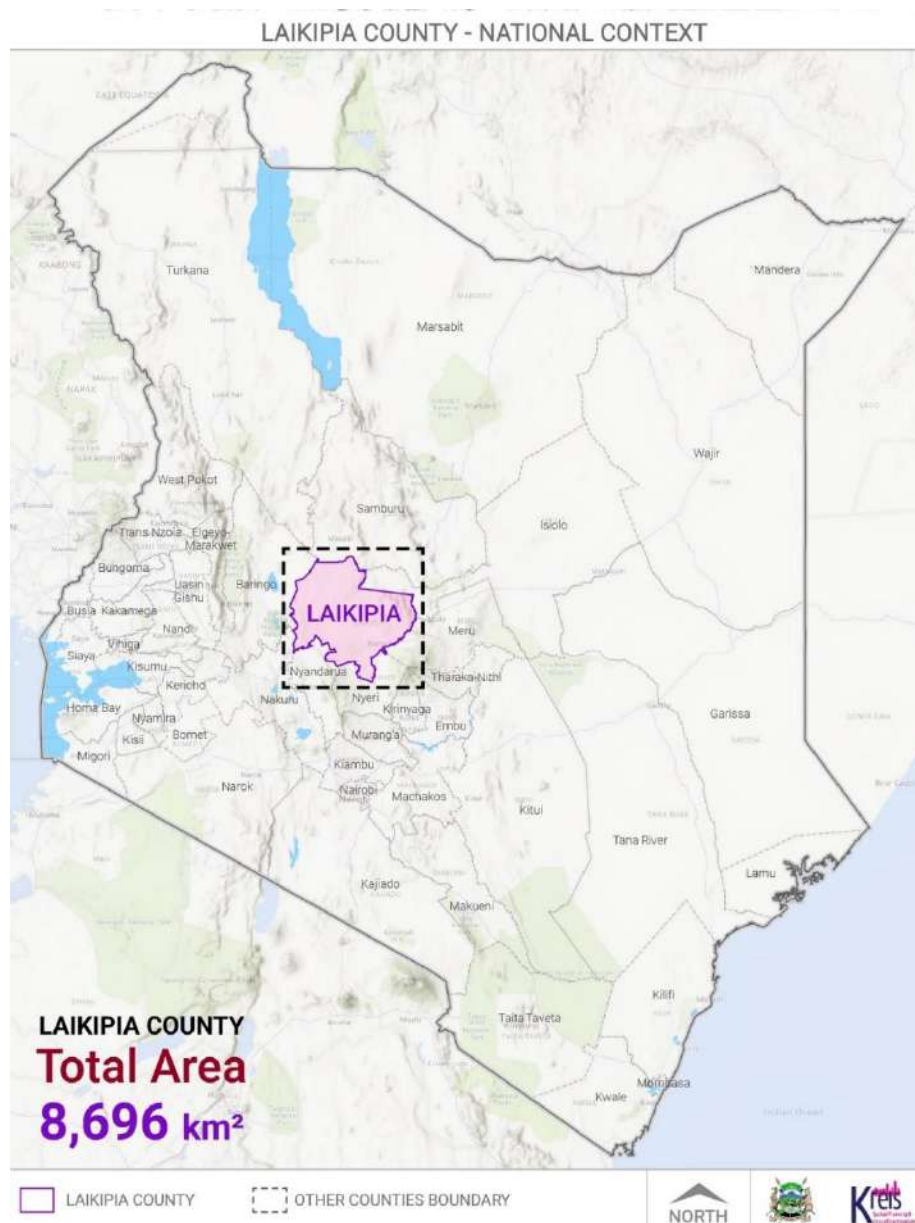
Additionally, the Integrated Approach took into consideration the physical, economic and social dimensions of development; horizontal integration, among the various sectors of public action; policies, projects and proposals were considered in relation to one another in a multi-sectoral & multi-disciplinary manner. This was enhanced through detailed field research and surveys within the municipality, coupled with in-depth data analysis and interpretation to ensure logical and rational planning outcomes were the result.

1.6 Location Context

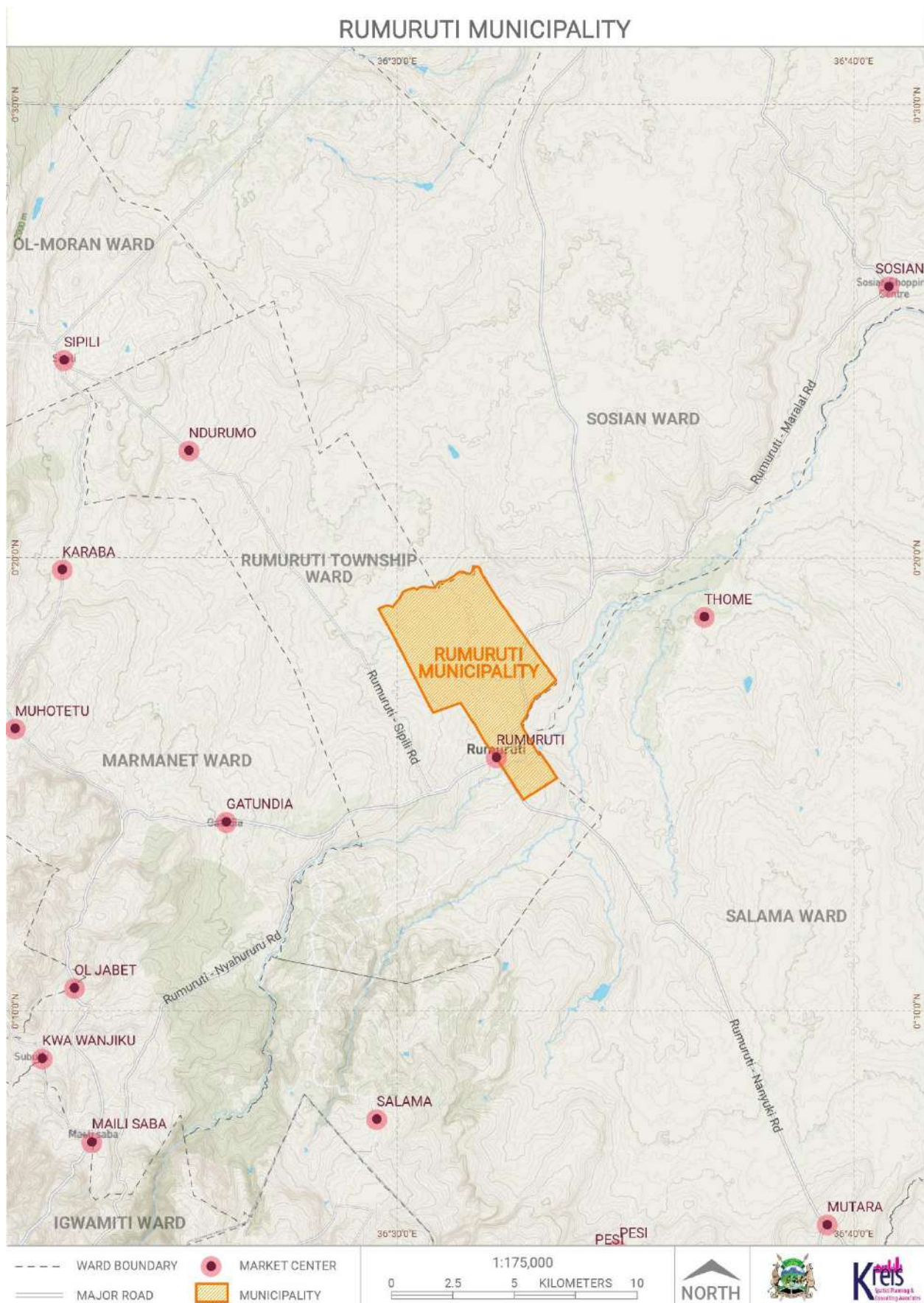
Rumuruti Municipality is located within Laikipia County. The County lies along the Equator and is bounded to the east by the lower slopes of Mt. Kenya; to the south-west by the Aberdares Ranges; and to west by the Rift Valley escarpment. Laikipia County borders Samburu County to the north, Isiolo County to the north east, Meru County to the south east, Nyeri County to the south, Nyandarua County and Nakuru County to the south west and Baringo County to the West. It lies between longitudes 36° 00' minutes and 37° 45' east and between latitude 00° degrees 30' South and 1° 00' minutes north.

Rumuruti Municipality serves as the headquarters of the County Government of Laikipia. It is located in the western end of the county within Laikipia West Sub County. It covers an area of approximately 32 km² or 3200 Ha/ 7907 acres. Although the municipality falls entirely within Rumuruti Ward, it borders Salama ward to the East and Sosian ward to the North and North East. These neighboring wards and other parts of Rumuruti Ward serve as the hinterlands of the town. The elevation of the town to a county headquarters and subsequently to a municipality has led to an increase in commercial activities and government services thus placing the town as an important urban centre. The Municipality is located approximately 80 km from Nanyuki town via the C76 Nanyuki-Rumuruti road and approximately 40 km from Nyahururu town via the C77 Rumuruti-Nyahururu road.

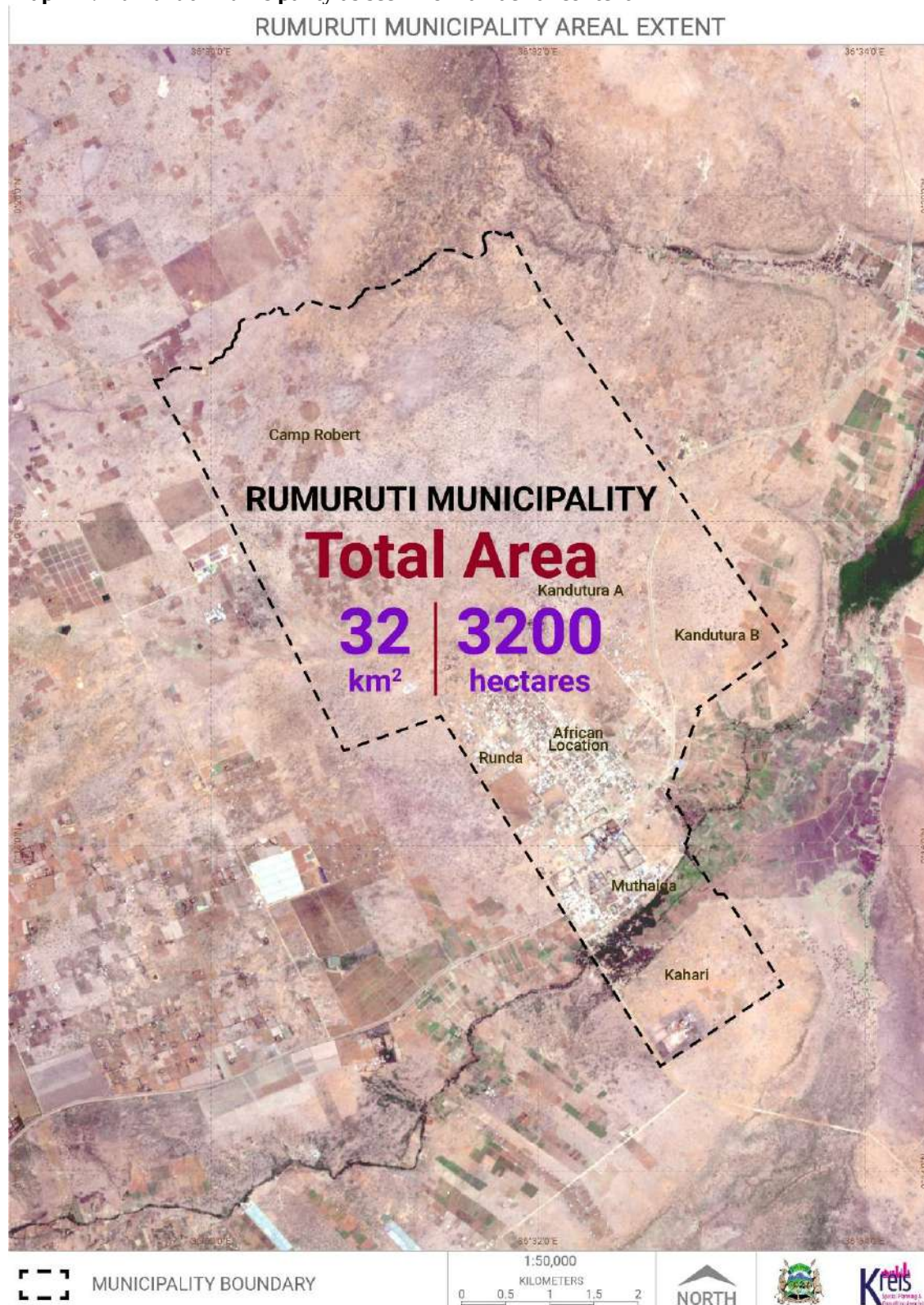
Map 1-1: Location of Laikipia County within the National Context



Map 1-3: Rumuruti Municipality within the immediate adjacent hinterland



Map 1-4: Rumuruti Municipality as seen from an aerial context



1.7 History of Rumuruti Municipality

From History, the name Rumuruti is said to have originated from the Maasai and Samburu pastoralists who occupied the area before 1772 and who referred to it as ‘*Oi Rumurut*’ (meaning a place where you go round). This is because they were forced to go around

Ewaso Narok wetland which is characterized by soft soils and flooding to access pasture for their animals on the other side. Other history indicates that an explorer Joseph Thompson who passed Rumuruti on his way to Turkana referred to the route as ‘*Remote Route*’, a name that was later corrupted by local residents who referred to it as ‘*Rumuruti*’.

In the beginning of the 19th Century, the area was taken over by British settlers during colonialization of Kenya. The Maasai Pastoralists were relocated to Narok and Kajiado to create space for the settlers. Due to the need for laborers to work on the expansive farms, the settlers were forced to seek labor from neighboring Kikuyus from the Central region and Kalenjins from the Rift Valley region. During the state of emergency in 1958, the settlers drove out the African laborers back to their rural homes out of fear. However, some African families remained behind and were moved by the settlers to African Location which still exists and forming one of the critical residential areas that has immensely contributed to the growth of the Municipality.

In addition, Rumuruti Town served as a stock route for livestock from Northern Kenya through Samburu to the railway station in Nyahururu for transportation to the Kenya Meat Commission in Nyahururu. This had a great impact on the growth of Rumuruti town alongside it hosting the colonial assembly before the local authority came into existence.

In 2013, Rumuruti was proposed to be the County Headquarters for Laikipia County given its central Location and easy access from all parts of the County. This proposal was adopted by the Laikipia County Assembly in 2015. Following this move, the population growth of the Municipality has continued to rise and expected to rise exponentially upon full relocation of County functions from Nanyuki town. The Town was conferred a municipal charter in 2018 confirming its status to a fully-fledged municipality with a functional Municipal Board composed of 12 members selected in accordance with UACA, 2011.

1.8 Previous Planning Interventions and Projects

1.8.1 Approved Rumuruti Development Plan No. 35 of 2013

There exists an approved Plan No. 35 for Rumuruti Town that was prepared in 2012 and approved in 2013. The plan has largely dictated the spatial layout of the town, it was established during the reconnaissance survey that new developments in the CBD, Kandutura and African location have failed to adhere to this plan thus resulting to re-planning and regularization for these centres. Concerns were also raised on compatibility

of proposed Land Uses by the plan and their respective land sizes. On the onset of all these and considering new governance and urban management structures, it was imperative to have the Municipality town replanned as a way of coordinating and guiding development in the short- and long-term period as anticipated by the Plan.

1.8.2 Subdivision Schemes

Subdivision remains the most common form of plans affecting private land in Rumuruti. Some of the subdivisions have in the past not been prepared and or approved procedurally. This creates a constraint to proper planning and development management. There is need to adhere to the set guidelines and procedures so as to effectively manage the subdivision of land in the municipality.

1.8.3 Part Development Plans (PDPs)

The Bulk of the planning work in Rumuruti Municipality and the larger Laikipia County was through preparation of PDPs by the Physical Planning Department. PDPs were meant to set aside land for various land uses ranging from commercial, residential, industrial and other public purposes which was later allocated to individuals, National Government institutions and parastatals.

For a PDP to be prepared, formal request was made by the then local authorities to the director of the physical planning who had the power to initiate the preparation process. The PDPs were circulated to different government agencies for comments after preparation. The agencies included the District surveyor, District land office, District Public Health Officer, District environmental officer, District roads officer and other relevant agencies depending on the type of development. After recommendations, the commissioner of lands then approved the PDPs and letters of allotment issued as development proceeded. Unfortunately, many of land registration process in Laikipia County were not completed and some of the plots do not have titles. Lack of secure land tenure arising from the above is one of the challenges facing Rumuruti Municipality. The PDPs were also not well coordinated by way of long-term development creating an un-coordinated growth of the town. This also created shortage of public spaces within the town as they are subject to land grabbing from fraudulent individuals.

1.8.4 Housing Upgrading Project in Kandutura

A housing upgrading project in Kandutura by an NGO- Habitat for Humanity targeted 40 needy households in the village for upgraded 1 bedroom housing units. The project was a success and some locals were also trained in skills such as using machines for interlocking bricks. Such initiatives, though government led are highly proposed in the future within the proposed residential areas in the Plan.

Plate 1-1: A manyatta housing typology in Kandutura Settlement before the settlement initiative (A) and an upgraded housing unit in the same settlement (B)

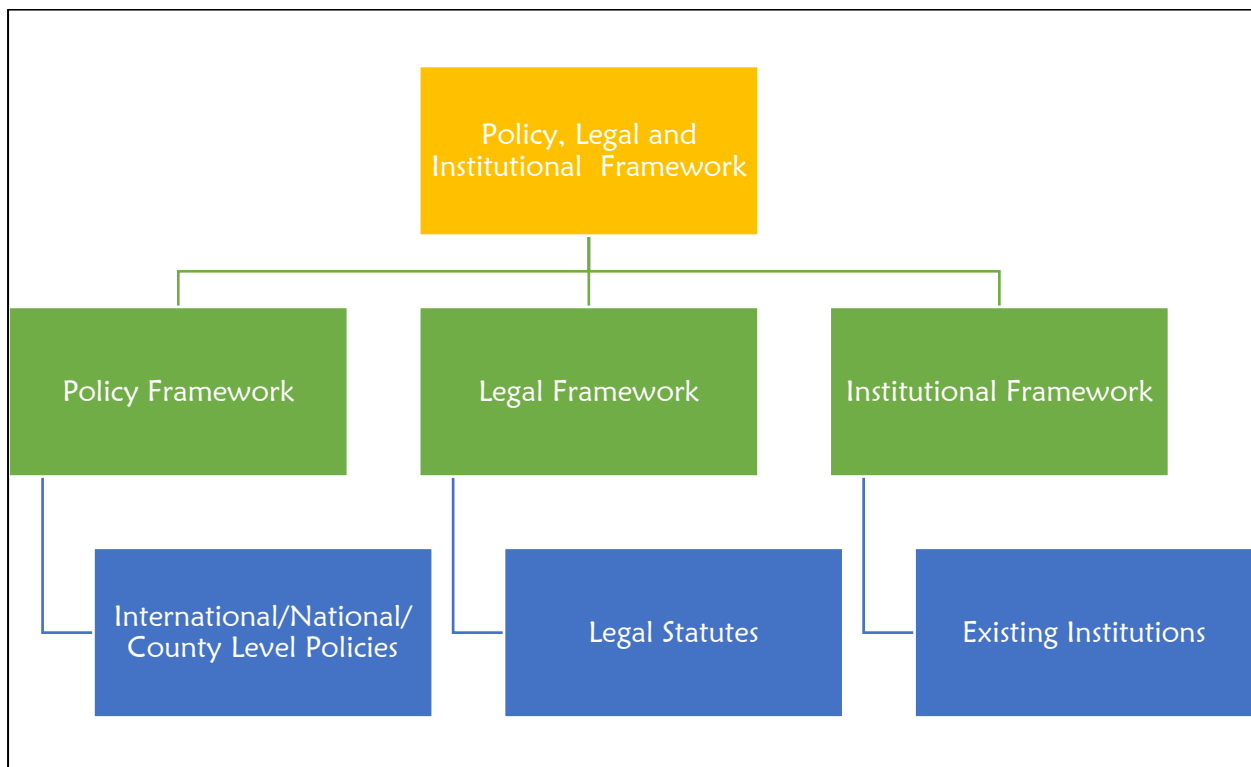


Source: CGL, 2020

1.9 LEGAL & POLICY FRAMEWORK

The preparation of this Plan was based on existing policies, legal and institutional frameworks in Kenya. The frameworks provide guidelines for plan implementation hence critical for the entire planning process. Both global and national policy frameworks were interlinked to ensure the plan is inclusive and responsive both locally and internationally. This is illustrated in the figure below.

Figure 1-1: Legal and Institutional Frameworks



1.10 Policy Framework

1.10.1 International Policies

1.10.1.1 The New Urban Agenda

The New Urban Agenda provides a clear strategy for building of modern cities that can act as economic drivers by being engines of prosperity, centres of socio- cultural wellbeing and inclusion while at the same time promoting environmental protection. The Agenda provides a framework towards achieving the Sustainable Development Goals and action points on addressing global climate change. In addition to that, it provides a framework for urban planning and design, urban policies, rules and regulations to promote financial independence in municipalities for effective governance and administration.

1.10.1.2 Sustainable Development Goals (Goal 11)

The Sustainable Development Goals (SDGs), were adopted by all United Nations Member States (of which Kenya is a member) in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGs are integrated, that is; they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

Sustainable Goal 11 seeks to make cities and human settlements inclusive, safe, resilient and sustainable. It is projected that by 2050, two-thirds of the world population will be living in urban areas. To sustainably manage such transformation, it equally calls for radical transformation on the way we build and manage our urban spaces. Such efforts will involve consideration of public transport network infrastructure, creating green public spaces/sharing public spaces, improving urban planning and management in participatory and inclusive ways.

This Integrated development Plan for Rumuruti Municipality should aim to achieve the following SDG objectives:

- Ensuring access for all to adequate, safe and affordable housing and basic services and upgrade slums
- Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport.
- Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management
- Reducing the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
- Providing universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
- Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
- Substantially increasing the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters,
- Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local material

1.10.2 National Policies

1.10.2.1 Kenya vision 2030

The Kenya Vision 2030 is the country's long term development blueprint covering the period from 2008 to 2030. Its vision for housing and urbanization is - an adequately and decently housed nation in a sustainable environment. Section 5 of the Vision-The Social

Strategy: Investing in the People of Kenya, subsection 5.5-housing and urbanization; the vision acknowledges that Kenya will be a predominantly urban country by 2030 (following the prevailing population and demographic trends, and that more than half of our nation's population is likely to be residing in urban areas at that time). Therefore, Vision 2030 is in direct harmony with this plan which aims at ensuring sustainable land use management for Rumuruti Municipality.

1.10.2.2 Kenya National Spatial Plan, 2015

This is a national Plan for the Country that covers a period of 30 years from 2015 to 2045. It aims at addressing land use issues, environmental and socio economic issues in order to achieve sustainable and balanced spatial development and optimal land use across the country. It aims at achieving an organized, integrated, sustainable and balanced development of the country, hence informing the future use and distribution of activities by providing a framework for better national organization and linkages between different activities within the national space. The plan is also a coordinating framework for various sectors involved in spatial planning and implementation. The National Spatial Plan forms the basis upon which lower-level plans in the country, shall be prepared which include Regional Plans, County Spatial Plans and Local Physical and Land Use Development Plans. Preparation of the Development Plan for Rumuruti Municipality is in line with the objectives of the National Spatial Plan which includes;

- To ensure optimal utilization of natural resources including land for sustainable development
- Creation of livable and functional human settlements in rural and urban areas
- To secure the natural environment for high quality of life.

Furthermore, in line with these objectives, preparation of this planning will be guided by planning principles such as effective public participation, compact center which entail delineating project area boundaries, smart and green urban growth to promote health and aesthetics, sustainable development for posterity, livability and efficiency among others.

1.10.2.3 Big Four Agenda

The Big 4 Agenda was adopted by the National Government to identify key sectoral areas that would be prioritized in resource allocation.

The four sectoral areas mentioned included:

- Affordable Housing.
- Food Security
- Manufacturing
- Universal Healthcare

The Urban Development Plan for Rumuruti Municipality will provide strategies that will aim towards achieving the agenda

1.10.2.4 National Land Use Policy (Sessional Paper No. 1 of 2017)

This is a statement that sets out long term goals on proper land use management in Kenya. It aims at addressing critical issues that relate directly to utilization of land as a limited resource as well as its related resources. It also identifies human activities that have a direct impact on utilization of land and its resources.

The policy provides for the following;

- Land and related conflicts
- Land Use planning to enhance sustainable development
- Legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels.
- Categorization of land uses in the country.
- Preparation and review of a national spatial plan and integration of various levels of land use planning
- Advocates for the development of land use plans for the country with full participation of all stakeholders and strict adherence to them enforced.
- Promoting environmental conservation and preservation

1.10.2.5 National Land Policy (Sessional paper No. 3 of 2009)

This policy provides a framework for land use planning at the county level and the accompanied achievements. It is through this framework that the development plan will provide the following;

- A basis upon which other related municipality plans will be prepared i.e. for Nyahururu and Nanyuki

- A framework for planning and management of land in urban areas
- Comprehensive zoning guidelines and regulations for development control.

1.10.2.6 Other Policies

Other policies that will guide preparation of this plan include the Rumuruti Municipality IDeP 2018-2019, Rumuruti Municipality Strategic Plan (2020- 2024), Rumuruti Municipal Charter, Rumuruti Municipality Customer Service Charter and the Laikipia County Integrated Development Plan 2018-2022 (CIDP)

1.11 Legal Framework

1.11.1 The Constitution of Kenya 2010

Article 66 of the constitution of Kenya (2010) advocates for the role of the state in land use planning. Preparation of an Integrated Urban Development Plan for Rumuruti Municipality aims at generation of the most suitable land use plan for Rumuruti Municipality that will ensure sustainable land use management. Under Schedule 4 of the Constitution, County Governments have been tasked with undertaking County Planning and development including land survey and mapping; boundaries, fencing and housing

Other provisions of the constitution that will guide preparation of this plan include;

- Article 61 (1) (2) - describes land classification in Kenya
- Article 63 - guarantees the rights of communities to their lands and territories. It states that community land consists of land lawfully held, managed or used by specific communities as community forests, grazing areas or shrines and that it includes ancestral lands
- Articles 42 and 70 of the constitution advocates for environmental protection. During preparation of the plan, all environmentally fragile areas will be mapped and zoned to ensure present and future protection from encroachment.
- Article 174 - outlines principles of promoting socio-economic development and provision of proximate and easily accessible services which equally depend on proper planning, development and management of utilization of resources.

Moreover, using the participatory approach as enshrined in the constitution, the community shall be actively engaged during the entire planning period to enhance

ownership of the plan by the local community as well as incorporation of the vision, needs and desires of the residents in the resultant plan.

1.11.2 The Physical and Land Use Planning Act No. 13 of 2019

The Physical and Land Use Planning Act is the principal law that guides planning activities in Kenya, and upon which this plan is anchored.

Part III of the act delves into the various types of plans and respective procedures for their preparation. Specifically;

Section 45. Preparation of Local Physical and Land Use Development Plan

(1) A county government shall prepare a local physical and land use development plan in respect of a city, municipality, town or unclassified urban area as the case may be.

(2) A Local Physical and Land Use Development Plan may be for long-term physical and land use development, short-term physical and land use, development, urban renewal or redevelopment and for the purposes set out in the Second Schedule in relation to each type of plan.

(3) A local physical and land use development plan shall be consistent with an Integrated City or Urban Development Plan as contemplated under Part V of the Urban Areas and Cities Act, 2011 (No. 13 of 2011)-Revised.

Section 46. Purpose of a Local Physical and Land Use Development Plan

The act outlines that a county government shall prepare a local physical and land use development plan for—

- (a) Zoning, urban renewal, or redevelopment;
- (b) Guiding and co-ordinating the development of infrastructure;
- (c) Regulating the land use and land development;
- (d) Providing a framework for coordinating various Sectoral agencies; and
- (e) Providing a framework and guidelines on building and works development in the city, municipality, urban area, or other smaller urban centres including local centres, and market centres.

Section 47. Initiation and preparation of local physical and land use development Plan

The act outlines that the preparation of a local physical and land use development plan may be initiated by the County Executive Committee Member (CECM) in charge of the relevant Physical planning department.

49. Notice of, objections and approvals to a Local Physical and Land Use Development Plan

(1) Within thirty days of the preparation of a local physical and land use development plan, a county planning authority shall publish a notice in the *Gazette*, in at least two newspapers of national circulation and through electronic media informing the public that the plan is available at the places and times designated in the notice for inspection and that an interested person may comment on the content of the plan.

(2) The provisions of section 40 relating to the making of representations or objections to the county physical and land use planning liaison committee concerning county physical and land use development plans and to the consideration by the committee of such representations or objections and to appeals shall apply *mutatis mutandis* to this section.

(3) The provisions of section 41 relating to the approval or disapproval of a county physical and land use development plan shall apply *mutatis mutandis* to the approval or disapproval of a local physical and land use development plan.

The other crucial sections of the act in relation to preparation of this plan include; sec.48- Contents of a Local Physical and Land Use Development Plan, sec.50 Publication of Local Physical and Land Use Development Plans and sec.51- Amendment or Revision of Local Physical and Land Use Development Plan.

1.11.3 County Government Act, 2012

This is an Act of parliament that gives effect to principles of planning and development at county level. Part XI of the act indicates the need for protection of rights to self-fulfillment with responsibility to future generations, provide a platform for unifying planning, programme implementation and performance review.

The act also provides objectives for county planning to ensure harmony between national, county and sub-county spatial planning requirements facilitate the development of well-

balanced system of settlements and ensure productive use of scarce land, harmonize the development of infrastructure and related services.

Section 110 of the act spells out that there shall be a ten-year county GIS based database system spatial plan for each county, which shall be a component part of the county integrated development plan providing: —

- A spatial depiction of the social and economic development programme of the county as articulated in the integrated county development plan;
- Clear statements of how the spatial plan is linked to the regional, national and other county plans
- Clear clarifications on the anticipated sustainable development outcomes of the spatial plan.

The spatial plan shall contain strategies and policies regarding

- The manner in which indicated desired patterns of land use should be carried out and address the spatial construction or reconstruction,
- Provide strategic guidance in respect of the location and nature of development
- Shall indicate where public and private land development and infrastructure investment should take place

As stipulated in subsection (b), preparation of this plan shall be in line with the County spatial plan which at the same time relates to the Kenya National Spatial Plan.

For subsection (c), the resultant integrated plan shall clearly provide the spatial distribution of the land uses in the municipality, indicate where the infrastructure networks and facilities will be located and at the same time provide for the strategies for implementation of the approved plans.

1.11.4 Urban Areas and Cities Act (amendment), 2019

This plan establishes a legislative framework for classification of areas as urban areas or cities, governance and management of urban areas and cities and participation by the residents in the governance of urban areas and cities.

The statute establishes City, Municipalities and Town Management Committees to oversee the affairs of the city or municipality such as;

- Develop and adopt policies, plans, strategies and programs.
- Formulate and implement an integrated development plan
- Control land use, land sub-division, land development and zoning by public and private sectors for any purpose within the area of jurisdiction.
- Formulate a Framework of the spatial and master plans for the city or municipality.
- Promote and undertake infrastructural development and services within the city, municipalities or towns
- Administer and regulate its internal affairs

It is through this legislation that the Rumuruti Municipal Board was established and draws its mandate. Section 36 of this Act stipulates that every City or Municipality established under this act shall operate within the framework of integrated development planning. Further, Section 38 mandates cities and urban areas to prepared Integrated Cities or urban development plans, thus, this Plan was envisaged.

Section 37 dictates that the integrated development plan should be aligned to the development plan and strategies of county governments- This plan will align to the policies and strategies of County Government of Laikipia including the CIDP and the County Spatial Plan.

Sections 39, 40, 41 and 42 provide guidelines on adoption of the integrated development plan by the municipal board, contents of the Integrated Urban Development plans, Submission of the plan for approval and annual review of the plan.

1.11.5 The National Land Commission Act, 2012

This Act states the mandates and powers of the National Land Commission such as; to monitor and oversee responsibilities over land use planning throughout the country- It is in the backdrop of this mandate that the National Land Commission has been actively involved throughout the preparation of this plan. Moreover, this act provides for the management and administration of public, private and community land in accordance with land policy principles. It provides a linkage between the commission, county government as well as other key institutions in the land sector.

1.11.6 Environmental Management Coordination Act, 2012

The Environmental Management and Coordination Act, 2012 (EMCA) provides for the establishment of an appropriate legal and institutional framework and procedures for management of the environment. It provides regulations for the conservation and sustainable use of resources on wetlands, riverbanks and land for the benefit of the people and communities living in the area. This Act also offers preliminary provisions for the regulation of solid waste, industrial waste, hazardous wastes, pesticides and toxic substances, biomedical wastes and radioactive substances. Most of the provisions made by the act were considered during formulation of the Plan.

1.11.7 Land Act, No. 6 of 2012

The Act provides for power to revise, consolidate, and rationalize land laws as well as provide for the sustainable administration and management of land and land-based resources.

1.11.8 Agriculture Fisheries and Food Authority Act, 2013

The Agriculture Fisheries and Food Authority Act, 2013 provides for the establishment of an Agriculture Fisheries and Food Authority. It also provides for the development of policy guidelines by the authority on preservation, utilization and development of agricultural land and related matters as was advanced in the Plan.

1.11.9 Energy Act, 2006

This Act promotes the generation and use of renewal energy and energy efficient technology.

1.11.10 Water Act, 2002

The Water Act, 2002 provides for sustainable management, conservation, use and control of water resources.

1.12 Regulatory Framework

1.12.1 The Physical Planning Handbook (2007)

The Physical Planning Handbook provides guidelines and standards for the planning process and practice. Preparation of this plan for the municipality will be guided by the guidelines, standards, methodologies and planning considerations as provided by the Handbook.

1.12.2 Building by Laws -1968 (The Building Code Book)

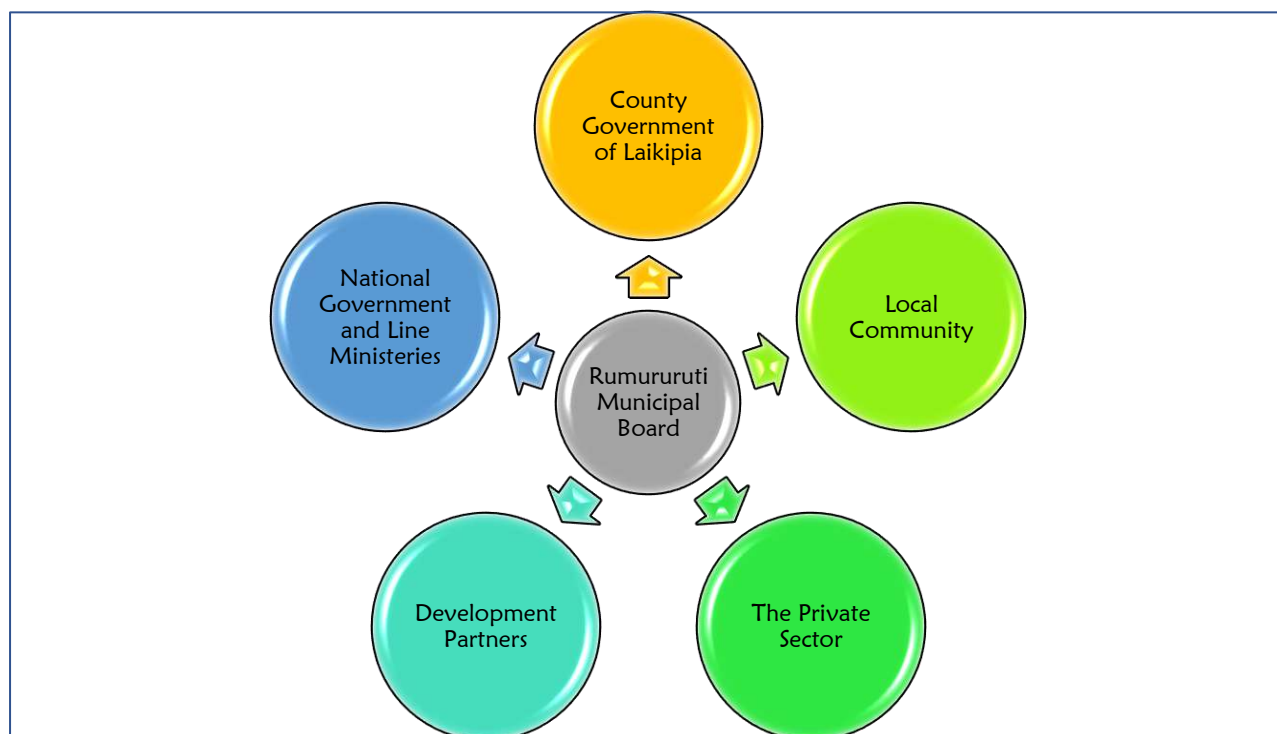
The Building Code (1968) outlines the building laws and regulations. It includes building standards to be observed on any development to take place, siting and spaces between houses, means of access to plots, building lines, building materials. Provisions of this code will be key considerations during plan preparation and implementation.

1.13 Institutional and Governance Framework

Successful Implementation of this plan will be determined by the institutional and governance framework. A sound and effective institution will provide necessary guidance, input and support during the plan preparation and implementation. It is important to analyze the capacities and capabilities of existing governance institutions to establish the implement ability of this plan. These institutions include; The National and County Government, Private Sector Organizations and Civil Society Groups including NGOs and CBOs who can work in a coordinated and transparent manner to ensure the projects and strategies identified by the plan are implement to the latter.

Figure 6 below illustrates the Key Institutional actors that will be involved in the preparation and implementation of this plan.

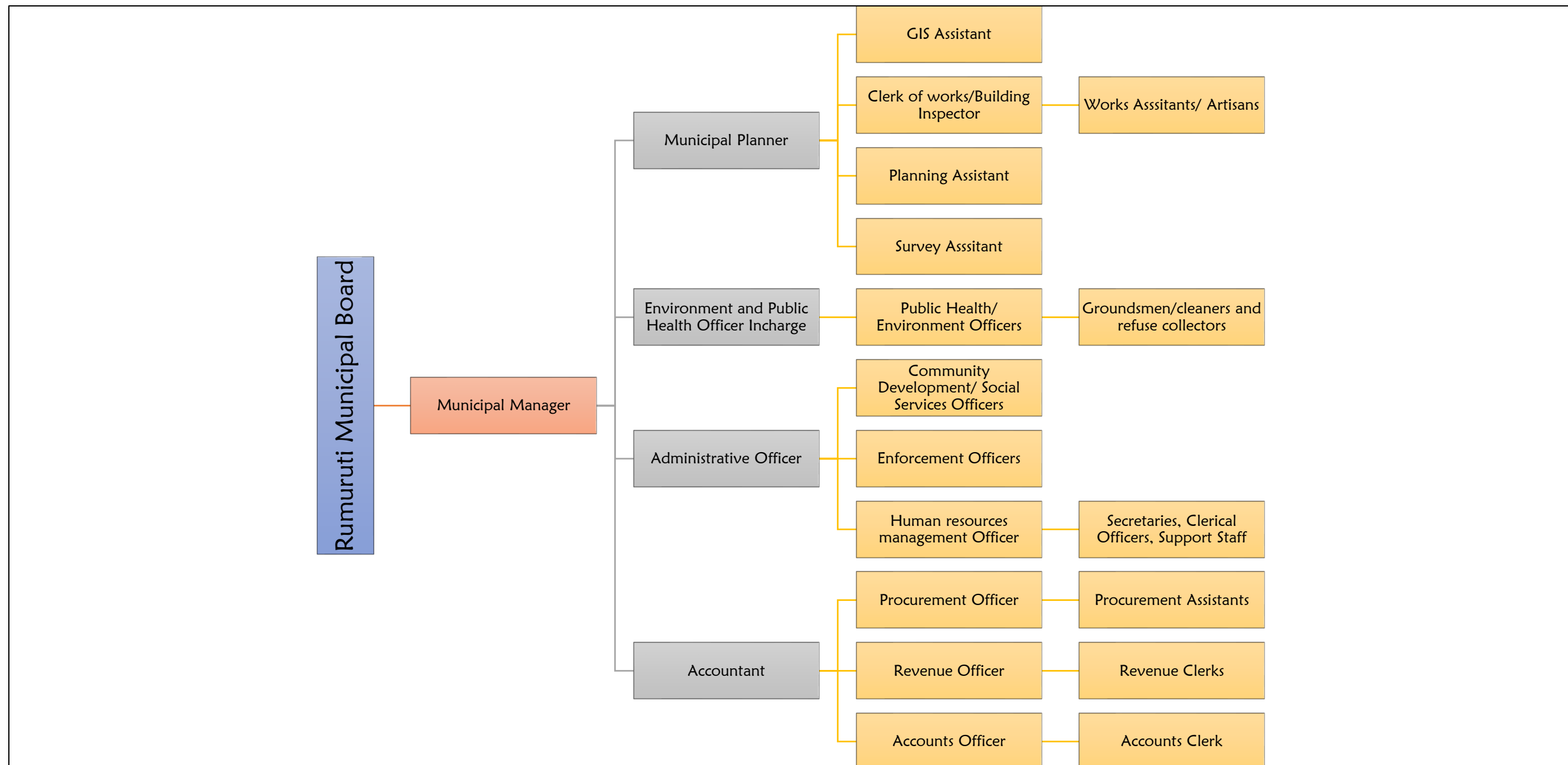
Figure 1-2: Institutional Framework



The Rumuruti Municipal Board remains the key player in the preparation and Implementation of this plan as envisaged in the Urban Areas and Cities Act 2019. The Municipal Board is tasked with;

- Overseeing the day-to-day affairs of the Municipality
- Formulation and implementation of integrated development plans,
- Development Control within the municipality
- Promoting infrastructural development, implementation of applicable national and county legislations, and collection of rates, taxes, levies, duties, fees, and surcharges on fees
- Promoting a safe and healthy environment in the municipality.

Figure 1-3: Rumuruti Municipal Board Organogram



Source: CGL, 2021

1.13.1 Institutional Framework and Roles

Table 1-1: Institutional Framework and Roles

INSTITUTION	ROLE IN THE PLANNING PROCESS
County Government of Laikipia	▪ The County Government of Laikipia through the office of the Governor appoints and funds a municipal management board for Rumuruti Municipality ▪ Land use planning function as delegated by the County Governments (Constitution, CGA, PLUPA) ▪ County Governments are tasked with Preparation of plans in respect of a city, municipality, town or unclassified urban area as the case may be. ▪ County Assemblies are mandated with final approval of the Plan
National Government Ministry of Lands and Physical Planning	▪ Oversees formulation of nationwide policies to guide physical planning ▪ The ministry is also in charge of provision of advisory and National Physical Planning services, general principles on land planning and coordination of planning by counties in terms of policies, standards and guidelines and technical assistance and capacity building for counties on Physical Planning matters
National Land Commission	▪ NLC is mandated with managing public land on behalf of the National and County Governments ▪ NLC oversees and monitors land use planning nationwide on behalf of National and County Governments ▪ NLC will also play a critical role in encouraging the application of traditional dispute resolution mechanisms in land conflicts that may arise.
Other government agencies and Parastatals (NEMA, WRA, KENHA, KURRA, KWS)	▪ They provide functions not devolved relevant to the growth of the municipality ▪ The Plan will incorporate all project initiatives and policies by relevant government agencies and parastatals
Local Administration (Area chief, Community Elders, Ward Admin)	▪ Mobilization and sensitization of the project to the community. ▪ Offer alternative dispute resolution mechanisms at the local level.
Area MCA	▪ The MCA as the people's representative was crucial in this project for political good will ▪ The MCA will be crucial in following up the plan approval process in the Laikipia County Assembly

INSTITUTION	ROLE IN THE PLANNING PROCESS
CBOs and NGOs	- Assist in identification of community priority needs during plan preparation - Empowerment of vulnerable groups such access to land rights through group efforts - They play a critical role in community mobilization and sensitization
Faith Based Organizations	- They are also direct beneficiaries of the project - They play a critical role in community mobilization and sensitization - Offering venue halls for the project meetings
Development Partners/ stakeholders	- Development partners are incurably becoming champions for sustainable urbanization as identified in the SDGs. - They have the potential to fund, implement and monitor/advocate for accountability form relevant authorities in urban management.
Local Community	- Will participate actively in the plan preparation and validation process - Implementation of the plan proposals will directly benefit the community members

Source: CGL, 2021

1.14 Emerging Issues

Table 1-2: Emerging Issues under Policy, Legal and Institutional Framework

Sector	Opportunities	Constraints	Strategies
Policy and Legal Framework	Existing legal frameworks to guide and support preparation of the plan for the municipality	Lack of harmony between existing legislations	Review of existing policies and legal frameworks
Institutional Framework	- Willingness by stakeholders to participate in the planning process - Political goodwill by local leadership	Non- Enforcement of existing policies due to corruption, low capacity	- Formulation of enforcement monitoring body accountable to the County department of Physical Planning - Empowering the municipality enforcement department through resource allocation

Sector	Opportunities	Constraints	Strategies
		Political interference in the planning process, infrastructure development and financial allocation	Promote transparency and independency in decision making
		▪ Poor coordination of past and current land use planning interventions by both public and private actors ▪ There is corruption in public offices which makes it hard to receive services ▪ Ensure security of whistle blowers especially in corruption related issues	Coordination of relevant actors in public delivery
		Low levels of public awareness on ongoing projects and application of legal and policy frameworks	▪ The plan should recommend that development budgets should start at the ward level with vibrant public participation exercise ▪ Each ward to elect development committee to participate in resource allocation

2SITUATIONAL ANALYSIS

2.1 NATURAL ENVIRONMENT

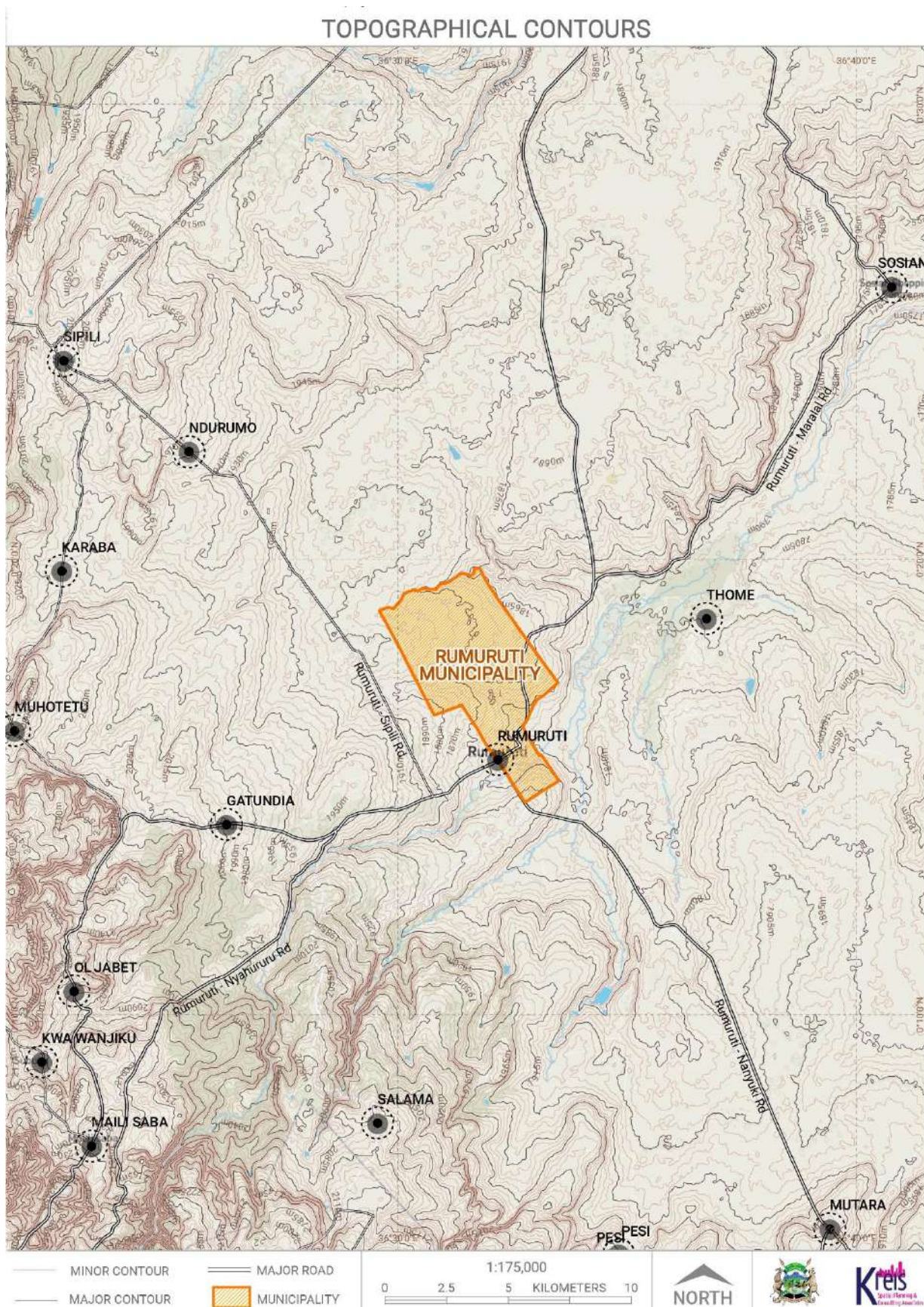
2.1.1 Physiographic Characteristics

All development activities take place in space, as such, the proper understanding and analysis of the environmental character of the surrounding is important in the planning process. The physical environment provides both challenges and opportunities that requires to be taken into consideration to ensure sustainable development of Rumuruti Municipality.

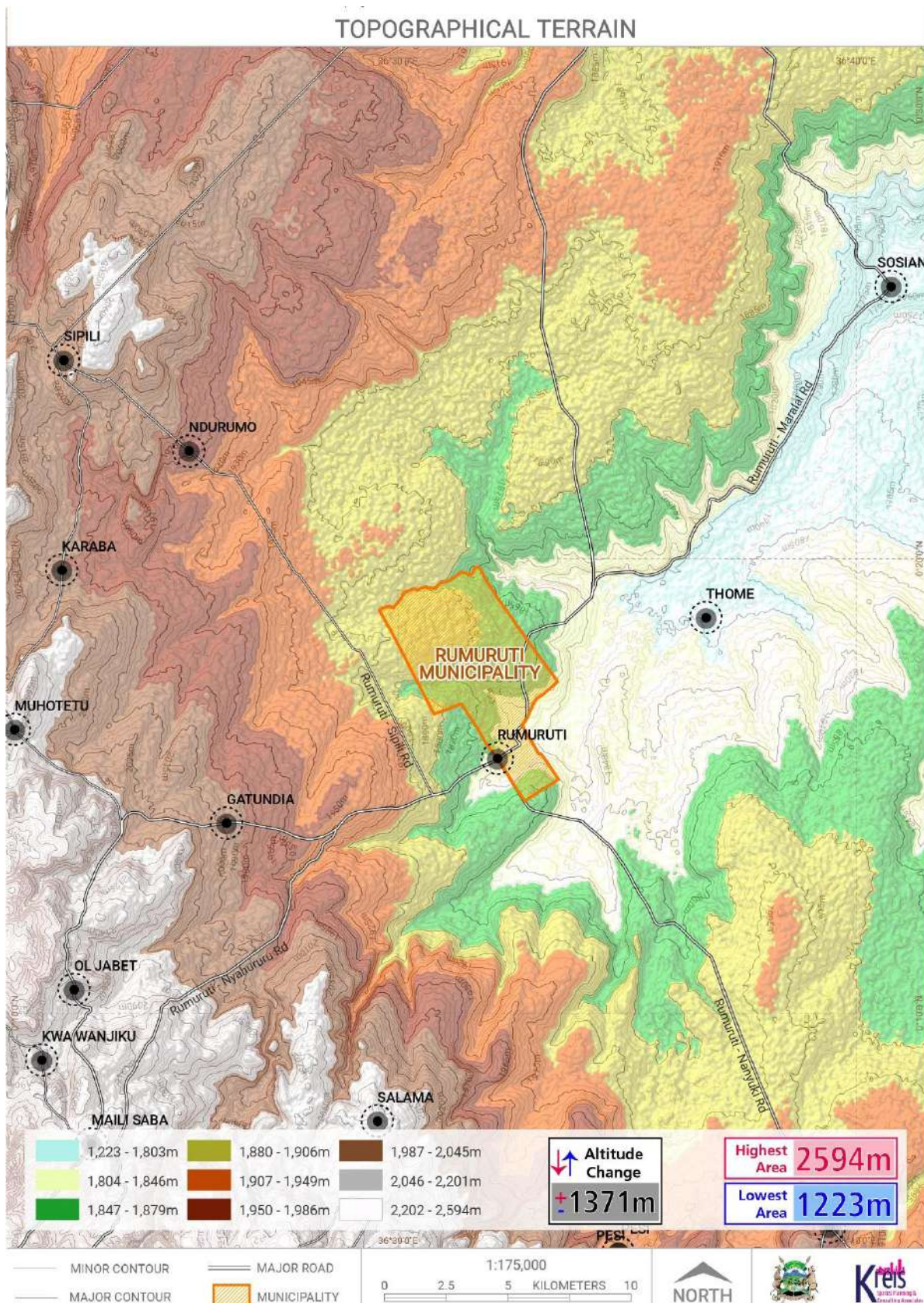
2.1.1.1 Topography and Drainage

Rumuruti Municipality is located within the Laikipia plateau that is characterized with rolling low hills and altitude ranging between 1200m-2,600 m above sea level. The plateau is dissected by two main rivers namely Ewaso Narok and Ewaso Ng'iro. The former traverses the Municipality along the south-eastern section. Altitude within Rumuruti ranges between 1830 m and 1900 m above sea level with the lowest being around the Ewaso Narok River and swamp as detailed and shown in maps 2-1 and 2-2).

Map 2-1: Digital topographical contouring profile for Rumuruti Municipality and adjacent areas



Map 2-2: Digital terrain model for Rumuruti Municipality and adjacent areas



2.1.2 Climate

2.1.2.1 Rainfall

Rumuruti Municipality and its environs have two main rainy seasons that correspond with the influence of the Inter-Tropical Convergence Zone (ITCZ), which also comes twice a year. The long rains fall between March and May while short rains are experienced in October and November. According to the Köppen and Geiger climate classification system, the area falls within temperate oceanic climate (warm *Cfb*) receiving an average of 894mm per annum. This is validated by data from the Rumuruti rainfall station, which has recorded an average mean rainfall of 835mm for the last 10 years.

Table 2-1: Mean annual rainfall

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	Averages
Mean Rainfall	1,342	822	1156	554	713	849	685	723	774	727	8,345	834.5

Source: Adopted from Kenya Meteorological Department, 2020

2.1.2.2 Temperature

The average mean temperatures in Rumuruti is about 18.3°C-19°C. Temperatures are highest in the months of January to mid-March before the rainy season and lowest in the months of July to August. Evaporation exceeds rainfall in most of the areas resulting in widespread moisture deficits within the Municipality and County as whole.

The table below provides a monthly average of different weather parameters for Rumuruti.

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C	18.4 °C	19.2 °C	19.6 °C	19.2 °C	18.8 °C	18 °C	17.2 °C	17.1 °C	18 °C	18.4 °C	17.5 °C	17.7 °C
(°F)	(65.1) °F	(66.6) °F	(67.3) °F	(66.6) °F	(65.8) °F	(64.4) °F	(63) °F	(62.9) °F	(64.4) °F	(65.1) °F	(63.5) °F	(63.8) °F
Min. Temperature °C	12 °C	12.3 °C	13 °C	13.9 °C	13.7 °C	12.9 °C	12.3 °C	12.2 °C	12.1 °C	13 °C	13.3 °C	12.6 °C
(°F)	(53.6) °F	(54.2) °F	(55.5) °F	(57.1) °F	(56.6) °F	(55.3) °F	(54.2) °F	(53.9) °F	(53.8) °F	(55.4) °F	(55.9) °F	(54.7) °F
Max. Temperature °C	24.7 °C	26 °C	26.1 °C	25.1 °C	24.4 °C	23.5 °C	22.4 °C	22.4 °C	23.8 °C	24 °C	22.6 °C	23.3 °C
(°F)	(76.5) °F	(78.7) °F	(79) °F	(77.2) °F	(75.9) °F	(74.2) °F	(72.3) °F	(72.3) °F	(74.9) °F	(75.2) °F	(72.6) °F	(73.9) °F
Precipitation / Rainfall	30	22	43	91	81	92	130	130	61	74	92	48
mm (in)	(1.2)	(0.9)	(1.7)	(3.6)	(3.2)	(3.6)	(5.1)	(5.1)	(2.4)	(2.9)	(3.6)	(1.9)
Humidity(%)	57%	52%	55%	64%	64%	65%	69%	70%	61%	62%	73%	67%
Rainy days (d)	4	3	5	9	9	10	12	12	6	8	12	7

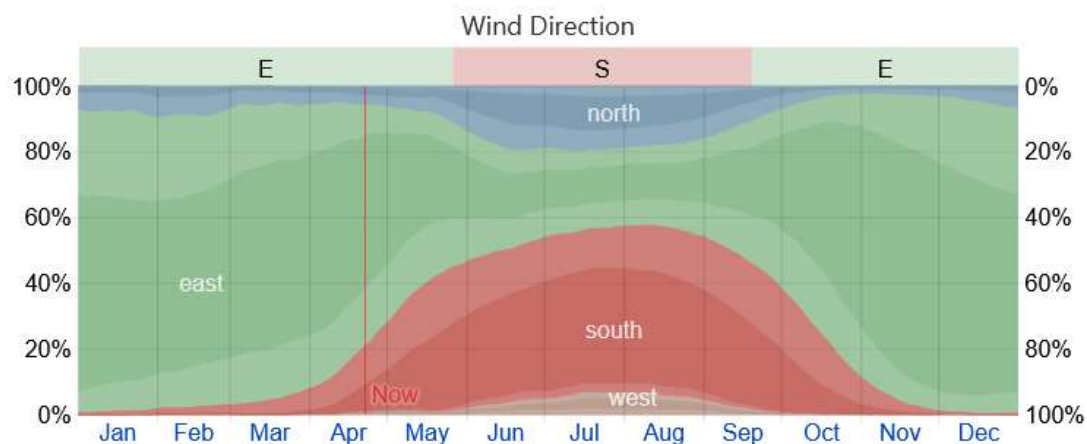
Source: climate-data.org

In general, Rumuruti Municipality falls within agro-climatic zone 4 and 5 which is suitable for ranching and growing of drought resistant crops such as barley and sorghum. This zone is also characterized by dry land natural vegetation. The average annual rainfall varies from 600 – 800 mm with altitude between 1800 – 2200 m above sea level.

2.1.2.3 Wind

Rumuruti Municipality experiences significant seasonal variation in wind speed throughout the year. The windier part of the year lasts for about 6 months, with average wind speeds of more than 11.7 Km/hour. The wind is most often from the south for 4 months, from May to September, with a peak percentage of 51% in August. The wind is most often from the east for the remaining 8 months, with a peak percentage of 92% in January.

Table 2-2: Monthly wind direction for Rumuruti



Source: weatherspark.com.

2.1.2.4 Solar

The planning area receives adequate solar insolation throughout the year owing to its location along the equator. It receives an average of 8 hours of sunshine in a day. This presents potential for use of solar as an alternative energy source. Presently, households that are not connected to the national grid rely on solar for lighting at the household level.

2.1.2.5 Geology

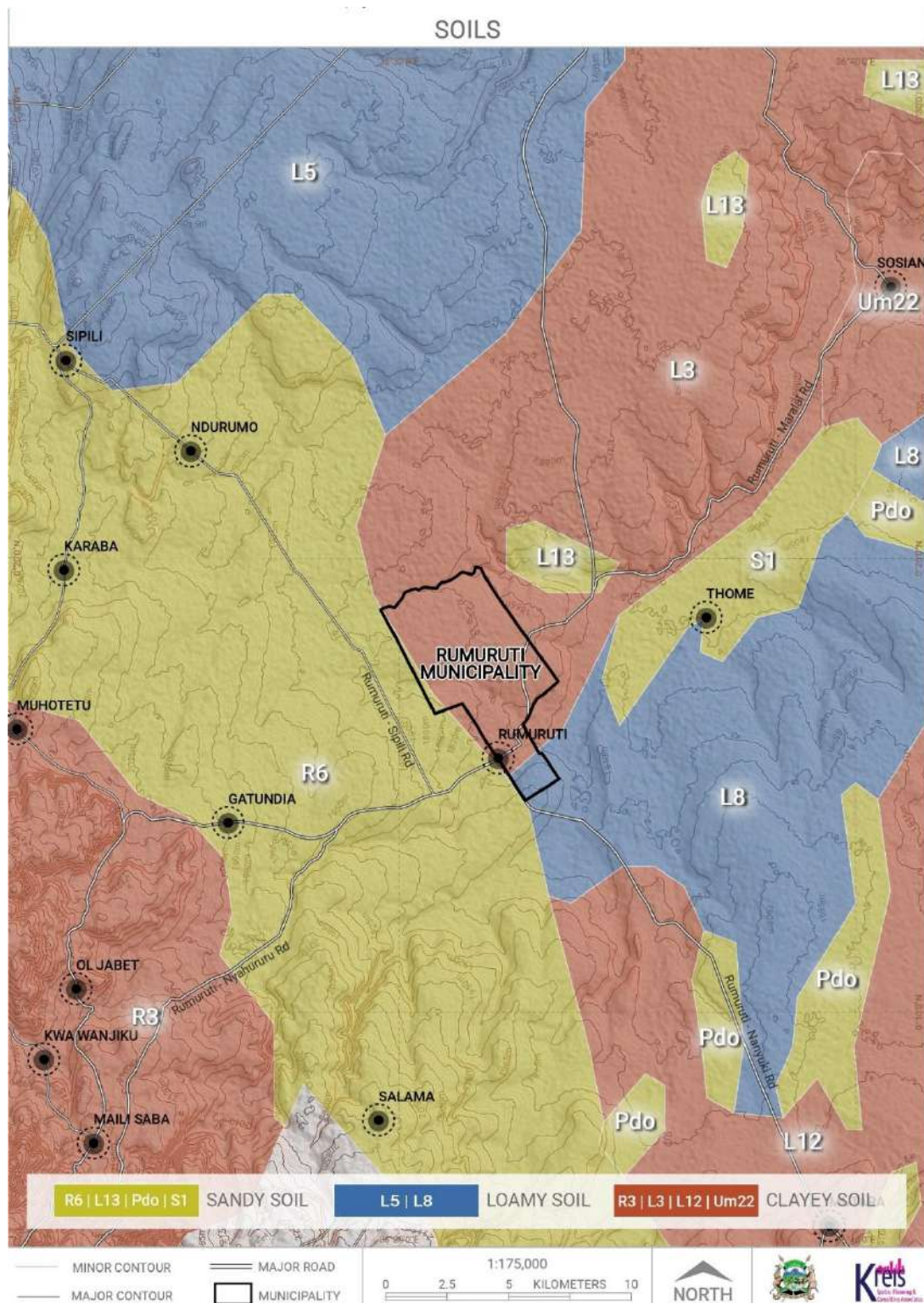
Generally, the whole of Laikipia County is underlain by metamorphic rocks of the Pre-Cambrian forming part of the extensive African Basement Complex. The western parts of the county including Rumuruti comprise of build-up of extensive flows of phonolite lavas originating from the Aberdares and the edge of the Rift Valley eastern escarpment. There are two main types of lava sheets of phonolitic composition namely, Nyahururu phonolites and Rumuruti Phonolites. The latter are found within the north western section of Laikipia County including Rumuruti Municipality and areas of Sosian and Kirimun. Some of the characteristic rocks of igneous volcanic origin are exposed in some areas. The lavas weather chemically to form clays and the soils associated with them are dominantly clay textured.

2.1.2.6 Soils

Soils around Rumuruti, Sosian and Kirimun are directly related to the parent rock and to an extent the relief of the area. These soils are associated with nearly flat to gently undulating volcanic plateaus with a slope of 1-8%. Rumuruti Municipality falls within the flat to nearly flat physiographic unit. These soils are very deep and moderately well drained to imperfectly drained cracking clay. They also range between dark greyish to very dark grey in colour. The dark cracking clays have moderate surface drainage, but imperfect to poor internal drainage especially when the moisture content is high. Cracking clays are difficult to till; they are very sticky and plastic when wet, and extremely hard when dry.

These soils are known to have adequate amounts of potassium and other bases. However, the levels of phosphates are variable and may require application. Additionally, moderate organic matter and nitrogen levels, have rendered these areas suitable for extensive grazing with other areas subdivided for subsistence crop production.

Map 2-3: Soils distribution map for Rumuruti Municipality and adjacent areas



2.1.2.7 Hydrogeology

The hydrogeology of the planning area is influenced by the geology, precipitation, weathering processes, and to an extent the gradient change. The geology of the area is

characterized by igneous volcanic rocks of varying depths. Essentially, groundwater in volcanic rocks is limited to fractures and erosion levels within the volcanic succession. Lavas are not water bearing because of their un-fractured and impervious character. The recharge mechanism and the rate of replenishment of the confined aquifers which underlie the volcanic rock.

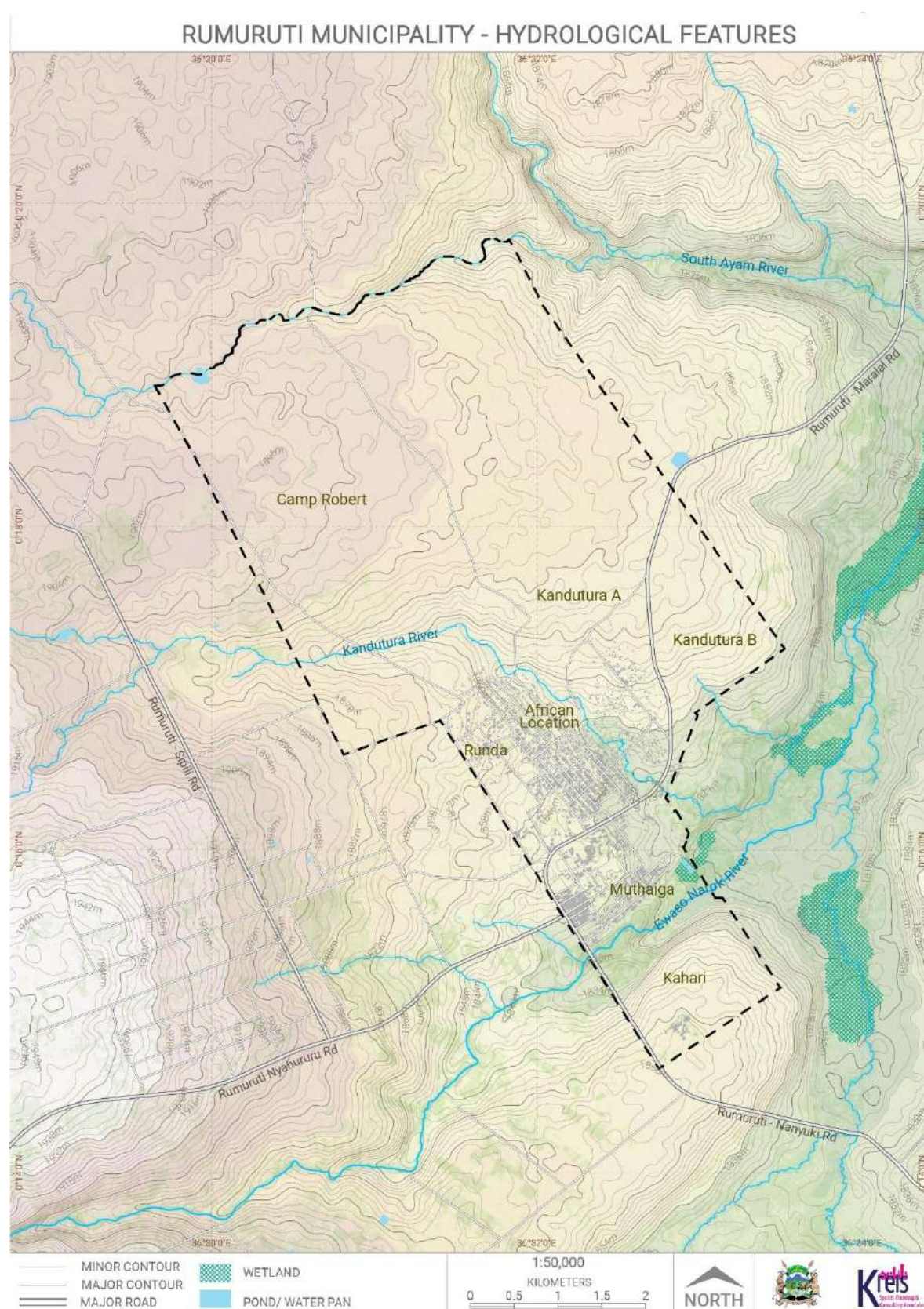
The available data indicates that shallow water often occur within 100 m depth while a deeper aquifer could persist from 176 to 214 m below ground level. The fact that the static water level is generally way above these aquifers suggests that they are perched, and rather very significant. The average main water strike occurs at 121m below ground level. The average static water level is 41.8 m below ground level, static level at the proposed site is expected to be at a similar depth.

Yields of boreholes within Rumuruti Plateau phonolites on average fall towards the east though studies indicate that there is considerable ground water potential with no depletion envisaged in the near future. Although the recharge mechanisms are not known, the two major processes include direct recharge at surface and indirect recharge via faults or neighbouring aquifers. The groundwater quality in the area is generally fair with typically low total dissolved solids and high bicarbonate. However, in most of the deeper volcanic aquifers, fluoride concentrations are above the maximum WHO recommended level of 1.5 ppm.

2.1.2.8 Drainage

The drainage within the Rumuruti and its environs is generally influenced by the presence of Ewaso Narok River and Ewaso Narok Swamp along the eastern edge of the Municipality. The Ewaso Narok River has its headwaters in the Aberdares Ranges and is a major tributary of the larger Ewaso Ng'iro River. It forms the Ewaso Narok swamp upon entering the Municipality. The swamp stretches to about 13 km to the north. Another major river is South Aiyam which marks the northern boundary of the Municipality and an ephemeral stream (Aiyam ndogo) traversing the middle of the Rumuruti. These streams join the Ewaso Narok River downstream around Maundu ni Meri area.

Map 2-4: Hydrological & drainage structure of Rumuruti Municipality and adjacent areas



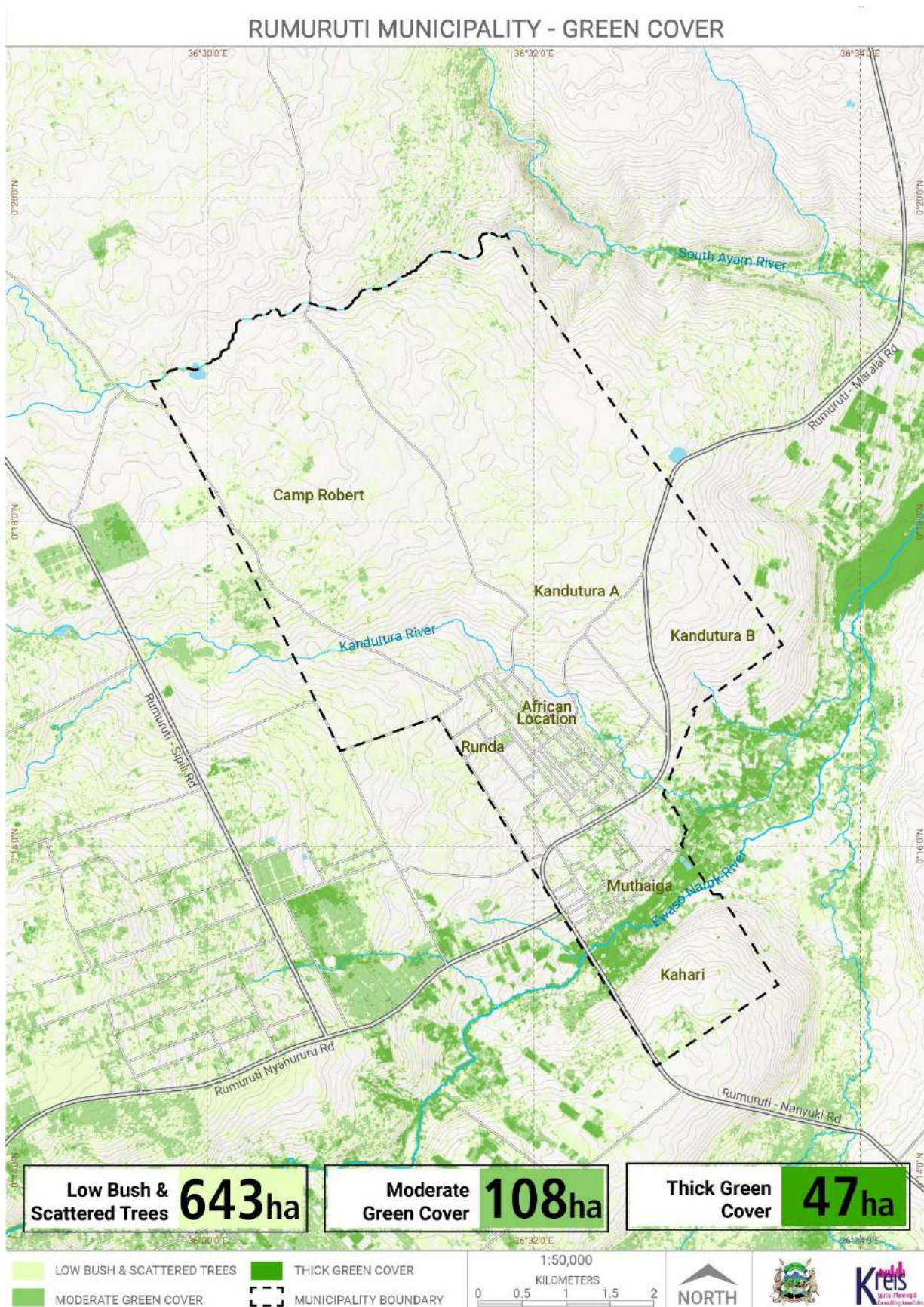
2.1.3 Flora and fauna

2.1.3.1 Flora

Presently, a significant portion of Rumuruti Municipality, particularly the north-western section hosts a characteristic semi-arid vegetation with only a small area estimated to be about 47Ha covered by thick vegetation cover. The larger sections of the Municipality have moderate and scattered vegetation cover and this represents the largely undeveloped areas where livestock grazing is a common activity including the area beyond Aiyam ndogo and the area between G.G Secondary and Ewaso Narok River as detailed in map 2-4. In essence, human activities have largely influenced natural vegetation in terms of diversity and abundance. Natural vegetation thus comprises of Acacia trees and shrubs such as *A. seyal*, *A. Senegal*, *A.brevispica*, *A. drepanolobium*, *A. gerrardi*, *Tarchonanthus camphoratus*, *Croton megalocarpus* among others. *Euphorbia abyssinica* is also found in abundance.

Common grasses found include *Themeda triandra*, *Pennisetum mezianum*, *Pennisetum straminium*, *Pennisetum massaiense*, *Eragrostis spp.*, *Hyperenia spp.*, *Seteria spp.*, *Digiteria spp.*, *Bothriochloa insculpta*, *Cenchrus ciliaris*. Other exotic tree and ornamental flora species have been introduced in the Municipality. Some of the exotic tree species include Eucalyptus, *Casuarina equisetifolia*, and *Grivelia robusta* among others.

Map 2-5: Vegetation cover within Rumuruti Municipality & adjacent areas



2.1.3.2 Fauna

The planning area just like most parts of Laikipia have rich ecosystems that hosted considerable wildlife populations. Additionally, seasonal wildlife movements from the north (Samburu and Isiolo) would occur along the Ewaso Narok and Ewaso Ngiro rivers towards Marmanet, Rumuruti, and Lariak and Shamanei forests south of Rumuruti Municipality. However, wildlife populations have declined substantially in the past 20 years largely attributed to increase of immigrant farming communities considerably reducing wildlife habitat and inevitably resource competition.

Currently, there are few fauna species within and around the Municipality. They are found within neighbouring ranches like Ngorare and protected forests including Rumuruti forest. However, there are occasional human-wildlife conflicts in the vicinity when wild animals stray from these protected areas into the farmlands and human settlement areas. The main strategy in managing human-wildlife has been construction of different designs of electric fences to deter wildlife movement from the protected areas.

2.2 DEMOGRAPHIC PROFILE OF RUMURUTI MUNICIPALITY

1.1.1 Overview

Population and demographic analysis are important elements in plan preparation as it gives the basis to how resource management and infrastructure provision of a town can be done effectively. Population and demographic characteristics also provide a basis for projecting land demand and this becomes a crucial component in any Planning undertaking. This section seeks to analyse the demographic characteristics of Rumuruti municipality and its peripheries" in order to understand the influences on the social and economic aspects of the region.

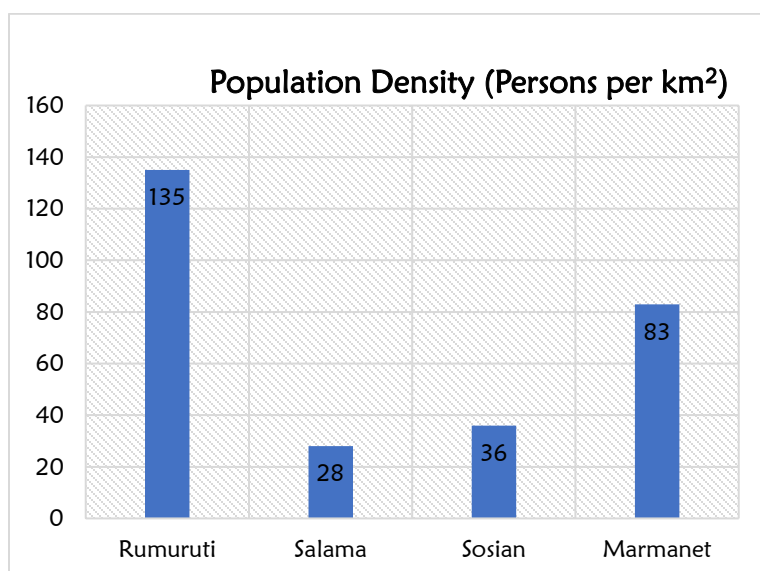
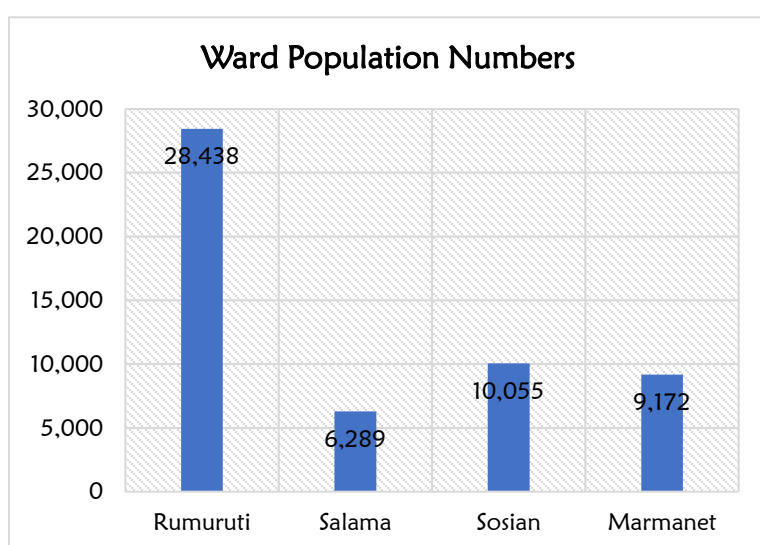
1.1.2 Population Structure and Composition

Rumuruti Municipality is a multi-ethnic cosmopolitan with the majority tribes being the Samburu and Kikuyu with a considerable number of Kalenjins while other tribes form smaller groups within the Municipality. Out of these, the majority are Christians who congregate in different church denominations within and around the Municipality while the minority are the Muslim community. The table below presents population comparison

between Rumuruti ward and other wards within the immediate context of Rumuruti Municipality. It is important to note that over 34 per cent of the population resides within the considered urban area of Rumuruti Municipality.

Table 2-3: Population figures within the location context of Rumuruti Municipality

S/No.	Ward Name	Male	Female	Total	HH	Density
1	Rumuruti Township	14,444	13,994	28,438	7,659	135
2	Salama	3,198	3,091	6,289	1,693	28
3	Sosian	5,035	5,020	10,055	2,375	36
4	Marmanet	5,575	3,597	9,172	2,484	83
	Total	28,252	25,702	53,954	14,211	66

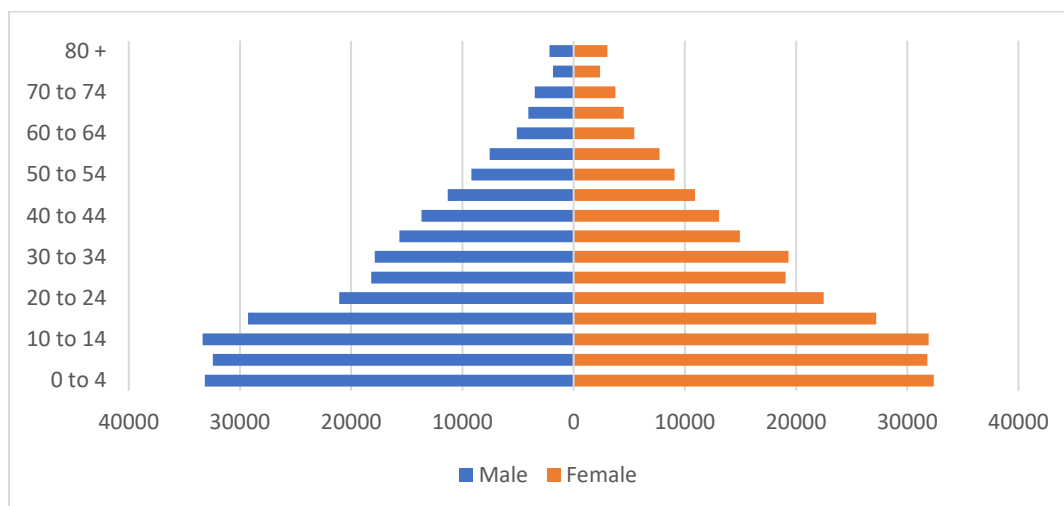


Source: KNBS, 2019

1.1.3 Population Pyramid

Similar to the larger Laikipia County, Rumuruti Municipality has a big youthful population aged between 14-35 years with a large proportion of this being under 24 years as seen in figure 2-1. This population comprises more than a half of the entire urban population and should be empowered to influence decision making in the town and especially their participation in development-based activities. Therefore, the Plan anticipates the need for the establishment of youth empowerment and talent centres, creation of employment avenues, enforcement of youth enterprise programs and sensitization on family planning programmes.

Figure 2-1: Population structure of the larger Rumuruti Municipality

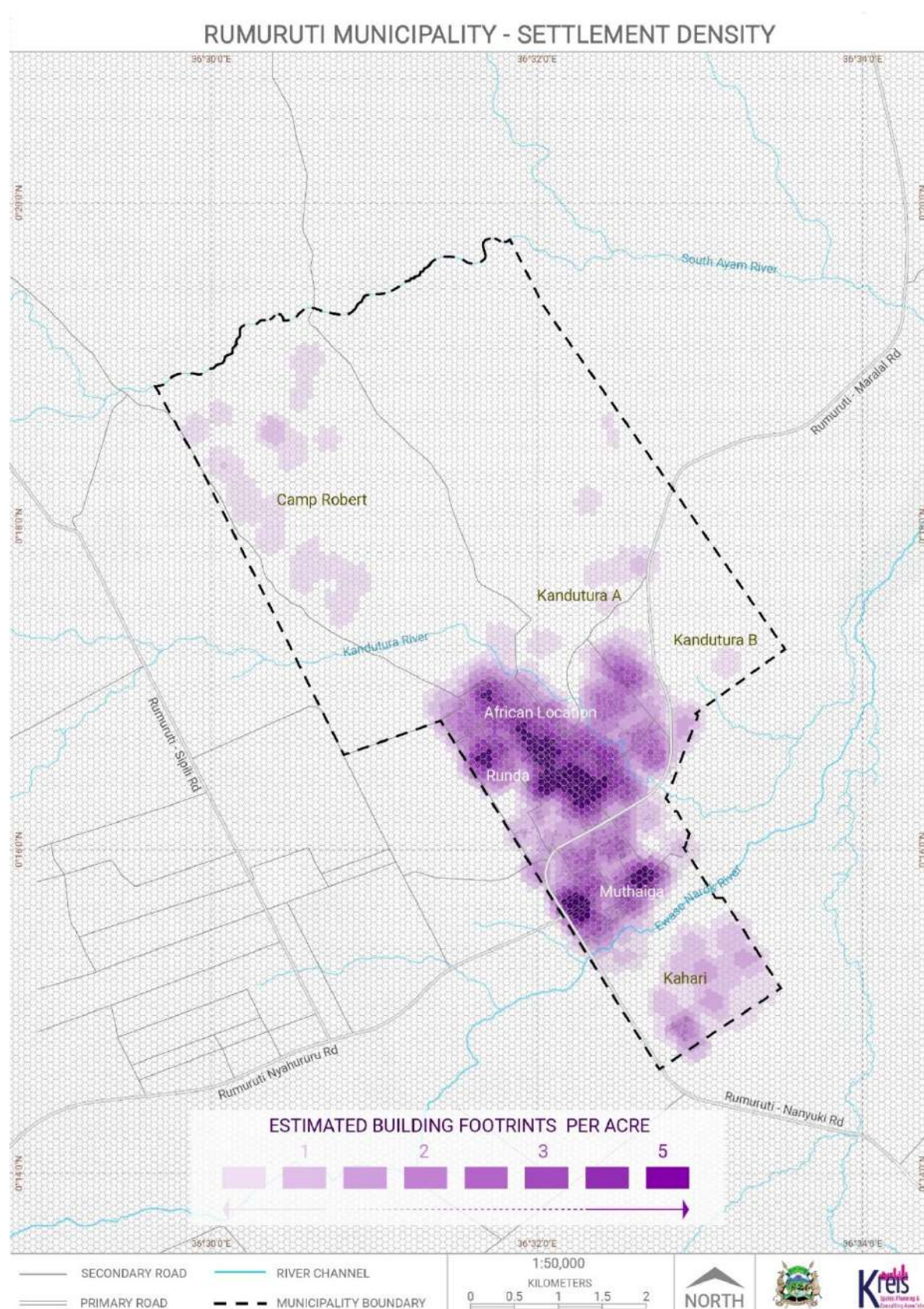


Source: KNBS, 2019

1.1.4 Population distribution and density

Rumuruti ward that houses the municipality has a population of 28,438 people and a population density of 135 persons per km² according to the National Housing and Population Census, 2019 while that of Laikipia County and the National figures being 54 people per Km² and 82 people per Km² respectively. The most populated areas within the Municipality are African Location, Muthaiga, Runda and the CBD while the least populated areas are Kandutura and Kahari. Rumuruti has an average house hold size of 4 people within estimated settlement density of 5 households per acre in the dense areas as presented in map 2-6.

Map 2-6: Settlement density in Rumuruti Municipality



1.1.5 Urban and Rural Population Distribution

The bulk of the planning area population represented by approximately 65% is still urban while about 35% represents dispersed settlements where agriculture and livestock production are the dominant activities. Peri-urban and rural population account for 13% and 22% of the planning area's population respectively.

1.1.6 Population Gender split

In contemporary planning and society in general, gender is increasingly becoming a key factor for consideration. Planning covers a wide array of issues such as transport, housing, sanitation, recreational areas etc. Even though these elements affect both genders, men and women could have different experiences and interests. Therefore, it is important to make plan proposals that are gender sensitive to avoid conflicts in access and use of infrastructure and services provided within the urban fabric.

The pie chart below represents the gender split of Rumuruti with a total population of 18,555. It was established that there are slightly more males at 51% compared to 49% of females.

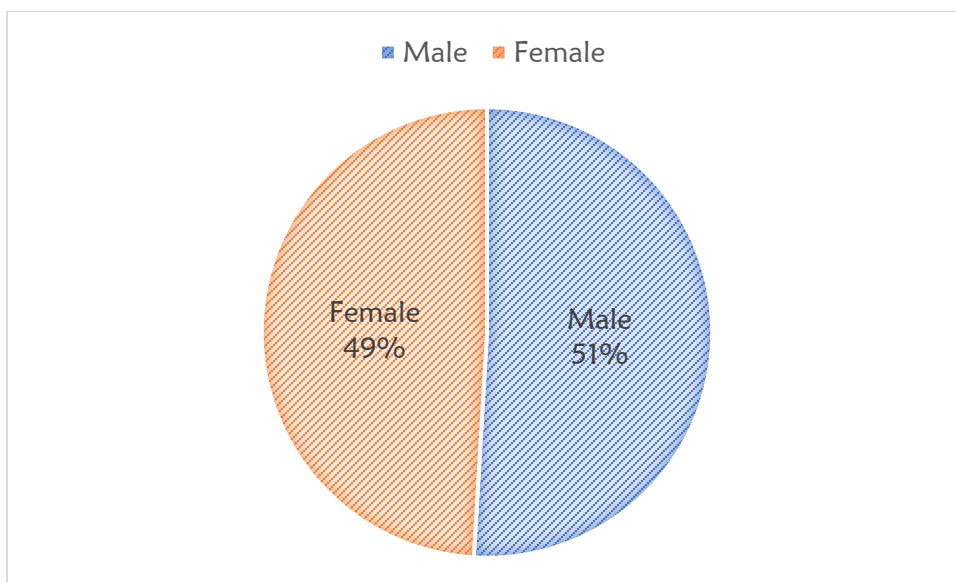


Figure 2-2: Gender split chart

Source: KNBS, 2019

1.1.7 Population Projection

Population and population projection are key parameters used to assess demand and supply of various services and infrastructure provision within a target area. It also informs modelling of changing trends to help make appropriate planning proposals.

Population projections for the Municipality and surrounding wards with a direct influence to the municipality were based on the national urban growth rate of 4.4% as used in the National Spatial Plan 2015-2045. To project the population within the next 15-20 years, the following formula was applied:

$$N_t = P e^{rt}$$

In the equation, N_t is the expected population at a future date (time); P is the base year population (28,438 for the municipality and 53,954 for the neighboring wards); e is a natural logarithm base of 2.71828; r is the rate of increase (4.4) divided by 100 and t represents the time period (5-year interval).

Table 2-4: Population projection

Ward	Population (2019)	Population Projections			
		2025	2030	2035	2040
Rumuruti	28,438	37,029	46,140	57,493	71,640
Including other wards	53,954	67,230	83,773	104,387	130,074

Source: KREIS based on KNBS, 2019 census statistics

1.1.8 Emerging Issues from Population and Demographic Characteristics

This section culminates the population and demographic characteristics by sieving through the challenges and opportunities they pose to the growth of the Municipality.

Table 2-5: Emerging Issues from Population and Demographic Characteristics

Challenges	Opportunities
Rapid population increase - it is expected that the municipality's population is projected to increase	Largely dominated by youthful population between 21-30 years which means readily available labor, an

Challenges	Opportunities
rapidly as a consequence of centralizing the County functions and services to the Municipality as demand and supply of essential services and facilities is expected to increase. ▪ Rapid fragmentation of land into uneconomical units due to population pressure ▪ High poverty levels translating into low purchasing power, increased informality	opportunity for innovation and technology uptake ▪ Increasing population would call for redevelopment strategies and strict adherence to the Plan provisions as a way of accommodating more people to transform the municipality ▪ More people would translate to increased demand for services thus catalyze investments within the Municipality

1.2 Economic Profile

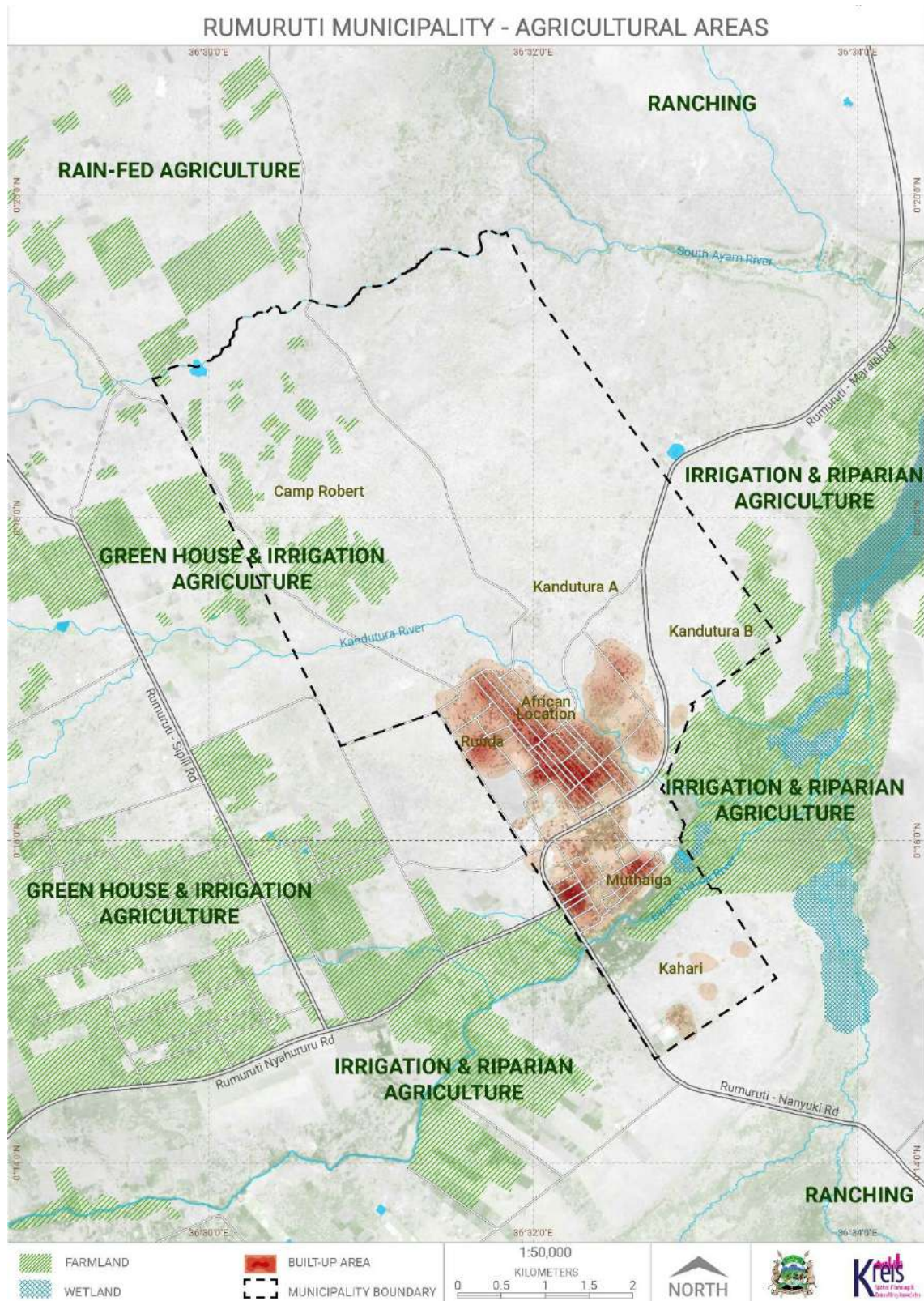
The economic analysis of Rumuruti will be addressed from the key sectors facilitating economic progress of the municipality. These include: agriculture forestry and fishing, mining and quarrying, manufacturing, construction, wholesale and retail trade, repair of motor vehicles, transport and logistics, hospitality industry, information and communication, financial and insurance activities, real estate activities, professional, technical and support services.

These are discussed in sections below:

a) **Agriculture:** Agriculture subsector is the key driver of the county's economy contributing around 44 per cent to the County's Gross product and around 67 per cent of the county's employment. The various agricultural activities in the region include crop farming, horticulture, and livestock rearing for both dairy and beef.

Under crop farming, maize, wheat and beans are the major food crops and majorly done under small scale level with over 70 per cent used for domestic consumption except for wheat. Horticultural crops include tomatoes, while popular fruits include mangoes, tree tomatoes and passion fruits. The rest of the production is sold in the markets to meet household needs. Map 2-7 shows the different agricultural activity zones within the Municipality and adjacent areas while table 2-6 shows various crops marketed and the incomes generated between 2017 and 2020 within the Municipality and surrounding areas.

Map 2-7: Agricultural activity zones within the Municipality and adjacent areas



Source: KREIS 2021 based on field observations and available baseline data

Table 2-6: Agricultural production within the Municipality and surrounding areas

No	Item	Current data-2021		Challenges	Trend Ha			Recommendations
Agriculture Activities Crops:		Quantity Acreage (ha)	Area grown(location)	-Lack of storage facilities, e.g warehouses -Lack of processing plants. -Inadequate grains moisture content management technologies -Inadequate mechanized production operations technologies	2020	2019	2018	-Milling and value addition technologies established
	Wheat	950	Gatundia,thome,aiyam and Lorien		850	450	440	
	Sorghum	38	Thome,Ndurumo. Gatundia Lorien,mutamaiyo		35	30	20	
	Maize	980	Gatundia,thome,rumur utitownship,marura,aiyam Lorien and ndurumo		980	960	900	
	Bean/Pulses	680	Gatundia,thome,rumur utitownship,marura,aiyam Lorien and ndurumo		600	550	550	
	Avocadoes	134	Rumuruti township,Lorien and gatundia		134	130	130	
	Mangoes	52	Gatundia,Lorien and mutamaiyo		52	48	48	
	Tree Tomatoes	25	Gatundia,Lorien and mutamaiyo		25	20	20	
	Passion Fruits	20	Gatundia,Lorien and mutamaiyo		20	20	19	
	Water Melons	18	Marura, township,thome aiyam		16	19	19	
	Onions	30	Marura,maundu ni meri,thome gatundia and rumuruti township		30	28	28	
	Capsicum	12	Marura swamp,gatundia Lorien,maundu ni meri, George mwai farm		12	20	18	

	Tomatoes	100	Maundi ni meri, marura,township,muta maiyo aiyam thome,ndurumo and lorien		90	100	120	
	Cabbages	45	Maundi ni meri, marura,township,muta maiyo aiyam thome,ndurumo and lorien		40	43	40	
Post- Harvest Waste				Processing, Utilization, research and bulking	Increasing			Establishment of agro-industries -research on utilization & management of agro-based wastes. -Establish bulking sites at the production level.
Access To Market(Regional And Foreign Market				New potential markets -Reliability of supply -ICT in agriculture -Development and enforcement of food safety measures -Marketing of unprocessed agro-products.	Increasing			-Collation of more data -establish standardized and regulation framework. -establish value chain based marketing structure. -Establish collection and aggregation centre. -Establish agro-processing industries -establish ICT based agricultural Centre.
Standardization And Regulation				-Lack of enforcement of regional/foreign standards.	Static			Regionalize/devolve enforcement and standardize national organizations

	-Limited access to national regulatory and standard bodies.		
Research & Training	Limited access to information from national research bodies -limited capacity to conduct Laikipia based research.	Static	-Regionalize national and research training institute -Establish Reference Libraries. -Use regional institutions to build skills and competency locally
Infrastructure (Market Storage Facilities, Livestock Sale Yard, Input Supplies.)	-No livestock storage facilities. -Lack of cold chains -processing plants -Dams and ponds - Fully equipped holding-grounds -cattle dip -weigh bridge -Hides & skin Banda -Cattle crushes -Cereal banks -warehouses stores		Improve market Infrastructure

Source: CGL (Department of Agriculture), 2021

Livestock rearing in the municipality is undertaken in various forms. The rearing of animals for milk and meat is a dominant activity with the region contributing a significant percentage of all the meat produced in the county. The livestock market is also a key driver of the Municipality's economy as most livestock within the County are traded and presented in the market during the prescribed market days. The following table shows the number of animals sold at the Rumuruti livestock market from 2017 to 2020.

Table 2-7: Rumuruti Livestock market sales

Type of Animals	2017		2018		2019		2020	
	Number	Income	Number	Income	Number	Income (Ksh)	Number	Income
Cattle	3077	129,234,000	3280	124,640,000	3470	135,660,000	3585	132,645,000
Sheep	5581	30,695,500	5756	34,536,000	6509	32,545,000	6614	39,684,000
Goat	2653	21,224,000	2682	17,433,000	3008	16,544,000	3258	18,896,400
Total Income		181153500		176,609,000		62655000		191225400

Source: CGL (Department of Trade), 2021

The number of animals slaughtered in the municipality from 2017 to 2020 is as presented in table 2-8 below.

Table 2-8: Number of Animals Slaughtered

Type of animals	2017		2018		2019		2020	
	Numbers	Income	Numbers	Income	Numbers	Income	Numbers	Income
Cattle	814	42,979,200	761	40,180,800	792	41,817,600	894	47,203,200
Sheep	15612	78,996,720	14992	75,859,520	14881	75,297,860	15390	77,873,400
Goats	8938	45,226,280	8592	43,475,520	8694	43,991,640	9194	46,521,640
Camels	96	5,068,800	76	4,012,800	92	4,857,600	94	4,963,200
Pigs	2	23,100	0	-	0	-	-	-
Total income	-	172,294,100	-	163,528,640	-	165964700	-	176561440

Source: CGL (Department of Trade), 2021

As evidenced above, the livestock economy becomes a major livelihood system for the people of Rumuruti Municipality requiring enabling in the Plan through related value chain proposals.

b) Wholesale and retail trade, manufacturing

The sector is another key driver of the county's economy contributing about 9 per cent to the Gross County Product and 3.2 per cent of the county's employment. The Municipality has a total of 1413 businesses. The number of businesses in the municipality by type as of 2021 are presented in the following table.

Table 2-9 Business Types in Rumuruti

Business type	No.
Solar shop	1
Textile shop	1
Postal services	1
Water services	1
Pharmacy	1
Private school	1
Micro finance	1
Gas seller	1
Real estate management	1
Wine/keg deport	1
Printing	1
Hospital	1
Printing	1
Casino	1
Glass mart	1
Surveyor	1
Construction company	2
Petrol station	2

Business type	No.
Supermarket	2
Flower farm	2
Driving school	2
Property agent	2
Phone repairs	2
Farm inputs	2
Security services	2
Mobile hawker	2
Filling station	2
Juice centre	2
Bank	3
Bookshop	3
Distributor	3
Self-help group	3
Medical clinic	3
Bicycle repair	3
Clinic	3
Farming	3
Chemist	4
Equity agent	4
Charcoal seller	4
Transport sacco	4
Retail	4
Welding	4
Bakery	4
Repair shop	4
Tobacco kiosk	5
Shoe shop	6

Business type	No.
Bar & restaurants	8
Green grocer	8
Pool	8
Sacco	9
Milk point	9
Garage	9
Retail trader	10
Timberyard	10
Lodgings	11
Car wash	11
Cyber	12
Hardware	13
Beauty & cosmetics	14
Workshop	14
Restaurants	16
Miraa/muguka base	16
General shop	17
Cereal shop	18
Agrovet	19
Bars	21
Kinyozi	22
Clothes shop	22
Electronics	23
Agency	25
Wines and spirit	26
Tailoring	27
Spare parts shop	31
Poshomill	32

Business type	No.
Butchery	36
Salon	46
Boutique	49
Market stalls	55
Hotel	80
Retail shop	100
Mpesa	103
Kiosk	104
Shop	272
Total	1413

Source: CGL (Department of Trade), 2021

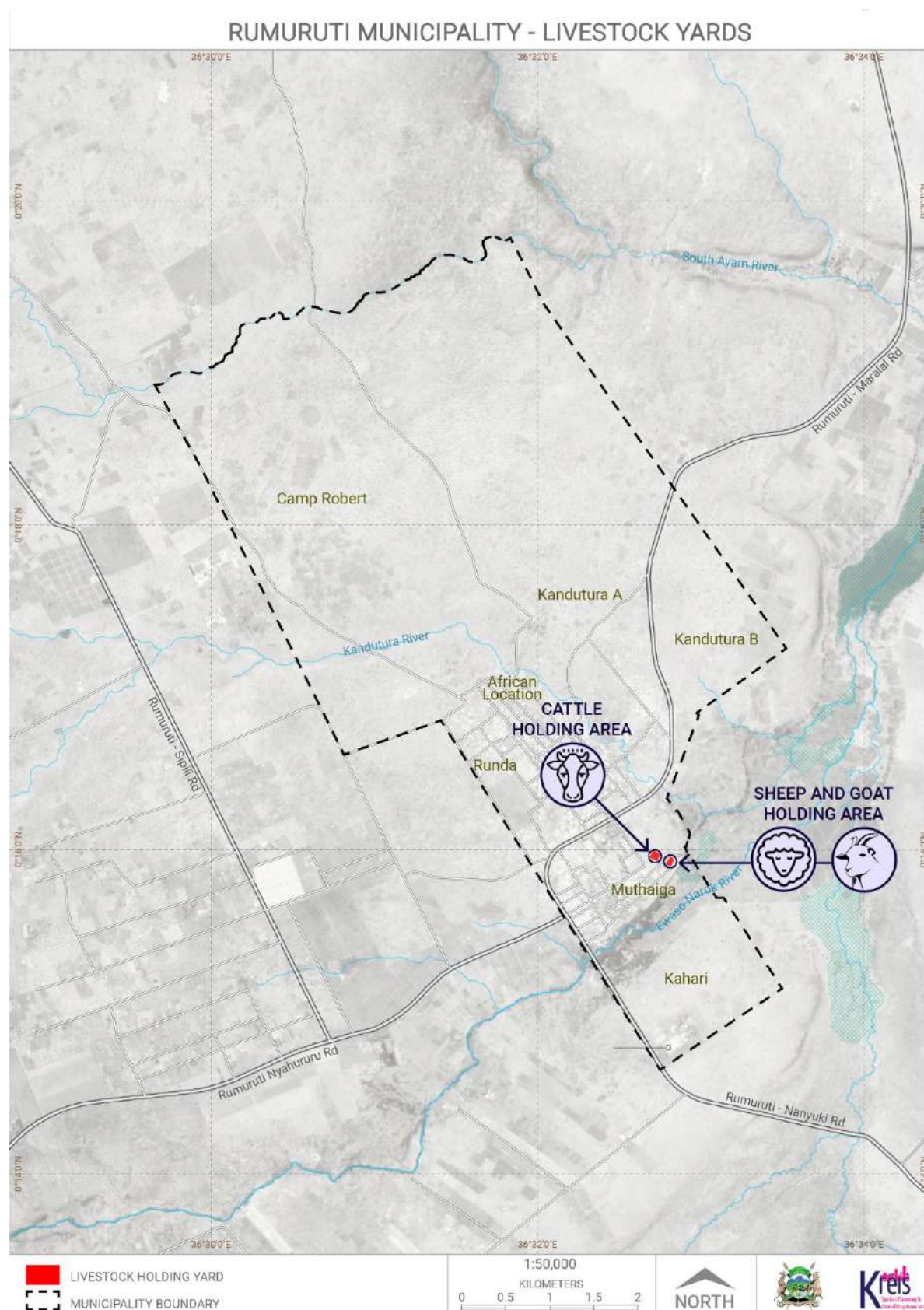
1.2.1 Markets

The trade sector as a key element in sustainable development advocates for market upgrading and rehabilitation through infrastructural investments in urban markets in order to enhance service delivery and provide employment both directly and indirectly. The flagship market in Rumuruti Municipality is the livestock market which is the largest in the county. There are also fresh produce and wholesale/retail markets which are strategically placed for trade given their proximity to the CBD. These are discussed in detail below.

1.2.1.1 Livestock Market

The Rumuruti Livestock Markets (both cattle and goats) are a key economic driver for Rumuruti municipality. The markets are located within the CBD and has a combined area of 2.14 Acres as presented in map 2-8 below.

Map 2-8: Location of livestock markets within Rumuruti township



Source: KREIS 2021 based on field observations and available baseline data

The prescribed market days are Tuesday and Thursday. Goats and sheep are traded on Tuesdays whereas both cattle and goat/sheep are traded on Thursdays which is the main market day. On Thursdays, other livestock products such as poultry are also sold. Livestock trade usually peaks during the festive period which also coincides with a spike in revenue generation. Market activity is at its lowest during the dry periods as livestock traders opt to use markets located in other towns within the county.

80% of the livestock brought during market days comes from within Laikipia County whereas 20% comes from Samburu County. The livestock that is sold is usually transported to various towns within the county such as Nyahururu and also towns outside the county such as Nairobi, Nyeri and Maralal.

2.2.1.1 Market infrastructure

The market has two holding grounds, one for cattle with a capacity of 2000 and the other for goats and sheep with a capacity of 6000. Both holding grounds are temporary structures. The cattle holding ground has two elevated off-loading bays whereas the goat/sheep holding ground lacks one. The holding grounds consists of timber structures which have withered over the years. Generally, the infrastructure is in a poor condition and requires renovations and provision of additional facilities to fully equip it for optimal operations.



Source: Field Survey, April 2021

1.2.1.2 Accessibility

The market can be accessed through the Rumuruti Maralal road and Government Road which connects the CBD to the Rumuruti Maralal road. There is no fixed entry or exit

points. This compounded by the lack of a well-defined area for the people to trade their livestock leads to congestion during the market days thus decreasing accessibility of the general area.

1.2.1.3 Waste Disposal

Garbage within the livestock market is collected after-market days by the department of environment. The waste generated is solid waste e.g., animal waste, plastics.

1.2.1.4 Water

There is one watering point located at the cattle holding ground but it is not sufficient to cater for the needs of the market users. For this reason, water sourced directly from the river flowing near the market is used to supplement supply.

1.2.1.5 Sanitation

The market is served by one pit latrine serving both genders. The latrine is washed on a weekly basis. As an expression by the residents, this requires urgent interventions to be sought through proposals in the Plan.

1.2.1.6 Parking

There is no provision for an organized parking lot for the vehicles off-loading the livestock to the holding grounds. Currently the vehicles are parked in a haphazard manner thus reducing accessibility within the market area and consequent incidental loss of revenue to the County Government.

Plate 2-1: Due to no parking spaces, vehicles and Motorcycles Park anywhere with no specific order



Source: Field survey, April 2021

1.2.1.7 Revenue Collection

There are 4 - 6 revenue and enforcement officers from the County Government stationed during market days who maintain order and make sure the revenue collection is carried out seamlessly. However, in the absence of formalized infrastructural utilities to support organized market operations, incidental losses are incurred.

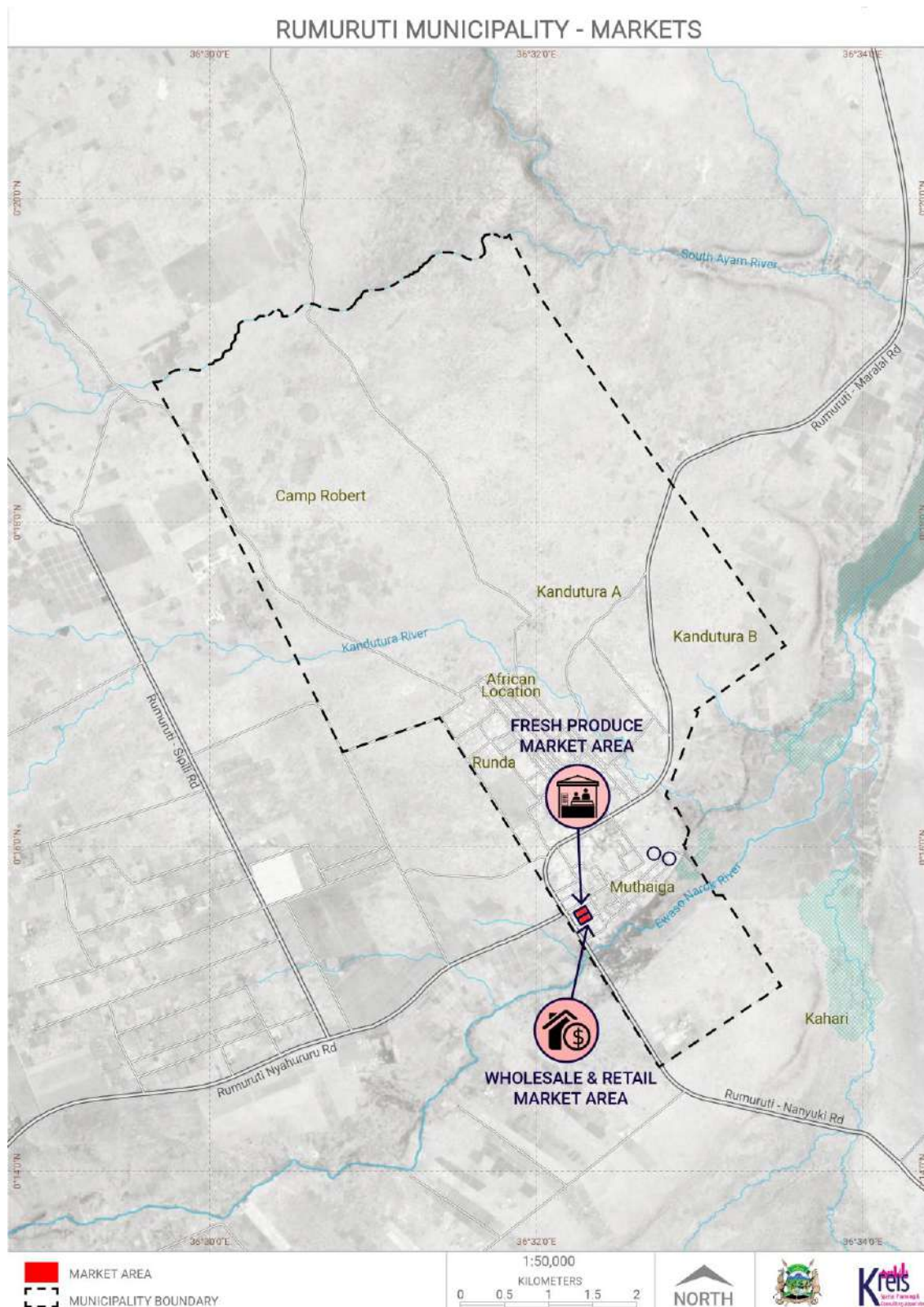
1.2.1.8 Challenges

- Poor infrastructure i.e. holding ground, loading bays within the market
- Lack of water
- Inadequate sanitation facilities

2.2.2 Fresh Produce Market

Rumuruti Fresh Produce market is situated in the town area and sits on 1.30 Acres (0.52 Ha). The market is the business place of traders who operate on a daily basis and has 107 stalls that have been officially assigned to traders by the county government. The busiest day is Thursday when the market comes alive with bustling business activities. On the onset of devolution, market activities have witnessed positive growth. The market activities are actively managed by a selected market committee headed by a chairperson on behalf of the County Government.

Map 2-9: Fresh produce markets within Rumuruti township



Source: KREIS 2021 based on field observations and mapping

The market is surrounded by make-shift stalls on all four sides of its perimeter where different commercial activities take place. These include clothes selling, hotels, butcheries, M-Pesa shops, salons and grocery/cereal shops. There are two structures within the market area that hold the fixed masonry stalls where fresh produce goods are sold by traders. They both contain well partitioned concrete stalls with the Eastern side structure containing 42 stalls and the Western side structure containing 65 stalls. Only one of them is currently in use with the other yet to be occupied due to the ongoing sun shading for the Eastern side stalls. They are shown in plate 2-3 below.



Plate 2-2: Fresh produce market stalls

1.2.1.9 Types of Goods

The main fresh produce goods traded within the market include cereals (maize, wheat and sorghum); pulses (beans, garden peas and cow peas); root crops and tubers (sweet potatoes, cassava); vegetables (cabbages, kales, spinach, tomatoes, onions, Irish potatoes and French beans); fruits (avocadoes, citrus, mangoes and pineapples). Maize tomatoes and French beans are the most prevalent fresh produce goods as they are the main income generating crops in Rumuruti.



Plate 2-3: Products displayed in the fresh produce market

The make-shift stalls that are aligned along the perimeter of the market are primarily used for diverse small scale commercial activities with the most common use being small hotels. The rest that are located along the Eastern side of the market are mostly used by traders for selling clothes, shoes and other fashion accessories. The rest of the stalls are used as salons, butchery, pool, M-Pesa shops and grocery/cereal shops. The stalls can be accessed from both the inside area of the market and outside meaning they can be used to access the market on all sides.



Plate 2-4: Makeshift stalls in the market

1.2.1.10 Shop Typology

The makeshift stalls within the market's periphery on average measure 5mX4m. The stalls have timber walls, timber roofing covered by old iron sheets. The stalls are few and cannot accommodate all the traders within the market. Aesthetically the stalls are poorly done with minimal consideration of safety measures and security. Most of the makeshift stalls are poorly roofed and can't shield the traders from the adverse climatic conditions such as rain. The stalls are congested and barely allow free circulation within the market.

The fresh produce masonry stalls housed under the two large masonry structures inside the market measure 3mX2.5m in size. The structures are supported by steel poles and sits on foundation walling that has steps built on all sides to serve the elderly and PWD. They have corrugated iron sheets for roofing with sufficient sun shading installed in one of the structures.

1.2.1.11 Wholesale/Retail Market

The wholesale market (also known as Gikomba) area is located adjacent to the Fresh Produce Market.



Plate 2-5: Location of the Whole sale/Retail Market

The traders engage in selling of various goods and services but the predominant commercial activity that takes place within this section of the market is clothes/wear selling. The clothes selling is usually carried out in shops and open-air stalls. The traders often combine this with M-Pesa shops and the sale of other small-scale goods to supplement their income.

During market days (Thursday), various traders use the space located along Kihika Kimani Street to display and sell their goods as the space within the market is not sufficient to cater for the large number of trader's who sell on that day. In that regard, the Plan has anticipated future demand and made provisions for the same.



Plate 2-6: some of the clothes and assorted wears sold at the wholesale market

1.2.1.12 Bus Park

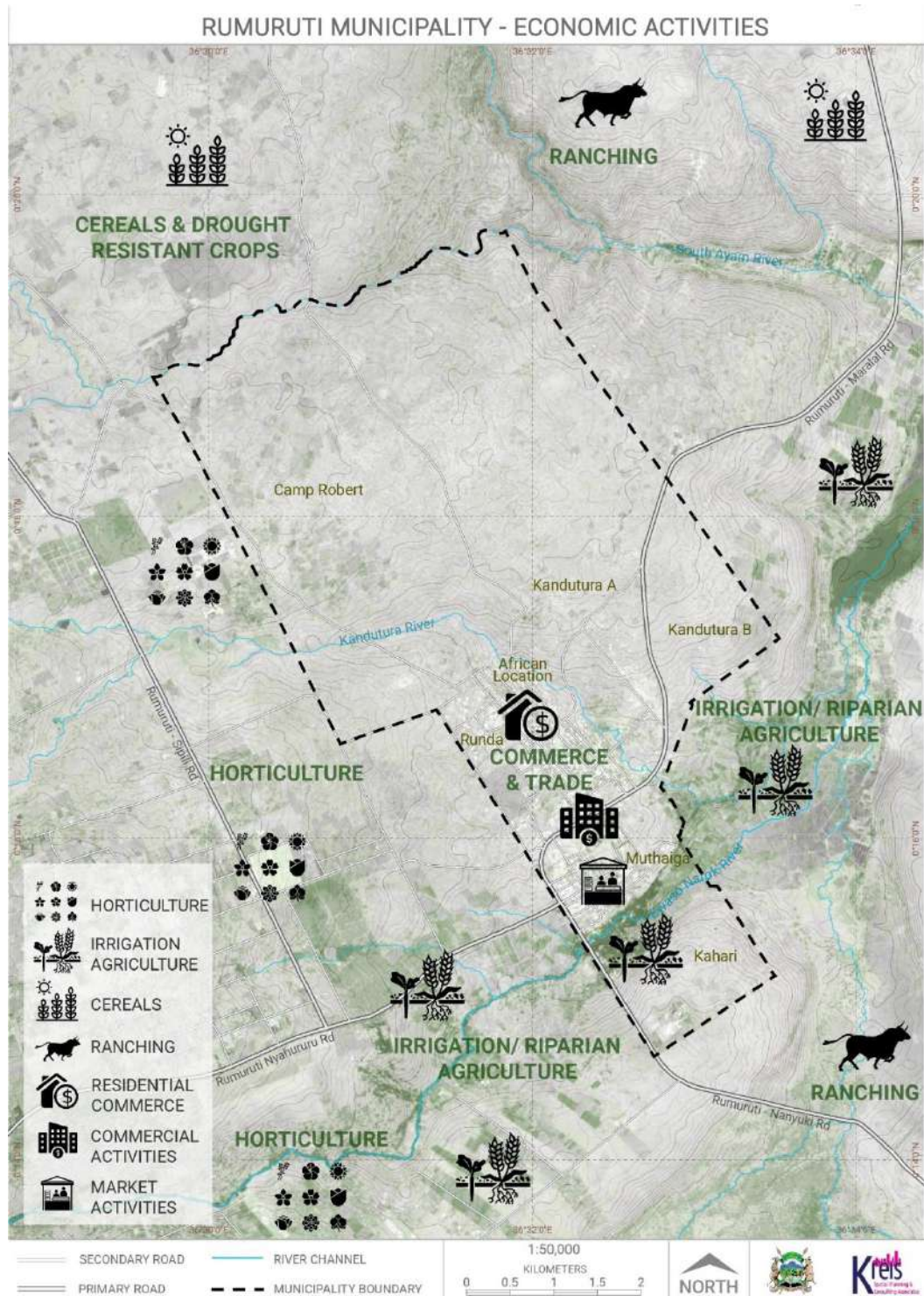
The major land use activity surrounding and supporting the market economy is the Rumuruti Bus Park. The park draws huge traffic volumes in search of commute options and this complements the market operations. The bus park is currently developed with good infrastructure but requiring expansion, and improvements including provision of pedestrian waiting sheds and street furniture among others. The bus park is shown below.



Plate 2-7: Rumuruti Bus Park

Generally, economic activities are well spread within the Municipality as summarized in map 2-10 below.

Map 2-10: General spread of economic activities within Rumuruti Municipality



Source: KREIS 2021 based on field observations

2.2.3 Market Infrastructure & Utilities

1.2.1.13 Drainage

The market has shallow open drains for storm water and surface runoff, which has inadequate capacity to efficiently and effectively serve the market's drainage requirements. The drains are clogged due to the absence of covers hence causing flooding in the market on rainy days.



Plate 2-8: Shallow open drains in the market

1.2.1.14 Water

Water provision for the market users is served by two 10,000 litre tanks that are refilled on a weekly basis by NYAHUWASCO. Due to the global pandemic occasioned by the covid-19, the county government has temporally installed two other water points as a way of complying to the WHO health guidelines on hand washing within the market.



Plate 2-9: 10,000 litres water tank in the market

1.2.1.15 Sanitation

There are no operational toilets within the market. The vendors and visitors of the market have to use a public ablution block located 90m south of the market. The ablution block has enough capacity to serve the vendors and visitors of the market. The waste generated by the public toilets is collected in a septic tank coupled with a soak pit, and they are well protected hence do not cause any health risks to market vendors and visitors.



Plate 2-10: Ablution Block

In anticipation of the population increase in the Municipality, it is expected that that Plan will propose interventions aimed at ensuring that sanitation aspects are well catered for now and the future.

1.2.1.16 Solid Waste Management

Solid waste generated in the market is disposed in a garbage collection pit located at the centre of the market. The pit is built of concrete and is 3m by 3m in size. Garbage is collected on a daily basis by the municipal's garbage collection truck. At the moment, the pit has limited capacity to serve the entire market and there is urgent need to identify an alternate solid waste disposal mechanism. There is also a need to separate the different kind of waste i.e., organic waste, toxic waste and recyclable waste. The biodegradable waste can be used for agricultural purposes and for animal feeds.



Plate 2-11: The solid waste disposal site located in the market

2.2.3.1 Lighting/Electricity

The market has one meter-box set up at the perimeter, which allow the shops to operate with electricity. There is also one floodlight located near the market that serves the whole area and helps facilitate business in the evening and night time in the quest of a 24-hour economy.



Plate 2-12: Flood light mast seen from the market

1.2.1.17 Parking

The market lacks a dedicated parking space and the only available spaces utilized for parking and offloading of goods and fresh produce commodities being G.G Kariuki Street and Market Street which are located adjacent to the market. During the market days and especially Thursdays, this causes a lot of congestion and space contestation among pedestrian and motor vehicles.



Plate 2-13: Roadside Parking

1.2.1.18 Access and Circulation

The market site is accessed through G.G Kariuki road on the Northern side which serves as the main access point. The Eastern and Western ends of the market are accessed through the circulation murram roads namely Market Street and Nyamakima Street which are often impassable during the rainy season. The southern end is accessed through Kihika Kimani Street all together comprising three entry/exit points.

Additionally, each makeshift stall located on the perimeter serves as an access point into the market from the roads around the market area. However, the makeshift stalls occupy

prime areas within the market that could otherwise be used for circulation purposes and as public/civic spaces. It is imperative as suggested by the community that the market be managed through well laid out circulation network enabled through controlled entry/exit points to ease flow of traffic and reduce space contestation.

2.2.4 Synthesis of the market location

Strengths	Weaknesses	Opportunities	Threats
- It has a close proximity to the Bus Park. - It's located in the Central Business District of Rumuruti and attracts a large no. of traders and customers. - It's easily accessible from major roads.	- Lack of emergency infrastructure - Insufficient solid waste management infrastructure. - Inadequate drainage and storm-water management infrastructure. - Poorly constructed stalls leading to poor/faulty electric power connections.	- Potential of utilization as a regional market. - Increase in prescribed market days. - Increase in revenue and positive economic boost to Rumuruti. - Opportunity for waste segregation to allow for recycling. - Proposed County project for the facelift of the market area	- Increased flooding. - Rise in severe fire outbreaks due to poor emergency infrastructure leading to property loss. - Increase in disease outbreaks due to the poor water and sanitation management system.

2.2.5 Revenue Generation

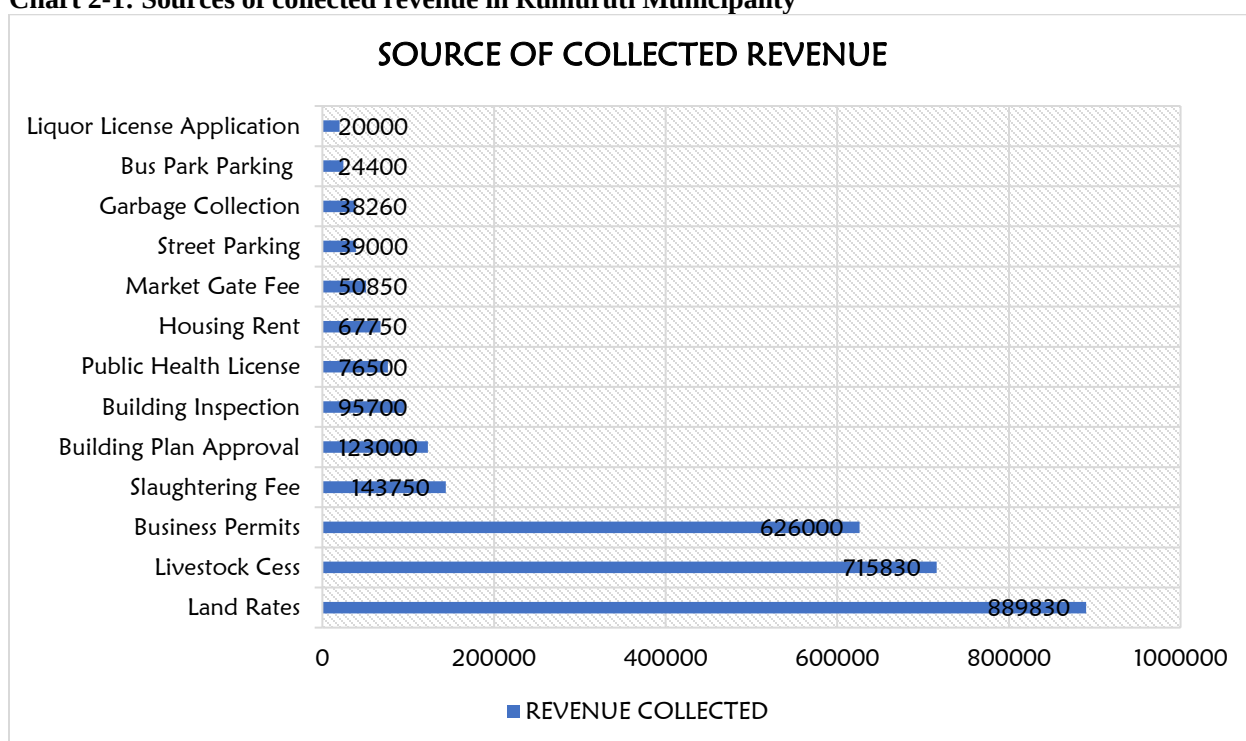
The municipality relies on multiple revenue streams that are crucial for sustained growth and development of Rumuruti. These include business operation permits, application fees, licenses, certificates, inspection fees etc. The revenue collected within Rumuruti Municipality each month averages to 2,542,104 Kenya Shillings. Below is a table outlining the monthly revenue collected between July 2020 and April 2021 and a corresponding chart indicating the sources of the listed revenue.

Table 2-10: Collected revenue in Rumuruti Municipality between July 2020 and April 2021

Month	Revenue Generated
July 2020	2,215,925
August 2020	2,381,955
September 2020	2,037,000
October 2020	2,274,360
November 2020	2,038,978
December 2020	2,542,135
January 2021	3,261,090
February 2021	3,585,385
March 2021	6,285,670
April 2021	1,435,356

Source: CGL, Department of Trade (2021)

Chart 2-1: Sources of collected revenue in Rumuruti Municipality



Source: CGL, Department of Trade (2021)

As observed from the chart above, land rates remain to be the highest revenue earner for the Municipality. A typical municipal revue office report presented below shows the disaggregated revenue sources with very many untapped potential sources currently registering nil revenue.

Table 2-11: a typical municipal revenue office report outlining disaggregated revenue sources and their contribution to the revenue kitty

SOURCE OF REVENUE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	TOTALS
Land Rates	23,035	123,025	81,956			228,016
Land Rates Current Year						-
Business Permits, Current Year	57,500	91,300	44,500			193,300
Business Permits Late Payment Penalties, Current Year	600					600
Business permit other years			18,260			18,260
Wheat & Maize Cess						-
Fruits & Vegetables / Produce Cess	6,600	16,600	10,700			33,900
Livestock Cess	123,110	104,070	127,980			355,160
Movement permit			1,700			1,700
PLOT RENTS						-
Ground/Plot Rent - Current Year						-
Ground Rent - Other Years						-
Plot transfer fee						-
Clearance fee						-
Temporary Occupation License		7,000	5,000			12,000
Application Fee	3,900	11,100	5,700			20,700
Plot Transfer Fee						-
Plot Subdivision Fee						-
Business Subletting / Transfer Fee	7,000	18,000	6,000			31,000
Enforcement notice						-
Impounding Charges						-
Garbage Dumping/Conservancy Fee	10,360	26,100	14,860			51,320

SOURCE OF REVENUE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	TOTALS
MARKET/TRADE CENTRE FEE						-
Market Entrance / Gate Fee	10,500	10,200	11,500			32,200
VEHICLE PARKING FEES						-
Enclosed Bus Park Fee		2,000	3,000			5,000
Application for PSV sticker						-
Other Vehicles Enclosed Park/Reserved Fees (Cars, Lorries, etc.)						-
Street Parking Fee	2,800	6,850	9,400			19,050
Clamping Fee			1,500			1,500
obstruction fee						-
Branding fee						-
hawking						-
Picking and dropping						-
promotion fee						-
Clamping Tampering Fee						-
Housing Estates Monthly Rent	4,000	4,000	4,400			12,400
SOCIAL PREMISES USE CHARGES						-
Social Hall Hire						-
Stadium Hire						-
PUBLIC HEALTH FACILITIES OPERATIONS						-
Public health license	6,000	21,500	12,000			39,500
Medical Examination Certificate	200	500	400			1,100
Burial Fees	1,400	1,400	500			3,300
Chicken Cess						-
Weights and Measure fee						-

SOURCE OF REVENUE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	TOTALS
SLAUGHTER HOUSES ADMINISTRATION						-
Slaughtering Fee	9,050	17,500	23,200			49,750
COT						-
Meat container inspection						-
Hides & Skins Fee		500				500
Pig cess						-
Manure Sale						-
Ballast						-
Slaughter man's license						-
TECHNICAL SERVICES FEES						-
Building kiosk						-
Kiosk rent						-
kiosk transfer fee			2,000			
Change of user from residential to commercial						-
Survey Fee						-
Door renovation						-
Building plan public health		12,000				12,000
Building plan alteration						
Building plan renewal fee		3,000	5,000			8,000
School public health inspection fee						-
Buildings Plan Preparation Fee						-
private clinic inspection fee						-
Buildings Plan Approval Fee		52,000	36,000			88,000
Buildings Inspection Fee						-
Right-of-Way / Way-Leave Fee (KPLN, Telkom, etc.)						-

SOURCE OF REVENUE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	TOTALS
Sign Boards & Advertisement/promotion Fee	1,400	4,800	2,800			9,000
EXTERNAL SERVICES FEES						-
Fire-Fighting Services						-
weight & measures						-
liquor licence fee			14,000			14,000
liquor inspection fee						-
liquor licence application fee		1,000	1,000			2,000
tuk tuk monthly sticker						-
Motor Bikes (Boda Boda) monthly sticker						-
Hospital Revenues						-
TOTALS	303,455	617,945	513,956	-	-	1,435,356

Source: CGL, Department of Trade (2021)

1.3 Settlement Structure- Housing, Urbanization Trends, Hinterland and Linkages

1.3.1 Housing

Currently, a big chunk of the Municipality as delimited is currently undeveloped with the remainder occupied by clustered areas of settlement and business. The predominant housing areas include Rumuruti town, and local estates called Runda estate, African location, Kandutura, Gatundia among others. African Location, Kahari and Gatundia manifest informal growth patterns and lack basic services like piped water, sewer system, road infrastructure and solid waste collection centres. It is however noted that the Plan is timely and will shape the growth of the settlements onwards.

1.3.1.1 Neighborhood and characteristics

Rumuruti town forms a distinct core surrounded by a neighborhood class that slowly gives way to a rural hinterland. The Town's neighborhood character is summarized in Table 2-12 below.

Table 2-12: Rumuruti Municipality Neighborhoods

Neighborhood	Characteristics
<i>Muthaiga</i>	This is the traditional low- density single dwelling residential estate. Presently, development of a number of high density multi dwelling residential units have been allowed due to its proximity to the core CBD. This is seen as a way of renewing and rezoning the area on the onset of the anticipated growth within the Municipality
<i>CBD Neighborhood</i>	Characterized by high density-mixed use- low rise multi dwelling units. Multi storey developments, shopping complexes and office buildings coming up.
<i>African Location</i>	Mixed use zone that is predominantly high density with increased row housing developments
<i>Kandutura</i>	Predominantly constituted of low-density, low-income household units characterized by traditional mud houses (manyattas). Hosts a number of modern upgraded housing units by Habitats for Humanity
<i>Runda</i>	Predominantly a medium to high density neighborhood as it transitions towards African location
<i>Kahari</i>	Traditional farming neighborhood characterized by traditional housing typologies (manyattas)

1.3.1.2 Building materials

Table 2-13 below shows the percentage of the building materials used in the settlement areas by type.

Table 2-13: Dwelling physical characteristic by the type of houses

Roof type	%	Wall type	%	Floor Finish	%
Ordinary Mabati	71.0	Bricks	3.8	Tiles	14.1
Improved Mabati	21.7	Mud	30.2	Earth	16.5
Tiles	5.5	Stones	63.5	Cement	67.0
Asbestos	1.7	Timber	0.7	Wooden	2.4
		Mabati	1.7		

Source: Field Survey, April 2021

Majority of the houses in Rumuruti (71%) have ordinary Mabati roofing, 63.5% have their walls made of masonry (stones), and 67% have a cemented floor.

1.3.1.3 Trend of building plan approvals

Table 2-14: Building Plans Approved for Private Ownership in Rumuruti, 2017-2019

Type of development	Plans Approved			Floor area (M ²)			Plans approved with water catchment facilities		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Residential	152	164	155	40,463	54,450	53,990	15	17	2
Commercial	36	46	41	43,260	19,544	15,487	2	4	1
Industrial	7	8	9	1696	405	4047	1	0	0
Others	9	16	17	1664	5052	15955	1	2	0
Total	202	234	222	87,083	79,451	89,479	19	23	3

Source: CGL (Department of Physical Planning) 2021

1.3.1.4 Housing Typologies

The centre is characterized by High, Medium and low density, permanent developments of mixed used developments (Business Cum Residential).

The diagram below illustrates the typical parcel layout in the high-density residential zones such as African Location, Kandutura and the CBD.

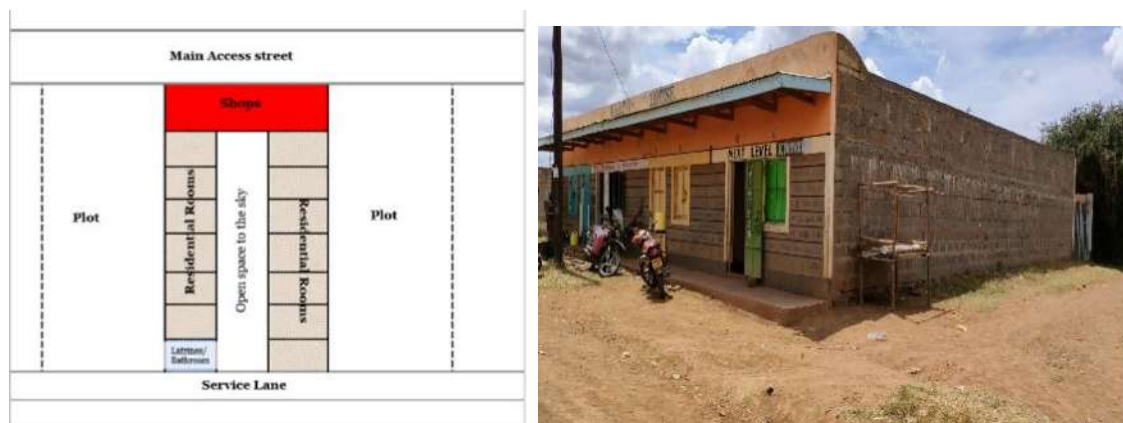


Plate 2-14: Typical mixed-use development layout and typology within Rumuruti Municipality



Plate 2-15: Typical housing units in African location (A) and Muthaiga estate (B)



Plate 2-16: Typical mixed-use developments within Rumuruti township (A) and Kandutura village (B)

Source: Field Surveys, April 2021

From an aerial view, settlements such as African location and Kahari are seen as follows:



Plate 2-17: Clustered settlement in African location



Plate 2-18: Scattered settlement in Kahari

However, with the centre expected to transition to a key development node owed to its proximity to the highway and the proposed road infrastructure works) and its proximal distance to Nyahururu town, there is a likelihood of influx in housing demand as an administration centre or attraction for new developments. In other considerations of limited land size and continued population increase, increase in housing demand is imminent therefore the row housing typology is not the best option of development in

the center. There is need to explore vertical development so that some spaces can be created to ease the clustering congestion in the Municipality.

1.3.2 Emerging Issues

Challenges	Opportunities
▪ Improper execution of development control ▪ Rapid growth of informal settlements ▪ Lack of proper drainage systems ▪ Lack of a proper solid waste management system. ▪ Poor road networks ▪ Lack of sewer reticulation networks	▪ Approved Rumuruti Development Plan which form as a basis for development control. ▪ Adequate land for development. ▪ Available raw materials for construction. ▪ Rumuruti serves as an administrative Centre leading to a high demand for housing ▪ Existing Rumuruti Municipal Board which has a mandate on controlling land development and zoning.

1.3.3 Land Use

The existing land use pattern was a key consideration in the preparation of the IUDP. Key highlights from the existing land use include emergence of urban sprawl and haphazard subdivision on agricultural land. There was thus the need to develop a proper strategy to reorganize the land use pattern in order to address the spatial challenges.

1.3.4 Agriculture

This is the largest land use in the planning area. Agricultural activities are practiced outside municipality boundary. Areas under agricultural use include Thome and Gatundia,

Agriculture is the prime economic activity due to fertile soils and favorable climatic conditions. Laikipia County has 337,854 hectares under high agricultural production potential land. This is approximately 33% of the county size.

However, the agricultural land is decreasing day by day due to increased urbanization resulting into increased subdivision and change of land use to residential and commercial use. This plan gives guidelines on the coexistence of urban development and agriculture by providing strategies to protect and conserve the agricultural land.

1.3.5 Commercial/Urban Nodes

The commercial area covers 4 Km² of the land. Rumuruti Municipality serves as the County Headquarters and a commercial Hub in Laikipia County. The main commercial activities practiced in the Municipality include but not limited to Livestock Markets, banks, Sacco's, Small-scale business and hawking activities are concentrated around major transport termini, on the reserves of busy internal roads and outside designated market structures. Juakali artisans also operate in the town supplying the population with various Juakali products. These activities are located in both the residential estates and in the Central Business District.

1.4 Transport Networks and Distribution

Transport system is the circulation system of any given area which maximizes accessibility through essential movements between linked activities. The circulation of an efficient transportation system should always consider safety, comfort, affordability, amenity and environmental effects. The transport infrastructure in Rumuruti Municipality consists of fixed installations including roads, proposed airways and terminals such as trucking terminals, bus terminals and refueling depots.

Transportation in the Rumuruti IUDP is important because it facilitates economic, industrial, social and cultural development. It also contributes to shaping land use patterns and structures as well as human settlements.

1.4.1 Road Transportation

In Rumuruti Municipality, only classified roads are served by public transport vehicles while the roads linking urban centres to their hinterland are mainly served by motorcycles as the most convenient transport option. Due to fairly dense urban form, majority of the urban dwellers walk to their workplaces, service centres and schools.

Currently, the Municipality is served by about 70kms of road, 11kms of which are tarmacked and 59kms are earth/murram roads as seen on map 2-11 and plates 2-20-21. The potential for roads development within the municipality is immense given that huge chunks of land are still undeveloped.

Map 2-11: Current Road network and circulation options within Rumuruti Municipality

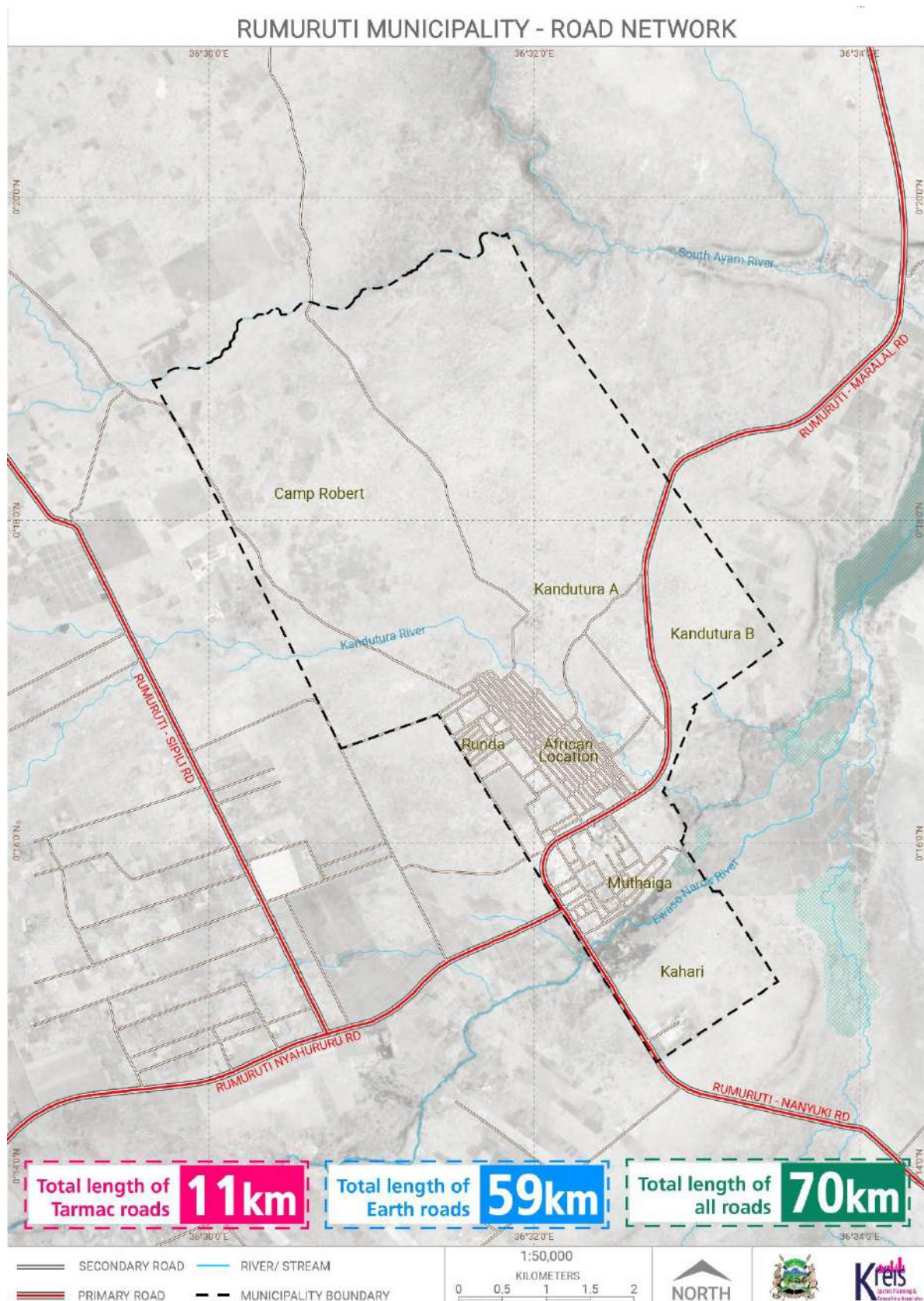




Plate 2-19: Rumuruti - Nyahururu highway (A) and Rumuruti - Maralal highway (B)



Plate 2-20: 1st Millenium Street at African location (A) and CG Kariuki street (B)

Source: Field Surveys 2021

1.4.1.1 Peri- Urban and Rural Roads

Most roads in the peri urban are unclassified roads and of earth/murram standards hence impassable during rainy seasons. Other sections of the roads have been encroached making them narrow and impassable on various sections.

1.4.1.2 Functions of various roads in the town

Category	Route Description	Function
Nyahururu-Maralal road(C77)	Nyahururu-Rumuruti Rumuruti- Maralal	Links Rumuruti Municipality to Nakuru, Nairobi and Eldoret towns. It's the most important road crossing the Municipality. It cuts through the township and define the character of the town. The road is used to transport farm outputs to internal and external markets.

Category	Route Description	Function
Rumuruti-Nanyuki road(C76)	Rumuruti-Nanyuki	Links Rumuruti Municipality to the Northern hinterlands and towns such as Nanyuki, Isiolo and Meru Towns.
D	Rumuruti-Sipili Melwa–Karandi Thome-Mathera road	- Access and link to the rural areas such as Kinamba, Sipili (access to Rumuruti market - Feeds into the key food baskets (crop farms) - Links Rumuruti to Baringo County through Laikipia Ranch - Proposed future link road to the proposed airport
E	Urban roads	- Collect traffic from local streets and feed the urban collector roads. - Serve as feeder roads between residential areas and the urban collector road network. - Serve commercial and industrial zones

1.4.1.3 Modal Split

Transport to and from the town centre to rural hinterlands and inter-linkage with other regional towns is a key economic driver for the success of the town. Trips may be made for different reasons and using different transportation modes based on their availability. The predominant modes of transport used in Rumuruti Municipality are motorized (Public/Private) and Non-Motorized Transport.

Trips generations within and outside the municipality is mainly to work and shopping areas. Rumuruti attracts people from the hinterland to the urban areas to access commercial services, markets and administrative services. The design of the road as utilized currently need improvement to be able to cater for this traffic including those traversing from Nanyuki- Rumuruti, Nanyuki- Nyahururu and Nanyuki- Maralal. Increased number of motorcycle users as a more recent development in transport poses the need for planning for this use in the town.

Table 2-15: Modal split analysis for Rumuruti Municipality

Trip	Mode	Purpose
From Rumuruti Municipality to neighbouring towns within the County	Public transportation by Matatu	- Due to its administrative function, trips are made to and from the municipality to access administrative services - Rumuruti is a major destination for farming communities to deliver

Trip	Mode	Purpose
	- Private transportation via private vehicles. - Motorbikes - Walking	- agricultural produce and livestock to the market. The Town is also a significant source of supply for commodities required in the smaller towns. - Residents from neighbouring satellite towns also work in Rumuruti accounting for higher day population compared to night population
From Rumuruti town to Nairobi	Lorries and Trucks	Due to production of farm produce such as tomatoes and vegetables, Lorries and trucks supply directly to Nairobi which provides a ready and reliable market with highly competitive prices
From Neighbourhoods to the CBD	Private transport, Motorcycles, Foot	This is predominantly a work home trip for the residential population of Rumuruti town. The choice of mode of transport used is a function of proximity, cost, and convenience and income levels.

2.2.6 Means of transport

2.2.6.1 Public transport

Public transport is a shared passenger transport service which is available for use by the general public. Public transport in Rumuruti is the most popular mode of transport accounting for nearly 87% of mobility within and outside Rumuruti Municipality. However, there is a gradual shift away from the public to private transport. This is attested by the high demand for parking space in the town centre. The shift from public modal to private transport will greatly contribute to traffic congestion but result to additional revenue charged from parking.

2.2.6.2 Non-Motorized Transport

Non-Motorized Means of Transport (NMT) include head loading, on bicycles, or through animal transport. NMT is an important means of transport both in urban and rural areas. NMT is important to the residents of Rumuruti Municipality as it helps them have access to employment, health, education and recreation facilities.

It is also majorly used because most vehicles cannot access most of the settlements, due to the narrow roads and their respective poor condition. Non-motorized transport in the

town is comprised of bicycles and walking with the latter being the main form of NMT within the township. The road network within the town needs to be expanded to accommodate the pedestrian and cycle paths.

2.2.6.3 Rail Transport

Currently, there is no rail network within the Municipality. However due to its strategic location in relation to the LAPPSEET Corridor, the Municipality is seen as a future link to towns such as Nyahururu and other regional towns from Isiolo. This can be envisioned as a broader regional strategy that should be contemplated to spur growth of the Municipality.

2.2.6.4 Air transport

Kenya has a well-developed air transport network with six airports in Nairobi, Mombasa, Eldoret, Kisumu, Isiolo and Wajir operating on international and national flights. Rumuruti municipality is served by air transport from various local airstrips. The municipality is surrounded by air fields which handles small aircrafts operating on the national routes. These include Sosian, Olmaisor and Kifuko air fields.

1.4.1.4 Storm Water Drainage

Rumuruti Municipality has a network of open civil storm water drains especially along the major roads. Storm water drainage facilities in the Municipality are poor and inadequate. The primary storm drainage system consists of natural streams and built-up drains. Storm water drainage is a critical problem on the usability of roads. Maintenance of the drainage system seems to be a problem compromising the efficiency of the functionality of the roads during rains. This also leads to erosion and quick deterioration of the roads and streets. The built-up drains are open which may endanger pedestrians especially during the night. The secondary drainage system in many parts of the town is inadequate and where provided, blockages are common due to accumulation of solid wastes, soil and vegetation in the drainages aggravating the problem.



Plate 2-21: Open storm water civil drains within the CBD

Source: Field Survey, April 2021

1.4.2 Emerging Issues

Challenges	Opportunities
▪ Lack of proper drainage system. ▪ Encroachment of the road reserves. ▪ Insufficient parking bays for vehicles. ▪ Economic informality along the busy streets that results to congestion	▪ Adequate land for airstrip development and expansion. ▪ Huge potential for new road developments ▪ Opportunity to reclaim encroached road reserves to widen roads

2.3 Utility Services

2.3.1 Water Supply

Access to safe water and sanitation is a universal need and a basic human right. Insufficient access to water is not only bad for health, but also contributes to poor food security and a lagging social development. Even though Rumuruti Municipality is situated within an arid and semi- arid area, it enjoys almost all year-round water supply as it gets water from Ewaso Narok River through Nyahururu Water and Sanitation Company (NYAHUWASCO). Prior to the passing of the Water Act, 2002, the supply of water to

Rumuruti Municipality and its environs was the sole responsibility of the former Nyahururu Municipal Council. However, following the passing of the Act in 2002 this role was relinquished by the Council and all the Councils water assets passed over to the Northern Water Services Board (NWSB) to manage. This was effected on 6th June 2006. The NWSB in turn leased these assets to NYAHUWASCO in accordance with the Act.

The supply level is grossly inadequate to meet the existing water demand. Besides quantity constraints, inadequate distribution and inadequate maintenance and management support make the situation more difficult, requiring substantial interventions that could be addressed in the plan.



Plate 2-22: An elevated water tank at NYAHUWASCO site

2.3.2 Challenges facing NYAHUWASCO

- Rampant meter and water chambers cover theft.
- Unreliable water supply and inadequate water sources to cater for the rapidly increasing population.
- Dilapidated water pipeline and vandalism of pipes
- Illegal connections
- Collection of old debts especially from Government Institutions (Schools, Governments Departments, Army etc.)
- Unhealthy competition from private water vendors
- Inadequate storage tanks and transmission
- High operational and maintenance cost

- High statutory remittances

2.4 Energy

The planning area has access to a wide range of energy sources ranging from electricity, solar, firewood, charcoal and gas. The most common energy used for lighting is electricity and paraffin while charcoal, gas and firewood are used for cooking.

2.4.1 Energy Consumption trends in Laikipia County

Based on data from KPLC, Laikipia County had an average energy consumption ranging between **111.8GWh** and **114.2GWh** per annum between the years **2018 – 2020** as seen in table 2-16.1

Table 2-16: Total Electricity Consumption in GWh

Description	Current No. of Accounts	Years		
		2018	2019	2020
Domestic - Tariff DC	72,216	12,160,436	12,453,431	13,261,514
Small Commercial - Tariff SC	8,339	17,389,714	17,719,442	16,812,347
Medium Industrial - Tariff SC Group 5	129	9,182,568	9,067,629	9,382,228
Large Industrial - Tariff CI's	64	73,161,441	74,922,549	70,117,979
Total No. of Accounts	80,748			
TOTAL Energy Consumed in kWh		111,894,159	114,163,051	109,574,068
TOTAL Energy Consumed in GWh		111.8	114.2	109.6

Table 2-17: Electricity Consumption per Consumer Category

Description	Current No. of Accounts	Average Annual Consumption in GWh	% of Total Energy Consumed
Domestic - Tariff DC	72,216	12.6	11%
Small Commercial - Tariff SC	8,339	17.3	15%

1 KPLC Laikipia Electricity Consumption Data 2018 - 2020

Medium Industrial - Tariff SC Group 5	129	9.2	8%
Large Industrial - Tariff CI's	64	72.7	65%
Total No. of Accounts	80,748		
Total Energy Consumption in GWh		112	100 %

2.4.2 Laikipia County Projected Energy Demand (Year 2022 – 2030)

The County Government of Laikipia is in the process of undertaking major developments that will require a substantial stable supply of electricity. With Rumuruti being the County Headquarters, the following major projects are proposed;

2.4.2.1 Affordable Housing

In line with the Big 4 agenda, the County Government of Laikipia aims at development of approximately **7,436 units** in an affordable housing scheme with 5,189 units in Nanyuki, 1,747 units in Nyahururu and **500 units** in Rumuruti. Demand in electricity will increase both in the construction and operation phase.

From the KPLC data, **72,216** domestic consumers consume **13.3 GWh** per annum bring the per capita consumption of one unit to approximately **184 kWh per annum**. Existing domestic consumers consist of a mix of single and multi-dwelling residential units. Similarly, the proposed Affordable Housing project will have a mix of bedsitters, one, two and three-bedroom apartments hence representative of the existing domestic consumption.

With an expected completion date in 2027, all **7,436 units** are projected to have power consumption of **1.3 GWh per annum**. This projection has taken into account **184kWh per annum** per capita consumption without factoring generated power consumption from commercial space and support services that will arise as a result of the new residential developments.

2.4.2.2 Rumuruti Special Economic Zone (SEZ)

With the Gazettement of 2000 acres in Rumuruti as a Special Economic zone that has also been provided for in this plan, will attract investors and industrialization and subsequent increased uptake of power. From the KPLC data, Industrialization accounts for 73% of power consumption in Laikipia County.

Laikipia County Government has encouraged manufacturing through the Innovation and Enterprise Development Program which has seen the engagement of over 400 enterprises with 74 products facilitated to local and international markets. Through forums such as the Rumuruti Investment Forum 2021, investors have shown great interest in setting up medium and large industries within the SEZ.

The SEZ is therefore projected to attract the establishment of 25 Large Industries, 50 Medium Sized Industries and 300 Small Commercial Entities. Based on the current KPLC consumption data, the SEZ is projected to generate power consumption demand of **19 GWh per annum** by the year 2026.

2.4.2.3 Growth in horticulture farming

Horticultural farms are projected to double within Rumuruti Municipality in the near future. This is supported by observed growth trends in the last two years. The proposed construction of a multi-purpose dam by the Ministry of Water, Sanitation and Irrigation will help fast-track the growth in horticulture, industry and housing in Rumuruti's environs. The water dam will have a holding capacity of 3,000,000 cubic metres to provide domestic and irrigation water to Rumuruti Municipality and adjacent neighborhoods.

The optimal flower farm size is 35 acres, therefore, using the consumption of 0.5 GWh per annum from a sample of current farms consumption data from KPLC and with the projected growth of horticulture production from expansion by existing farms and an additional 3-5 farms based on investors information gathered from the 2021 Rumuruti Investment Forum, this brings the expected power consumption to **5.4 GWh per annum** by the year 2026.

2.4.3 Total Projected Energy Consumption in Laikipia County

Table 2-18: Projected energy consumption in the next 8 years (Year 2022 – 2030)

Description	Projected Electricity Consumption in GWh Per Annum								
	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Customers as at Year 2020	114.2	116.5	118.9	121.2	123.7	126.1	128.7	131.2	133.9
Affordable Housing	0.1	0.1	0.3	0.7	1.0	1.3	1.3	1.4	1.4

Description	Projected Electricity Consumption in GWh Per Annum								
	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rumuruti SEZ	2.7	6.4	10.2	15.2	19.1	23.1	29.4	32.1	38.3
Extraction and Processing of Minerals	4.7	10.8	16.8	21.5	27.6	33.7	38.4	44.4	45.8
Dams and Horticulture Works	0.9	2.2	3.3	4.3	5.4	6.5	7.1	8.1	8.8
Total Electricity Consumption in GWh	122.6	136.0	149.5	163.0	176.7	190.7	204.8	217.3	228.2

Source: CGL (Department of Energy and Mining), 2021

2.4.4 Proposed Rumuruti Solar Generation (RSG) Plant

There's a proposed Rumuruti Solar Generation Plan that is expected to generate approximately **115GWh** per annum, which is equivalent to the current annual demand of Laikipia County. This is a project that will not only ensure stable supply of energy in Laikipia County as a whole but will also provide employment, promote businesses and industrialization, as well as mitigate on the adverse impacts of climate change by promoting green energy.

2.5 Waste Disposal Methods

Pit latrines and Septic Tanks are the most common methods of waste disposal within the Municipality. Use of pit latrines is prevalent in the rural hinterland and in the informal settlements. It is important to note that currently, there is no sewer reticulation network in the municipality.

2.5.1 Solid waste

Solid Waste Management (SWM) is one of the important obligatory functions of any urban management board as stipulated in the Kenyan Urban Areas and Cities Act, 2011. The fundamental target of solid waste management is to protect the health of the population, promote environmental quality, enhance sustainability and provide support to economic productivity through utilization of waste as a resource. The management of solid waste in Rumuruti Municipality is the responsibility of the Rumuruti Municipal Board. However, the private sector has been increasingly involved in refuse collection and disposal.

Approximately 4986 tonnes in 2019 and 5226 tonnes in 2020 tonnes of waste were collected by the Municipal Board.

The town area is zoned to necessitate easier organization of sweeping and collection.

- Zone A- consists of Town frontage, sanitary lanes and open storm water drains
- Zone B- consists of bus stage and Market areas, Mtumba and adjacent storm water drains
- Zone D- consists of areas along Nanyuki and Nyahururu roads adjacent areas of the road to Maralal from roundabout
- Zone E-consists of all Sanitary lanes around old Council estate, DEB primary, Stadium Road and Mombasa Ndogo
- Zone G-consists of Muthaiga estate, government road and Auction market road
- Zone F- consists of areas around El Poraiso, Hospital Road and environs.
- African Location and Runda Estate is divided into sanitary lanes.

2.5.1.1 Types of wastes

Within the municipality, solid waste mainly consists of garbage from households, commercial enterprises, factory waste, agricultural waste from markets and farmers, metal scrap from garages and fabricators, plastics and polythene bags from bars, hotels and restaurants. Etc. Like many Municipalities in Kenya, Rumuruti is experiencing a growing challenge of managing the ever increasing inorganic waste which is non-biodegradable.

2.5.1.2 Waste Handling and Waste Sorting

This involves the activities associated with management of waste from the dumping points until the last point for collection and sorting. Separation of waste components is an important step in the handling and storage of solid waste at the source. Solid waste is rarely sorted out at the source where you find that all the waste items (paper, plastic, glass, metals and foods) are all mixed together. From the ground survey, waste sorting disposal or storage within Rumuruti Municipality and the surrounding urban areas is minimal. However rural hinterland and peri urban area residents normally separate waste before composting into manure.

In African location a skip bin system is employed. The skip flooring is perforated to prevent accumulation of leachate in the skip and prevent corroding. Refuse litter bins are stationed at different points within the township including the Matatu Stage and African Location.

2.5.1.3 Solid Waste Collection

Out of the total solid waste generated, the Municipality is able to handle approximately 70% of it daily especially from the CBD for disposal at the dumpsite. The Municipality lacks adequate containers for holding waste and this is attributed to the lower volumes collected on a daily basis.



Plate 2-23: Lack of solid waste collection containers in Residential areas leading to illegal Dumping in Muthaiga (A) and African location (B)

Source: Field Surveys, April 2021

2.5.2 Dumpsite

The Current Rumuruti Municipality Dumpsite is located at the zone earmarked for Existing Solid Waste Disposal Site in the approved development plan No. 35 and will also be reflected in the proposed Plan.

2.5.2.1 Management of Dumpsite

The dumpsite was surveyed in 2019 and has an average of 5 acres. The site is not fenced hence it is easily accessible to animals, children and other people easily thus exposing them to serious health risks. In addition, the dumpsite is a home to homeless people who scavenge collecting plastics and metals for sale to local dealers. As much as scavenging reduces waste at the dumpsite through recycling initiatives by private investors, it should be done within acceptable safety standards moreso to the scavengers by:

- Registering scavengers so that their numbers can be controlled and a strict code of safety introduced.
- Barring children from accessing the dumpsite.
- Providing protective gears at all times to protect them from sharps, (hypodermic needles, broken glass, timber with nails, metals, etc.).
- Vaccinating scavengers against tetanus, hepatitis B, cholera among other diseases

2.5.2.2 Volumes

- Waste collected in 2019 was 4986t
- Waste collected in 2020 was 5226t
- The average tonnage per month is 420t.
- The average tonnage per day is 12t.

Current activities taking place at the dumpsite

- Open air burning of waste
- Scavenging of recyclable items by human scavengers
- Grazing of domestic animals –Cattle, Sheep, goats
- Hazardous dumping of refuse at the disposal grounds by unknown persons.

2.5.2.3 Management Staff responsible for solid waste management

Technical officers/Management staff	1
Supervisor/IT	1
Unskilled staff	13
Drivers	2

2.5.2.4 Effects associated with the poor waste management at the dumpsite

Some of the associated effects are outlined below:

- Decomposing waste from the dumpsite leads to production of leachate which can contaminate ground water sources.
- Decomposing waste also increases the chances of global warming by releasing methane which is produced from accumulated waste. Methane is 20 times more dangerous greenhouse gas than carbon dioxide which is also released through burning of waste at the site.

- Another problem associated with the waste dumping is windblown plastics that are littered all over the town thus polluting the neighboring areas. For example, plastic bags from the dumping site were noted to pollute areas outside the fenced dump site boundaries. The bags further pollute the nearby waste treatment ponds, reducing efficiency, resulting in more environmental degradation like air pollution.
- Another challenge posed by the existing dumpsite is the presence of Marabou storks and other bird species that pose threat during landing and taking off of aircraft. This is due to the presence of the nearby land where an airport is proposed.

To achieve sustainable solid waste management in Rumuruti, the study observed various options that can be adopted to improve the existing situation. These options include identifying a new site for proposed dumpsite, waste separation at source, recycling, efficient and better management and fencing of the dumpsite. Other associated challenges and identified opportunities are discussed below.

Challenges	Opportunities
<i>Collection and Transport</i> Low budgetary allocation for operations and maintenance of truck Poor roads leading to the dumpsite Increased generations of waste and changing consumption patterns	Ample land for appropriate waste disposal infrastructure such as secured landfill facility Professionals involved in management of solid waste in the municipality
<i>Waste Recovery</i> Lack of segregation Negative attitude and ignorance on best waste management practices by the community	
<i>Legal Requirements and Enforcements</i> Low compliance to environment legislation	
<i>Disposal</i> Lack of appropriate waste disposal infrastructure	
<i>Organized Labor</i> Shortage of loaders Political interference.	

2.5.2.5 Hazardous Waste Disposal

A Hazardous waste is waste that poses substantial or potential threats to public health or the environment. Characteristic hazardous wastes are materials that are known or tested to exhibit one or more of the following four hazardous traits: ignitability (i.e. flammable), reactivity, corrosivity and toxicity. Within Rumuruti town and its environs hospital waste and asbestos are the only hazardous waste. Proper mechanisms should be initiated for removal and disposal of asbestos on all public buildings in the municipality.

2.6 Cemetery

Presence of a cemetery is vital for a rapidly growing town such as Rumuruti Municipality. Field surveys revealed that some area residents prefer to bury the dead within homesteads. This is especially in the rural hinterland of the town. Future urban developments may be hindered due to numerous graves. Rumuruti town is cosmopolitan hence cemeteries for the two main religions should be provided. The town has three cemeteries and only one is functional.

2.7 Information, Communication and Technology (ICT)

Rumuruti has a post office located within the CBD. However, with the emergence of modern technology, the use of postal services has diminished over time leaving the station barely active. The most common modes of communication are emails, Short Messaging Services (SMS), phone calls and courier services.

2.7.1 ICT Hub

There is an existing functional ICT hub in Rumuruti Municipality. It is located within the DC headquarters premises. The hub was provided by the county government of Laikipia in 2018 and has been operational since. The hub is divided into two rooms. The bigger room is equipped with 14 computers among which 11 are functional. The other room is for the hub users who have personal laptops and don't need the preinstalled computers. At the moment the hub can only sit 6 people at a time due to the COVID-19 restrictions. Before the hub could sit a maximum of 15 people. The ICT hub receives an average of 20 persons a day.

The hub is operated by two staff members who provide assistance to the hub users. The hub also offers technical assistance to the offices within the DC headquarters through the assigned staff. The hub has low maintenance costs currently due to the small office space and the low number of computers. However, given the large number of a youthful population, and the projected population increase, the Plan will need to proposed areas where youth resource and talent centres could be established.

2.7.1.1 Challenges faced in the Existing ICT Hub

- Frequent internet disconnections occur from time to time
- Inadequate staff. This is prevalent when the hub receives a high volume of users.
- The space currently in use is too small to accommodate the demand the hub currently has in terms of visitors in a day.
- The computers present are inadequate to match the demand.

2.7.1.2 Other Communication Modes

Mobile phone network coverage within the town is good with all the major mobile network service providers covered i.e. Safaricom and Airtel. With the widespread use of mobile banking, use of M-Pesa services is the most common evidenced by the huge number of M Pesa agents within the town. There are also several cyber cafes within the town to provide internet surfing, printing, report writing, photocopying and scanning services. Daily parcel delivery services are done through Matatu Sacco's and Kenya postal services. Installation of fiber optic cables has been ongoing in some areas of the Municipality especially within the CBD.

2.7.2 Emerging Issues

Challenges	Opportunities
Poor Network Coverage limiting effective communication Expensive internet connection rates	Need to provide more functional community ICT hubs The involvement of the Private sector in provision of internet services promotes affordability and connectivity

2.8 Social Infrastructure

2.8.1 Health Facilities

Rumuruti municipality is served by 3 health facilities located around its catchment area. These facilities are Rumuruti sub-county hospital, Unison medical Hospital (private facility) and Rumuruti Catholic dispensary (faith-based organization). Other satellite facilities include: Melwa health center (Gatundia), Thome Dispensary, Thome catholic Dispensary, Maundu Meri Dispensary, Ndurumo Dispensary and Lorien Dispensary. These facilities offer different services depending on their level as illustrated in table 2-19 below.

Table 2-19: Health Facilities within Rumuruti Municipality catchment area

Facility	Ownership	Level	Land Size	Catchment Population	Services Offered
Rumuruti sub-county hospital	G.O.K	IV	53 Acres	34025	Immunization, curative, preventive, maternal child health, inpatient services, family planning, laboratory services, special clinics, referral services and pharmacy services.
Melwa health center	G.O.K	III	6 Acres	7730	Immunization, curative, preventive, maternal child health, family planning, laboratory services, special clinics and pharmacy services.
Thome dispensary	G.O.K	II	2 Acres	7103	Immunization, curative, preventive, maternal child health, family planning, special clinics
Unison Medical Hospital	Private facility	III	1 Acre	1945	Immunization, curative, preventive, maternal child health, inpatient services, family planning, laboratory services, special clinics, theatre services, dental services radiology services and pharmacy services.
Rumuruti Catholic Dispensary	F.B.O	II	1 Acre	2410	Immunization, curative, preventive, maternal child health, laboratory services,

Facility	Ownership	Level	Land Size	Catchment Population	Services Offered
					special clinics and pharmacy services.
Thome catholic Dispensary	F.B.O	II	3 Acre	1502	Immunization, curative, preventive, maternal child health, family planning, and pharmacy services.
Ndurumo Dispensary	G.o.K	II	2 Acres	5014	Immunization, curative, preventive, maternal child health, family planning, and pharmacy services.
Maundu Meri Dispensary	G.o.K	II	3 Acres	3291	Immunization, curative, preventive, maternal child health, family planning, and pharmacy services.

Source: CGL, Department of Health, 2021

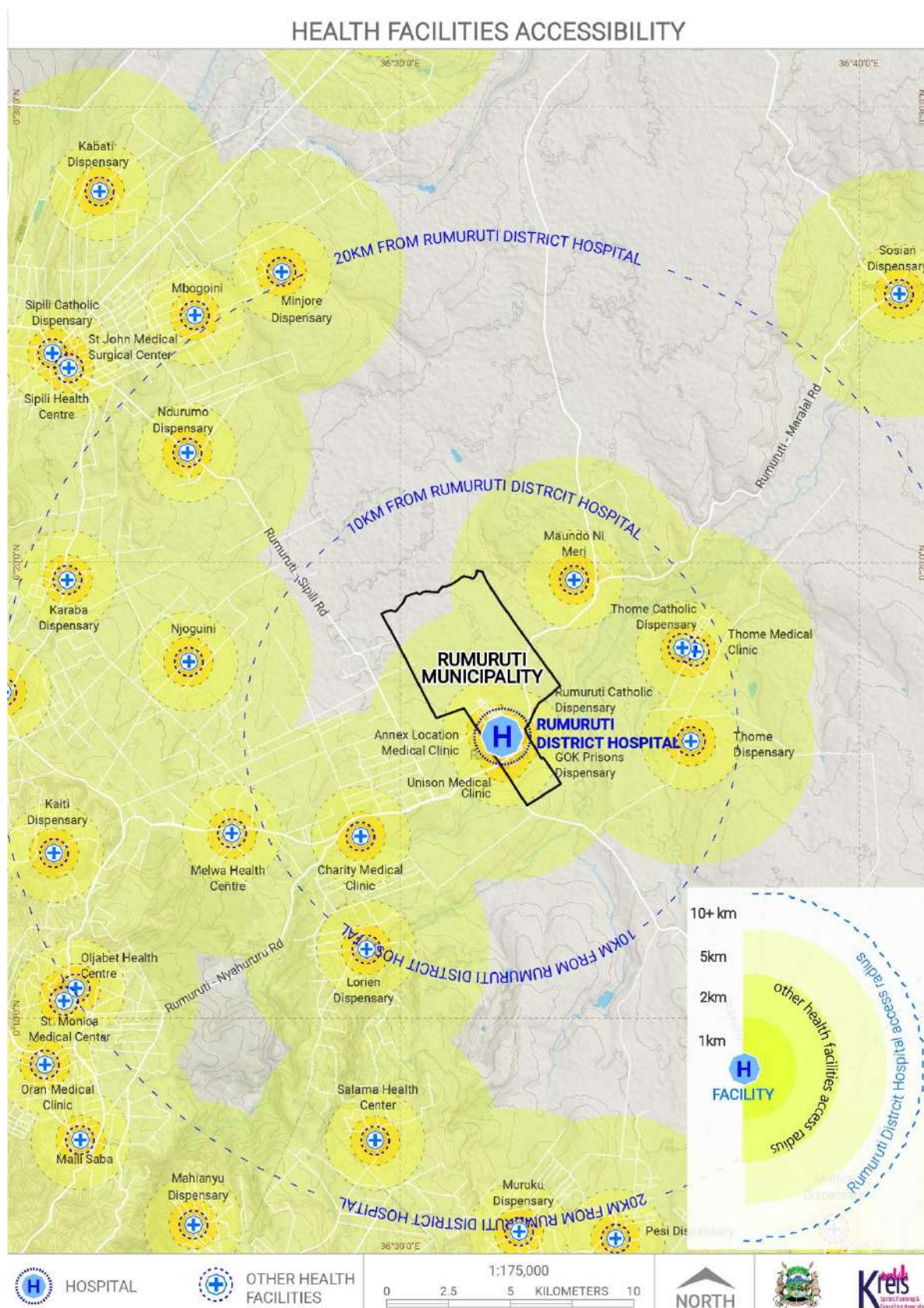
Table 2-20: Capacities of Health Facilities

Facility	Bed capacity	Average number of patients per day	Number of health care workers (doctor patient ratio)
Rumuruti sub-county hospital	28	160	47 (1:4)
Melwa health center	0	91	12 (1:8)
Thome dispensary	0	30	2 (1:15)
Unison Medical Hospital	47	60	24 (1:3)
Rumuruti Catholic Dispensary	0	30	4 (1:8)
Thome catholic Dispensary	4	15	1 (1:15)
Ndurumo Dispensary	0	40	3 (1:13)
Maundu Meri Dispensary	0	25	2 (1:12)

Source: CGL, Department of Health 2021

The spatial distribution of the health facilities within a 20km radius of Rumuruti Municipality is represented in map 2-12 below.

Map 2-12: Spatial distribution of health facilities within Rumuruti Municipality catchment area



Most of the health facilities are not in a bad physical condition but improvements and expansion strategies will need to be explored in light of the projected population increase within the Municipality. Rumuruti sub-county hospital is the main facility within the Municipality and is well equipped and staffed as follows:



Plate 2-24: Rumuruti sub-county hospital out-patient department

Source: Field Surveys, April 2021

Table 2-21: Rumuruti sub-county hospital staff per cadre

Cadre	Number of staffs
Medical offices (doctors)	4
Pharmacists	2
Laboratory technologists	6
Pharmaceutical technologists	2
Nurses	17
Public health officers	1
Nutritionists	2
Medical records officers	1
Social workers	1
Clinical officers	7
Biomedical engineers	1
Clerks	2
<i>Specialists</i>	
ENT specialist	0
Psychiatrist	0
Dermatologist	0
Surgeons	0
Pediatrician	0
Support staffs	15
CHV	18
Drivers	2

Source: CGL, Department of Health 2021

Table 2-22: Emerging issues on Rumuruti Sub County Hospital

Rumuruti sub-county hospital	Current status	Recommendation
<i>Access</i>	The facility is accessible from one direction only i.e hospital road	Improve access by having entry and exit points
<i>Parking</i>	Adequate space available	Provide modern structures for parking
<i>Solid waste management</i>	Burning chamber, placenta pit available	A modern incinerator needed.
<i>Staffing</i>	A total of 47 health care workers from various cadres	- Employ more staffs to cover the missing cadres and capacity build on available staff - Build staff houses
<i>Mortuary</i>	Not available	Provide a modern equipped mortuary within the facility
<i>ICT</i>	Fiber optic connectivity and 10 computers available.	- Improve connectivity to all service delivery points and supply of computers - Train all health care workers on ICT skills
<i>Power connectivity</i>	Served by 3phase power supply and a back-up generator	Improve on alternative power supply eg. Solar systems
<i>Water supply</i>	Piped water supply available (NYAHUWASCO)	Water storage facilities needed.
<i>Building structures</i>	Permanent structures provided ie Out Patient block, inpatient block, x-ray block, kitchen block and theatre block.	Equip the theatre and x ray blocks, provide administration blocks, boardroom and conference hall.
<i>Customer care provider</i>	No customer care personnel available	- Employ customer care providers - Beautification of the facility by planting trees and flowers
<i>Sanitary facilities</i>	1 block with 6 doors pit latrines provided and two WCs for staffs	Provide additional sanitary facilities and modern laundry equipment
<i>security</i>	External security firm hired	- Install CCTV cameras to improve on security surveillance. - Construct a permanent fence
<i>Referral services</i>	1 ambulance available	Procure one extra ambulance.
<i>Utility vehicles</i>	No utility vehicle available	Provide 2 utility vehicles

Source: CGL, Department of Health 2021

Additionally, and for purposes of serving future interests, it is proposed that the facility should:

- Be upgraded from level 4 to level 5 and provide all the level 5 services as a county referral hospital.
- Provide a medical training institution.
- Provide a crematorium to cater for the population cluster that would require the amenities.

2.9 Education Facilities

A well-functioning Municipality should be such that optimum location of different public facilities including schools, stadium and public parks are considered. The space is not usually sufficient and therefore need for proper Municipality planning. In that regard, institutions such as Early Childhood Education (ECDE) centres, primary schools, secondary schools, TVETs/Polytechnics, institutions of higher learning and research facilities need to be provided for in any Plan.

Within the catchment area of Rumuruti municipality, most of the educational facilities are government owned approximated at about 82% of the total facilities while just about 18% are privately owned either by faith-based organizations or individuals. It is common practice within the Municipality that most ECDEs form part of the primary schools while others are stand alone. There are instances where certain institutions such as primary and secondary schools share public amenities like playing fields within the Municipality.

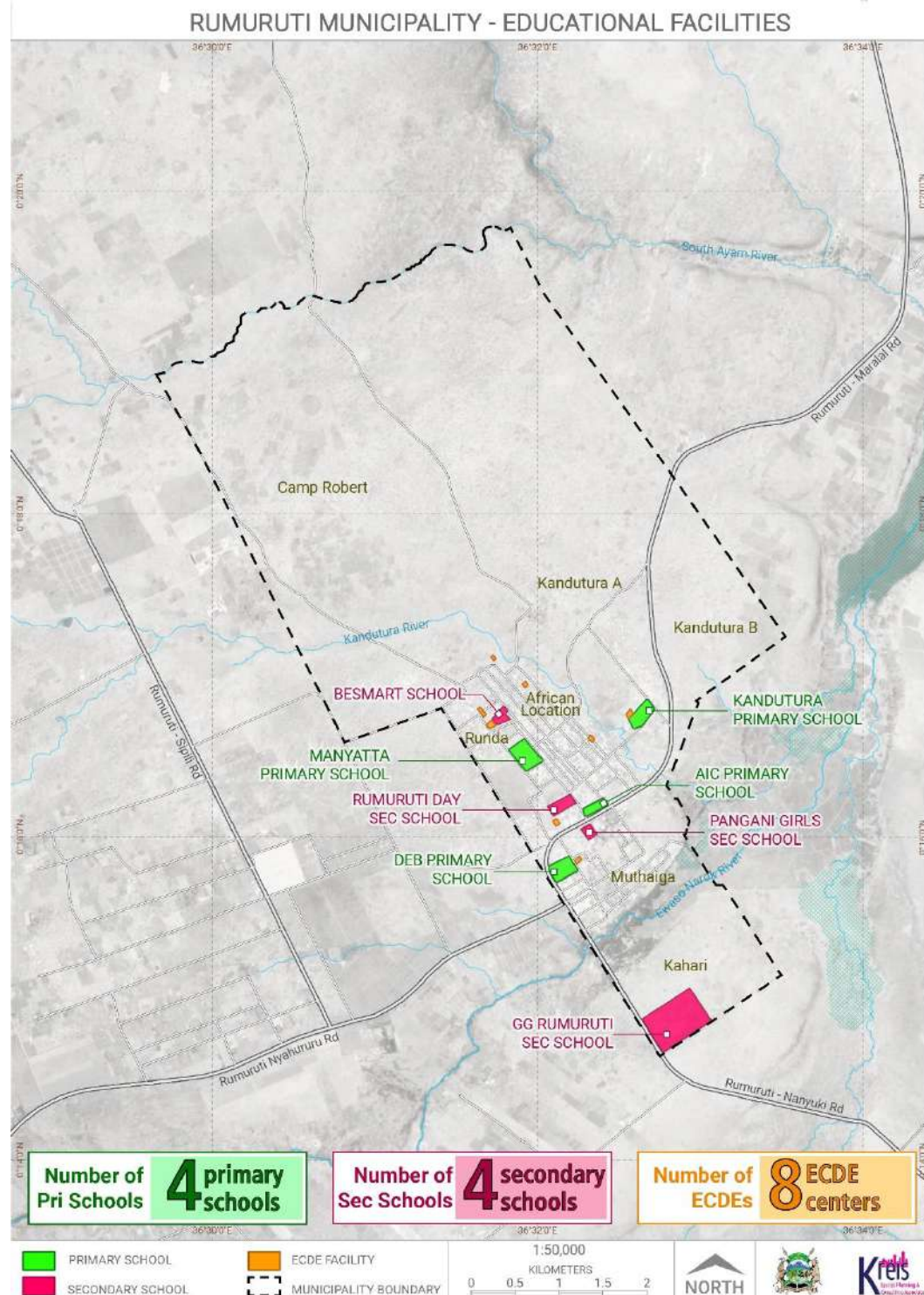
Table 2-23: Number of Education Facilities within Rumuruti Municipality catchment area

s/no	Name	No.		Total
		Public	private	
	Early childhood education	28	5	33
	Primary school	21	4	25
	Secondary schools	6	2	8
	Adult learning center	0	0	0
	Tertiary education	1	1	2
	Higher learning institutions	0	0	0

Source: CGL, Department of Education, 2021

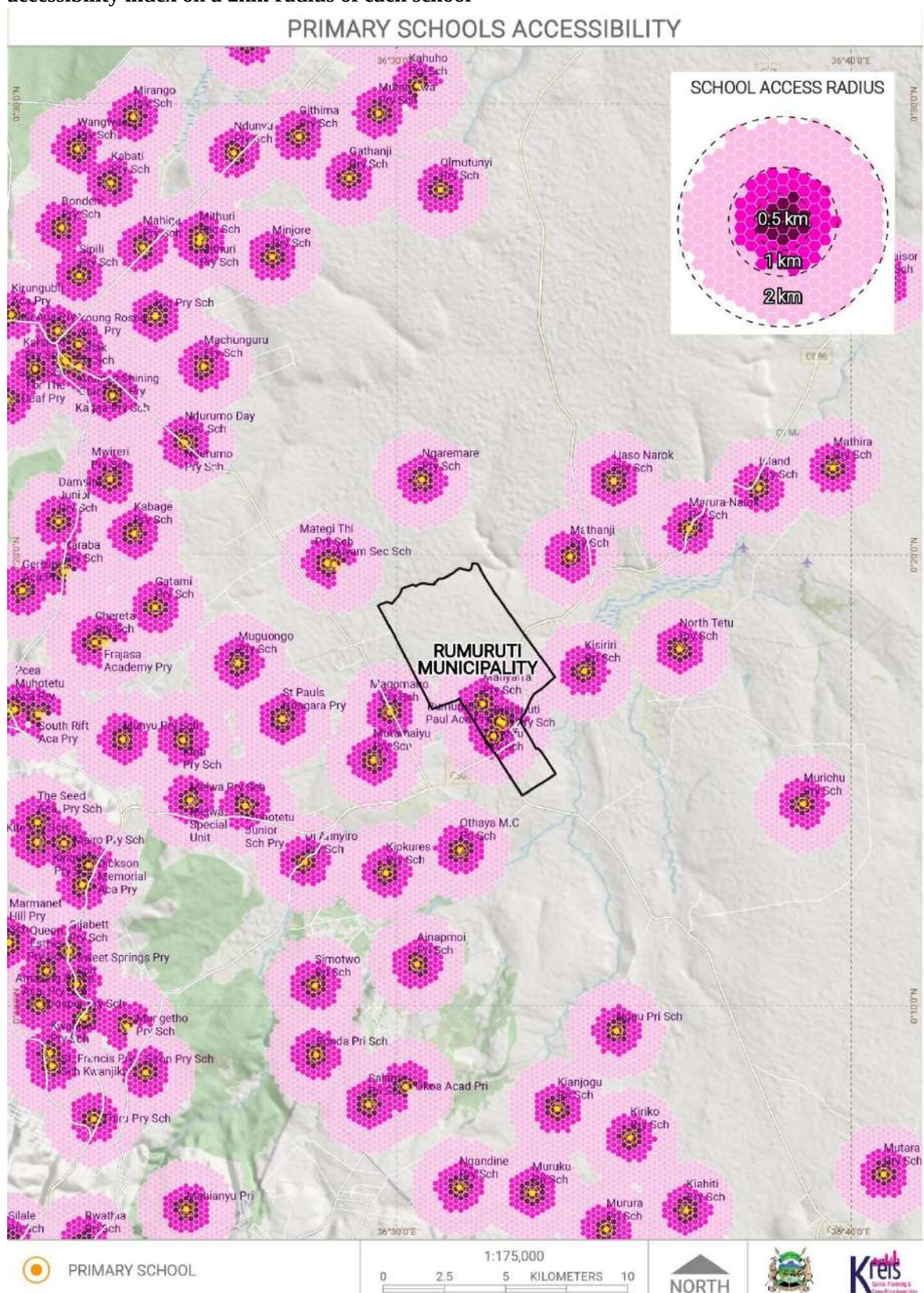
The distribution of the schools within the Municipality is as follows:

Map 2-13: Distribution of schools within Rumuruti Municipality



The rest of the schools as outlined in table 2-23 above are localized within the catchment area of Rumuruti Municipality and are distributed as follows.

Map 2-14: Distribution of primary schools within Rumuruti Municipality catchment area with respective accessibility index on a 2km radius of each school



From the maps above, it is evident that some of the areas targeted for expansion of the municipality are not well served with educational institutions on a 2km radius. This ultimately points towards the need for more schools around those areas to cater for the demand that may arise out of the projected population increase in the municipality. This could also be complimented by expanding the existing institutions either through vertical densification to accommodate more students or horizontal expansion of the institutions. This should go hand in hand with extra staffing to cater for the student demand and bridge on the student-teacher population ratio. The tables below detail out the actual numbers and other information regarding the educational institutions within the Municipality and adjacent areas.

Table 2-24: Table showing important ECDE Data in Rumuruti

ECDE CENTRES DATA- Rumuruti									
S/NO	MAIN SCHOOL	ENROLMENT	No. of Teachers	Teacher student ratio	FEEDER SCHOOL	ENROLMENT	No. of Teachers	Teacher student ratio	APPROX. DISTANCE TO MAIN SCHOOL
1	Rumuruti DEB B	196	5	39	Kahari	63	2	32	3km
2	Manyatta	105	4	26					
3	Magomano	156	3	52	Mathuri	43	2	22	2km
4	Mutamaiyu	43	2	22	51 ECD	43	2	22	4km
5	Murichu	80	2	40					
6	Olarinyiro	76	3	25	Olarinyiro B	120	2	60	200m
					Siriat	48	2	24	4km
					Kambi ya simba	118	2	59	5km
7	Kapkures	85	4	21	-	-	-	-	-
8	Emgwen	83	3	28	-	-	-	-	-
9	Simotwo	97	4	24	-	-	-	-	-
10	Ainapmoi	78	3	26	Kebeni	45	2	23	4km
11	Othaya M C	74	2	37	-	-	-	-	-
12	Mategithi	76	2	38	3point ECDE	12	1	12	-
13	Ndurumo	111	3	37	-	-	-	-	-
14	Machunguru	63	2	32	Mboboini	42	1	42	4km
15	Kagaa	73	3	24	Bahati	24	1	24	4km
16	Mwireri	68	3	23	-	-	-	-	-
	Totals	1314	48	27	-	633	20	32	-

Source: CGL, Department of Education, 2021



Plate 2-25: (A) DEB ECDE sharing compound with DEB primary school and (B) Manyatta ECDE

The images above represent the typical nature of the various ECDE centres within the catchment area of Rumuruti Municipality. The table below details out the primary schools characteristics.

Table 2-25: Number and enrolment in primary schools within the catchment area of Rumuruti Municipality

RUMURUTI ZONE SCHOOLS ENROLMENT2021																												
SNO	SCHOOL'S	GRADE 1			GRADE2			GRADE 3			GRADE 4			CLASS 5			CLASS 6			CLASS 7			CLASS 8			GRAND TOTAL		
		BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOY	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT
1	Kapkures	27	28	55	21	19	40	34	21	55	26	23	49	37	29	66	33	28	61	25	39	64	30	26	56	233	213	446
2	Mutamaiyu	18	18	36	10	13	23	12	16	28	14	13	27	14	12	26	12	10	22	14	21	35	15	10	25	109	113	222
3	Olarinyiro	53	51	104	49	41	90	40	46	86	46	49	95	26	30	56	50	41	91	49	37	86	32	37	69	345	332	677
4	Mategithi	12	16	28	24	13	37	20	16	36	20	18	38	23	18	41	16	22	38	19	23	42	12	12	24	146	138	284
5	Island	18	29	47	33	38	71	26	25	51	22	23	45	19	24	43	31	27	58	22	37	59	25	15	40	196	218	414
6	ecodary	16	10	26	18	12	30	19	11	30	19	19	38	25	22	47	28	32	60	22	32	54	43	34	77	190	172	362
7	Manyatta	67	43	110	53	44	97	48	48	96	46	59	105	62	50	112	54	53	107	54	47	101	53	57	110	437	401	838
8	Rumuruti DE	74	86	160	90	72	162	86	66	152	96	91	187	72	92	164	84	67	151	83	88	171	67	73	140	652	635	1287
9	Ngaremare	33	29	62	25	18	43	21	14	35	14	9	23	21	7	28	12	10	22	11	12	23	9	5	14	146	104	250
10	Ainapmoi	34	43	77	27	24	51	25	26	51	38	27	65	36	31	67	37	28	65	25	31	56	30	20	50	252	230	482
11	Murichu	23	21	44	22	23	45	19	21	40	16	15	31	21	18	39	15	24	39	18	22	40	22	11	33	156	155	311
12	Rumuruti sp	30	15	45			0			0			0			0			0			0			0	30	15	45
13	othaya Mc	22	23	45	23	32	55	35	20	55	14	20	34	19	28	47	12	15	27	15	16	31	14	11	25	154	165	319
14	Magomano	35	40	75	32	40	72	21	31	52	28	20	48	40	36	76	30	20	50	24	29	53	22	35	57	232	251	483
15	North Tetu	40	44	84	51	35	86	52	62	114	42	42	84	68	51	119	54	38	92	40	59	99	50	57	107	397	388	785
16	Emgwen	20	41	61	12	12	24	11	10	21			0			0			0			0			0	43	63	106
17	Marura Nar	12	18	30	13	13	26	8	11	19	11	7	18	11	10	21	14	6	20	10	10	20	2	9	11	81	84	165
18	Mathanji	39	31	70	36	31	67	40	22	62	28	21	49	28	21	49	23	21	44	19	9	28	25	17	42	238	173	411
19	Narok	31	23	54	26	22	48	18	14	32	24	14	38	18	13	31	26	22	48	16	0	16	15	13	28	174	121	295
20	simotwo	25	22	47	30	21	51	31	18	49	27	25	52	24	27	51	26	30	56	28	29	57	37	22	59	228	194	422
21	Kandutura	42	34	76	39	28	67	33	40	73	24	37	61	35	37	72	32	26	58	30	25	55	21	16	37	256	243	499
	TOTAL	671	665	1336	634	551	1185	599	538	1137	555	532	1087	599	556	1155	589	520	1109	524	566	1090	524	480	1004	4695	4408	9103

PRIVATE SCHOOLS 2021																													
SNO	SCHOOL'S	GRADE 1			GRADE2			GRADE 3			GRADE 4			CLASS 5			CLASS 6			CLASS 7			CLASS 8			GRAND TOTAL			TOTAL
		BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOY	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	BOYS	GIRLS	TT	
1	PCE SIRAI	19	21	40	16	8	24	17	11	28	8	8	16	8	6	14	8	6	14	8	1	9			0	84	61	145	
2	St Paul Acad	25	33	58	28	21	49	19	22	41	21	20	41	22	23	45	21	24	45	23	24	47	17	20	37	176	187	363	
3	Familia Taka	67	65	132	59	58	117	55	53	108	62	34	96	56	42	98	76	52	128	56	48	104	46	37	83	477	389	866	
4	Besmart And	22	9	31	16	11	27	11	7	18	11	6	17	5	11	16	4	3	7	4	5	9	2	2	4	75	54	129	
	TOTAL	133	128	261	119	98	217	102	93	195	102	68	170	91	82	173	109	85	194	91	78	169	65	59	124	812	691	1503	

Source: CGL, Department of Education, 2021



Plate 2-26: Manyatta primary school (A) and AIC private academy (B)

Source: Field Surveys, April 2021

On the other hand, the enrolment and transition from primary to secondary schools within the Municipality has been quite high though not a 100%. The secondary schools within the catchment area of the Municipality are as shown in table 2-26 and map 2-13.

Table 2-26: Number and enrolment in secondary schools within the catchment area of Rumuruti Municipality

SNO	Name	Form											
		One		Two		Three		Four		Total			
		Boys	Girl	Boy	Girl	Boy	Girls	Boy	Girls	Boys	Girls	TT	
1	Aiyam	25	30	28	23	27	30	23	22	103	105	208	
2	Emgwen	12	18	19	31	27	24	5	15	63	88	151	
3	GG Rumuruti	316	0	245	0	217	0	204	0	982	0	982	
4	Mutamaiyu	29	25	21	15	11	5	10	9	71	54	125	
5	Olarinyiro	64	85	56	62	48	63	54	35	222	245	467	
6	Rumuruti day	107	88	59	66	67	54	50	48	283	256	539	
	TOTAL	553	246	428	197	397	176	346	129	1724	748	2472	

Source: CGL, Department of Education, 2021

The findings show that there are more boys, 1724, than girls, 748 attending secondary school within the municipality and its environ. As an assumption, it can be concluded that the transition rate from one class to the next decreases from form one to form four as indicated by the 799 students in form one and 475 students in form four of the same year. Within the private schools, however, the girls are enrolled in larger numbers than the boys as seen in table 2-27 below.

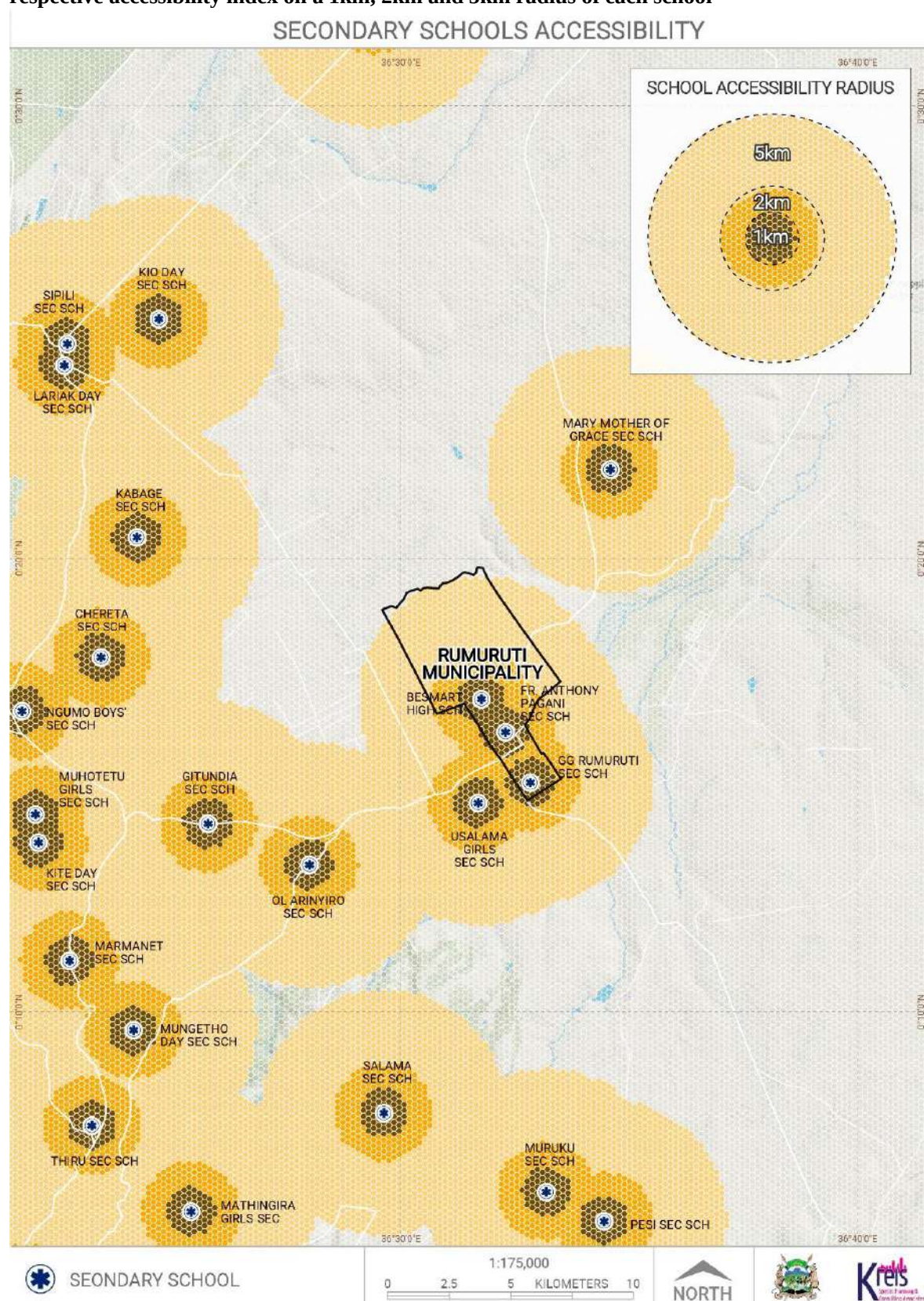
Table 2-27: Student population in the two private schools in the municipality.

	Form 1	Form 2	Form 3	Form 4
Boys	113	113	83	65
Girls	109	100	86	93

Source: CGL, Department of Education, 2021

Overall, the distribution and access of secondary schools within the municipality can be assumed to be balanced as they follow human settlement patterns as presented in map 2-15. However, as population increases, more secondary schools will need to be constructed.

Map 2-15: Distribution of secondary schools within Rumuruti Municipality catchment area with respective accessibility index on a 1km, 2km and 5km radius of each school



There is only one vocational centre within the municipality as seen in plate 2-30 which has so far graduated sixteen students comprising of 4 from the garment making division, 2 masonry, 6 electricians, and 4 hair dressers. This has enabled at least a third of them to be self-employed and serving the market. The municipality has no institute of higher learning, research institute, or a cultural centre. A few historic sites that need to be conserved including the Ewaso Narok canals build by the Italian prisoners of war, and the settler's cemetery still exist and the proposal is to have them conserved for their historical significance. Other facilities that maybe of interest or with a historical significance include the post office which could be integrated with a civic space for public recreation purposes.



Plate 2-27: Rumuruti Vocational Centre

Source: Field Surveys, April 2021

2.9.1 Educational needs of persons living with disabilities

Within the municipality, Rumuruti DEB is the only school which integrates special needs students and those living with diverse disabilities. Currently, the school has 45 students with special needs (25 boys, 20 girls) who are served by 4 teachers (1m, 3f) in their quest for education. Current planning paradigms require that people living with disabilities are considered while formulation development plans and as such, various factors ought to be considered to ensure their right to education access is guaranteed. Therefore, moving on

to the future, more and more schools will need to be developed with supporting infrastructure within the municipality to ensure more and more special needs students derive the value in education.

2.9.2 Social halls

In any well-functioning municipality, town halls and social halls are very important public spaces. In most cases, halls offered convenient places to hold meetings, recreate, and enhancing the social fabric of a community. In Rumuruti Municipality, the available social halls are either owned privately through institutions such as churches or publicly. They are three and are presented below in table 2-28.

Table 2-28: Social halls

S/No	Name	Capacity (No. of People it can hold)
	Rumuruti Social Hall	100
	Familia Takatifu	300
	Kandutura Catholic Social Hall	200

Source: CGL, Department of Education and Social Services, 2021

2.9.3 Recreation Parks, Museum and Cultural Centres

Museums play an integral role in preserving the history of a place. The history and culture of Rumuruti municipality is rich and it is therefore important to exhibit it. In addition, the museums and cultural centres will earn revenue to the county government as well as double up as a livelihood system for the municipality residents. As such, the museum will act as repositories of the people's skills, talents, knowledge, and ways of life that will require safe keeping for future reference. Individuals or organizations will also be able to deposit or surrender trophy, artifact and antiques for safe custody. In that regard, the promotion of research, education and leisure objectives, as well as the use of technologies will be achieved if museums and other public facilities are allocated space within the plan.

1.4.3 Youth and Sports

Physical activity is vital to the holistic development of young people, fostering their physical, social and emotional health. The benefits of sports reach beyond the impact on physical well-being. Rumuruti municipality has only one stadium located within the CBD

along Rumuruti Maralal road at latitude N0° 16' 2" ; longitude E 36° 32' 9" and an altitude of 1863 M a sl. The stadium will need to be rehabilitated or improved to offer more amenities that would allow focus on diversified talent pooling among the youthful population. Additionally, the plan may need to make more considerations towards provision of a larger area where a future Municipality stadium could be constructed.



Plate 2-28: Existing Rumuruti stadium

Source: Field Survey, April 2021

2.9.4 Library services

The municipality has an area reserved for public library services. The site is currently underutilized and may require rehabilitation and improvement to scale it up to a level that can be used as a resource centre. The plan will require to make provisions for such strategic actions for implementation by the municipality and/or other government partners. The site is shown in the images below.



Plate 2-29: Current Library Site

2.10 LAND & LAND USE

2.11 Land tenure and ownership dynamics

2.11.1 Land tenure

Land tenure in Kenya is categorized as Public, Private and Community Land and is held by owners either under leasehold terms or freehold tenure. Within Rumuruti Municipality, Land is predominantly public land allocated to individuals on leasehold terms. The land under private ownership in the planning area is further segregated to three main land uses Commercial, residential, and mixed farming. Within the public land, squatter settlements are a widespread characteristic. In that regard, the County government of Laikipia has initiated regularization processes in settlements such as African location, Kandutura and Kahari to provide clear land ownership thus enhancing land utilization and minimizing land related conflicts.

Currently, the government has issued about 3,000 allotment letters within African location area, 300 in Kahari, and 1,200 in Kandutura. However, out these allocations, only 57 leases have been processed and issued, representing about 1.3% of the total allotted land.

2.11.2 Land use analysis

Land use within the Rumuruti Municipality corresponds to the land tenure regimes as highlighted above. Public land is generally occupied by government offices, public facilities and utilities such as hospitals, police station, markets, bus parks, schools and cemetery among others while private land is under commercial and residential purposes.

However, the town lacks functional recreational facilities such as urban parks even though adequate spaces have been allocated. Additionally, a considerable portion of land allocated for commercial purposes, public purpose and industrial purposes outside the core township has not been developed. These spaces are currently being used for agricultural activities and this is seen as under optimization of land given the potential it holds. Further, the approved Rumuruti Development Plan of 2013 indicated a significant area of about 809 Ha or 28.6% as unplanned. This exposed it to the risk of land grabbing which is a common phenomenon in most of the urban centres in the country. Generally, the

approved plan only allocated 58% of the land within the Municipality for active utilization leaving around 42% with no active provisions (agriculture). This is seen as a course to review and align the plan with the current development needs as well as an opportunity to plan the entire jurisdiction of the municipality. This is as seen in table 2-29 and map 2-16 below on the current land use distribution.

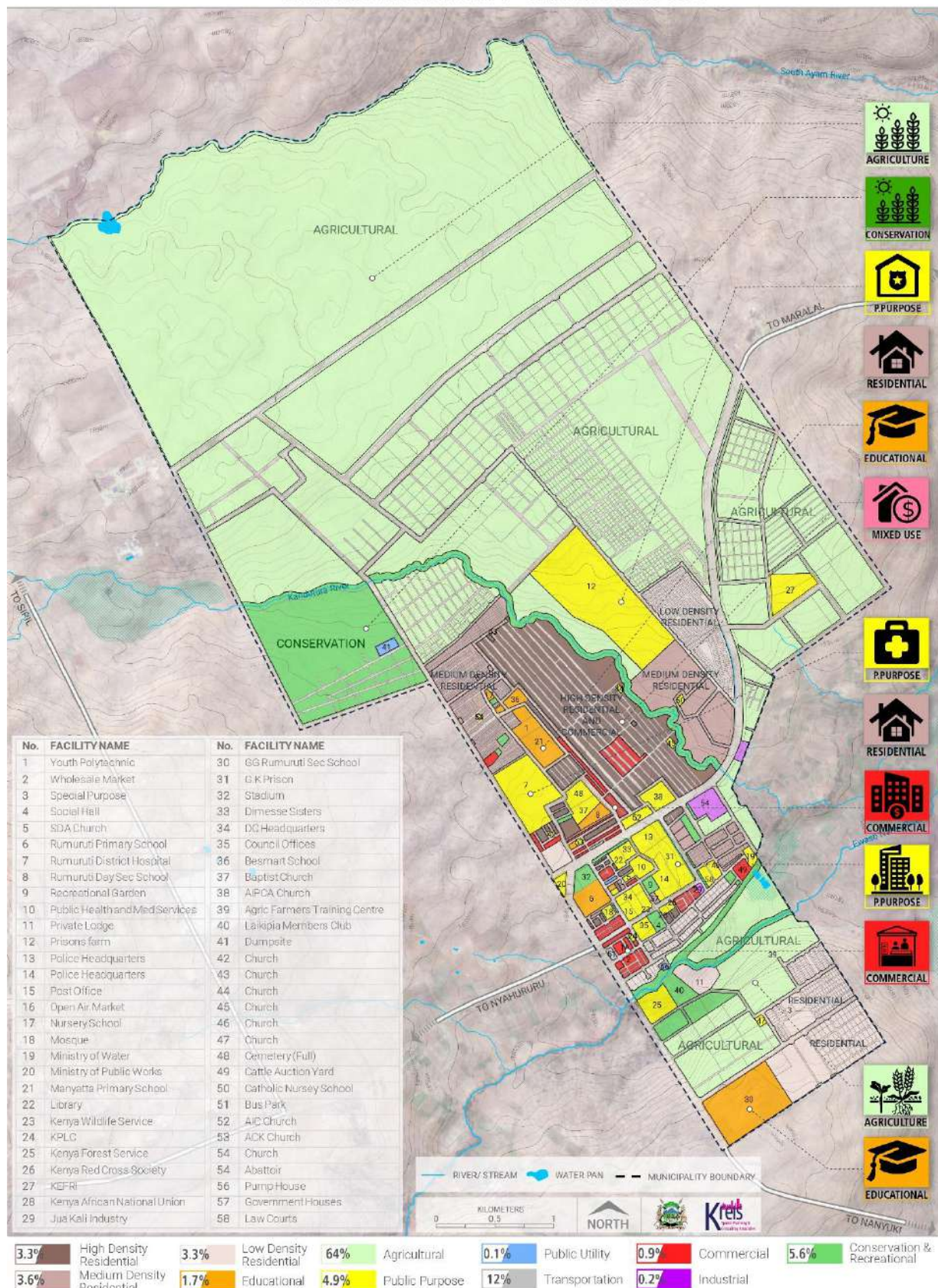
Table 2-29: Current land use distribution as adopted from the approved development plan for Rumuruti, 2013

Land Use	Approx. Ha	Percent
Commercial	25.7	0.9
Residential	536.5	18.9
Industrial	281.9	10.0
Public purpose	219.0	7.7
Public utilities	11.0	0.4
Recreational	167.1	5.9
Educational	231.4	8.2
Transport	150.0	5.3
Total		58

Source: Adopted from Approved Rumuruti Development Plan, 2013.

Map 2-16: Current land use distribution within Rumuruti Municipality

RUMURUTI MUNICIPALITY - EXISTING LAND USE



2.11.3 Land value

The value of land in Rumuruti and its neighborhood varies significantly as one moves away from the municipality to the adjacent hinterland. Within the boundaries of the municipality, the value ranges between KES. 1 million to 3 million per 0.045 Ha plot depending on its proximity to the Rumuruti township central business district. However, the value for land within the hinterland area varies from KES 300,000 to 500,000 per acre depending on its proximity to road connectivity, access to water, electricity and the perceived security of the locality.

In the coming days, the land values within and around the municipality are expected to increase sharply given the fact that the municipality is now assuming the county headquarters function with all the related services, improvement of infrastructure and a current valuation roll that has been revised for the Municipality.

2.12 ENVIRONMENT AND DISASTER MANAGEMENT

2.12.1 Ecologically sensitive areas

The major ecologically sensitive areas within Rumuruti include the Ewaso Narok river, Ewaso Narok (Marura) swamp and Aiyam streams. These have over the years hosted diverse flora and fauna species and provided essential ecological services. Other ecologically sensitive areas with an influence on the socio-economic aspects of Rumuruti include Rumuruti forest and Pesi river which are located outside the municipality boundary.

Human activities in the last 20 years have had significant adverse impacts on these areas with degradation of the riparian areas mainly attributed to agricultural activities. These activities represent non-point pollution sources, which have led to significant siltation within the water courses as well as affecting water quality. Planting of “water-thirsty” trees such as Eucalyptus along the Ewaso Narok swamp has also contributed to alteration of the natural conditions of these areas. Additionally, quarrying activities along the Aiyam ephemeral streams has contributed to adverse modification of the river beds and banks leading to the degradation of the riparian land. This is as shown in the images below.



Plate 2-30: (A) Quarrying activities along Aiyam Ndogo seasonal stream and (B), Eucalyptus trees planted in the Ewaso Narok swamp

Source: Field Survey, April 2021

The other form of degradation is deforestation as a result of clearing of spaces for cultivation and development of settlements as well as production of charcoal. This has led to decreased abundance and diversity of indigenous trees and vegetation. Rampant clearing of vegetation and the physiographic characteristic of the soils increases chances of erosion, particularly along sloping areas. It is evident that greening strategies and tree planting may be one of the immediate projects the Municipality will need to focus on.

2.12.2 Pollution

Major pollution issues within Rumuruti Municipality are associated with the management of solid and liquid wastes. Although, solid waste is collected on a daily basis and disposed at the designated dump site, pockets of dumping sites can be found within different residential and commercial establishments. Water pollution in the river system is mainly caused by direct watering of animals, direct bathing, open defecation, farming and livestock spraying (pesticides, insecticides etc.) spilled oil and fuel from motorized pumps, waste water from households and business premises among others.

Liquid waste management within the municipality remains a challenge owing to the absence of a sewer system. The existing systems have become sources of pollution in some areas, with incidences of raw sewerage flowing into natural waterways being reported. In

essence, sensitization on proper waste management at source (households and enterprises) is required to augment existing mechanisms.



Plate 2-31: Liquid wastes flowing from a residential plot
Source: Field Survey, April 2021



Plate 2-32: Poorly disposed solid wastes within the municipality

Noise and air pollution can be considered temporal as they occur due to increased traffic during the day and dust during prolonged dry periods.

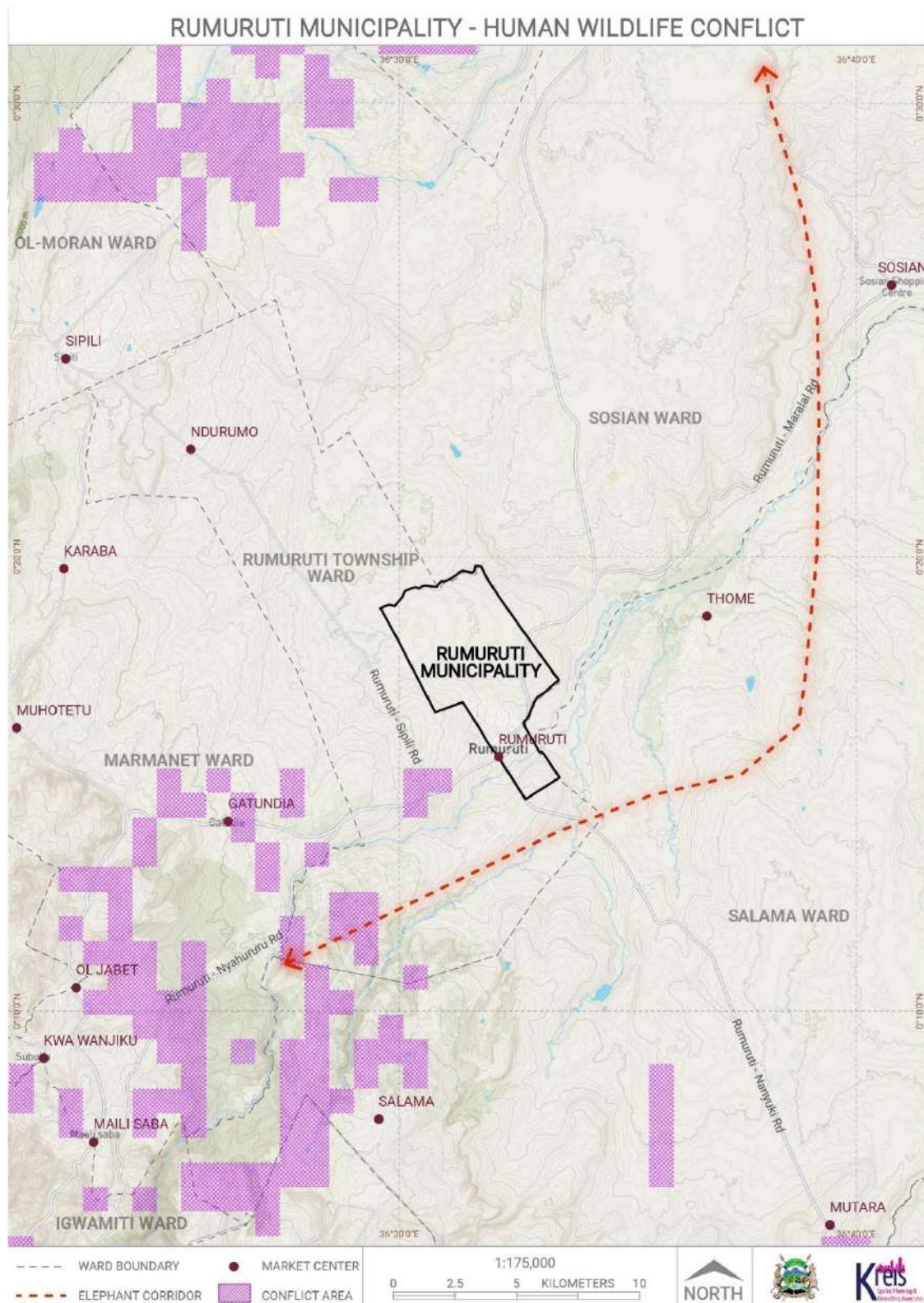
2.12.3 Aesthetics

Presently, there are minimal design features or provisions such as trees and ornamental plants to enhance the aesthetics of the streetscapes within the Municipality. As earlier mentioned, this may be the first area of focus for the Municipality as a way of improving user experience along the streets.

2.12.4 Resource use conflict

The main incidences of resource use conflicts can be categorized as human-wildlife conflicts and human-human conflicts. The former involves stray wildlife attacking people, livestock, and destroying crops while the latter involves conflicts pitting pastoralists and agriculturalist communities. These occur within the adjacent hinterland of the municipality boundary and have a great impact on the security and socio-economic aspects of Rumuruti. The conflicts are increasingly becoming seasonal or episodic, mainly occurring during the prolonged dry seasons. Map 2-17 outlines the wildlife route and dispersal area where most of these conflicts are felt.

Map 2-17: Human -Wildlife conflict occurrence within Rumuruti Municipality and adjacent areas



Source: KREIS 2021

2.12.5 Disaster Management

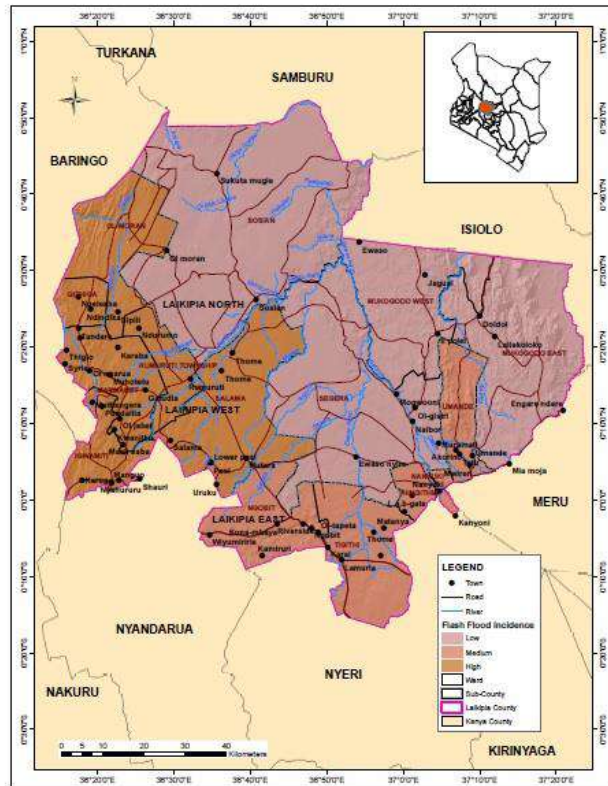
2.12.5.1 Fires

The main types of fire disasters within Rumuruti Municipality are associated with electrical faults or poor handling of flammable substances at the household level. The municipality does not have a fire station or a fire engine and this is a critical infrastructure component that the Plan will require to make provisions for.

2.12.5.2 Flooding

The main types of floods in the area are river floods and flash floods. These tend to be periodic and correspond to the rainfall seasons. Both river and flash floods occur when flows exceed the normal levels and the banks burst onto the dry land. Rumuruti is among areas considered as prone to floods as shown in Map 2-18 below. Degradation of the catchment and riparian land increases the probability of occurrence and also the velocity of flow of the floods and consequently the associated damage.

Map 2-18: Flood occurrence within Laikipia County



Source: RCMRD

There are minimal cases of flooding within the core Rumuruti township. This is attributed to constant removal of debris and wastes within the storm drains.

2.12.6 Challenges and opportunities

ISSUE	CHALLENGES	OPPORTUNITIES
Physical Environment	Surface water pollution due to poor management of solid waste	Construction of an integrated solid waste management plant.
Open Spaces and Urban Greenery	Grabbing of existing open spaces	▪ Availability of a stadium ▪ Planning for green spaces within the built environment.
Climate change	Flooding	Improvement of rain water harvesting strategies, and construction of storm water drains
Waste Management environment issues	▪ The use of septic tanks increases the chance of ground water contamination ▪ Illegal dumping of solid waste which is later blown by the wind and scattering all around the municipality	Sewer Reticulation in the Municipality Upgrading the solid waste management system to avoid illegal dumping

2.12.7 Synthesis of Emerging Issues, Opportunities and Challenges

The foregoing chapters have elaborately synthesized data regarding the municipality. This chapter acts as a bridge between the situational analysis and the plan proposals by providing a snapshot of the issues through an analysis of opportunities and challenges that set the tone for formulation of the proposals that will guide urban interventions over the next 10 years. Table 2-30 below provides this summary.

Table 2-30: Opportunities and challenges in Rumuruti Municipality

Sector	Opportunities	Challenges
Physiographic Characteristics	▪ The mean annual temperatures are suitable for tapping solar energy.	▪ The slope and terrain, with poor planning can result to uncontrolled

Sector	Opportunities	Challenges
	▪ The rock morphology is a potential source of construction materials used in road building and is also suitable impervious fill material for embankment of dams. ▪ Opportunities for irrigation and fish farming ▪ Fertile soils for crop farming ▪ Experiences high rainfalls favoring agricultural production.	▪ flooding and/or even landslides ▪ Pollution and encroachment of the river riparian reserves through human activities such as poor farming practices ▪ Climate change over the recent years has resulted in unpredictable weather patterns impacting agricultural practices negatively.
Population and demography	▪ A youthful population provides an opportunity for innovation and technology as well as ensures that there's an available workforce within the municipality.	▪ Available land is increasingly being fragmented into uneconomical units ▪ High poverty levels will impact ability to economic activities with a tendency to result to economic informality
Land use and land tenure	▪ With the institutionalizing of the municipality board, the town has a vehicle for the rolling out a land management system. ▪ With adequate incentives and public awareness, allotment letters can be adjudicated to improve security of tenure	▪ Land regulation in Rumuruti Municipality, as with most towns is still not up to date. Instances of double allocation are therefore prone to occur. ▪ Grabbing of public land for private use
Housing and human settlements	▪ Informal neighbourhoods such as Kandutura and African Location are undergoing renewal and redevelopment due to increased security of tenure and therefore prime for rezoning and densification through specific zoning regulations.	▪ Increasing informality within the municipality ▪ Inadequate requisite services and infrastructure (Roads, Sewer lines, solid waste)
Transport infrastructure and services	▪ There is a need for upgrade and maintenance of all roads within the municipality to gravel and tarmac status with recommended width and drainage systems.	▪ Narrow access roads ▪ Lack of parking bays ▪ Encroachment of road reserves in town streets. ▪ Lack of a sewer system.

Sector	Opportunities	Challenges
	- There is need to integrate the pedestrian sidewalks and designate bicycle/motorcycle tracks into the road networks. - There is need for traffic management in the CBD. - There exists an underutilized water treatment plant with permanent rivers to draw water. Need to rehabilitate it - This has potential to ensure water security for the town even with the projected increase in population over the Plan period - An existing sewer treatment plant that has capacity to cover the projected population over the plan period	Some residential zones and agricultural zones are underserved by road network
Social infrastructure	- Already existing supporting infrastructure and resources. - Presence of a number of health facilities - Need to upgrade the Rumuruti Sub County Hospital to a level V referral hospital - High literacy levels	- Underdeveloped Education Infrastructure - School dropout and poor transition to higher education levels - Poor disaster preparedness especially on fire related incidences.
Economic Analysis	- Potential for creating an agro-industrial zone and attracting investors for industrialization. - Presence of a number of markets within the town points to vibrancy.	Lack of proper service and infrastructure in the central business district such as sewer, water and road network

2.12.8 Planning Considerations

- The terrain is an important defining feature that impacts the development of the town and will continue to define this growth going forward. The steep terrain of the ridge constrains infrastructural expansion. Where construction happens, environmental and ecological fragility occurs. The slope and terrain, with poor planning can result to urban encroachment of the riparian reserves and wetlands.

At the same time, the terrain provides a scenic potential and can be transformed into recreation zones with a variety of slope related economic activities. It is the objective of this plan to promote sustainable exploitation of the terrain while guiding development in a manner that is in coherence with the terrain.

- Increasing land tenure will result to more permanent investments within the municipality. Accordingly, renewal and redevelopment strategies through rezoning are imminent.
- Urban mobility in the town is affected by a number of issues: economic informality and rampant hawking, lack of adequate public parking for private vehicles, lack of pedestrian walks ways, lack of urban/street furniture, lack of traffic segregation among other compounding factors. This plan will focus on promoting the integrated urban landscape and urban livability by addressing some of those bottlenecks.

In conclusion, this situational analysis serves as a basis for responsive Plan formulation as presented in the subsequent chapters.

3 PLANNING PRINCIPLES & THEORITICAL FRAMEWORK

3.1 Introduction

This part of the report provides a detailed analysis of the strategic structure plan of Rumuruti Municipality and the planning principles that guided the formulation of the preferred Plan. It also makes attempt to building scenarios that benefit Rumuruti Municipality development. It majors on projections for required land for development, analysis of development theoretical models and finally the preferred development model adopted by the plan.

3.2 Planning Principles guiding the preparation of the Plan

In order to achieve the objectives of this assignment as well as ensure guided growth and development of the planning area, several planning principles were employed including community participatory planning, sustainability, adaptability, balance with nature, mobility and connectivity among others. With the guidance of these principles, several planning alternatives were explored, and the best alternative selected by the key stakeholders.

Planning at the community level was done to give the community members an opportunity to participate in making their Municipality liveable; participate in decision making in allocation of the best use of land; provide solutions aimed at improving the Municipality's growth and development capacity; as well as establish its strengths and opportunities. It was also important to identify the Municipality's weakness and threats in order to find tenable solutions. The following planning principles guided the preparation of this plan.

3.2.1 Planning for growth

Plan preparation is futuristic and it provides development guidelines to realize the expected growth. Thus, planning for the future relies on assumptions about population change and future demands for land and services. For this reason, developing reliable projections of population and use of physical facilities and services was an essential early step in the physical and land use planning process.

3.2.2 Public/Community participatory planning

People are the main spatial development agents and consumers of the plans. Physical and land use Planning of the centre directly affects the residents of Rumuruti. It was therefore imperative that the community is actively involved in all stages of this exercise right from project commencement. Adequate participation by the local community, County government officials, (including all line County departments and government agencies) as well as the local administrative officers, was key towards preparation of this plan.

Involvement of the local community in the plan making helped them to envision various development scenarios resulting to formulation of efficient plan strategies. Since each person/group expresses a divergent view on what they would prefer and how it should be done based on their interests, consensus had to be made. Further, the community participated in phasing the projects, by looking at the proposals that would be prioritized in the near future while the medium term and long-term proposals would follow.

3.2.3 Sustainability

Sustainable development is that which caters for proper use of resources by the current population with consideration of the future generation. Planning of the current space and resources need to benefit the current inhabitants and improve or maintain the same for the subsequent generations of the planning area. The principle of sustainability is anchored under article 10 of the constitution of Kenya (2010).

The goal of sustainable planning and design is to achieve a realistic balance of the main pillars of sustainability, i.e. economic, social, and ecological dimensions. Projects developed sustainably often experience greater acceptance by the public and regulatory agencies, lower operating costs, aesthetically pleasing, and well-integrated into the planning.

3.2.4 Mixed land use

This planning principle seeks to integrate various range of compatible activities and land uses in one space; which are flexible enough to adapt over time to the expected changing scenarios into the future. This is largely meant to encourage optimal utilization of the scarce

and limited land resource, minimize landscape fragmentation, enhance walkability, reduce costs of service provisions as well as support mixed communities and functionalities.

Mixed use developments could be vertical (where several uses are mixed within the same building) or horizontal (consisting of a mix of single use buildings). The mixed land use principle will also enhance the socio-spatial dynamism by enabling integration of different social classes of people in the same community which will ensure accessibility to equitable urban opportunities by providing different types of housing and economic diversity.

3.2.5 Adaptability

The planning of the Municipality is taking place post its development, the various physical and land use planning proposals were adopted based on the existing developments layout with a few modifications where necessary. This was meant to minimize any adverse impact on the already existing developments. Possible plan-led interventions in built-up areas include:

- Infill Developments- ‘filling in’ unused or underutilized space in built-up areas,
- Densification or Redevelopment- to increase land use and space by developing plans and designs which reconfigure housing, infrastructure
- On-Site Upgrading- improves living conditions in an existing settlement without displacing the residents
- Urban Renewal

3.2.6 Balance with Nature

In planning, human activities and developments are both carried out on limited space. However, sustainable planning and design utilizes a holistic approach in an effort to reduce the environmental impact of proposed projects. This includes site considerations, identification of eco-sensitive areas and conservation of natural resources. The plan will also offer strategies to mitigate potential environmental degradation e.g. provision of waste management strategies, promote planting of trees and use of eco-friendly building materials. This has been considered extensively in preparation of this plan.

3.2.7 Livability

Many aspects of urban planning and new approaches to urban form are based on the concept of livability. These approaches recognize that design and structure can be very influential in the life of a town or city and indeed to the building of community in and of itself. Livability is critical to the establishment of a sustainable community. Livability is usually tied to physical amenities such as parks and green space; for others to cultural aspects, career opportunities, economic dynamism, or some degree of reasonable safety within which to raise a family.

Matters of livability were addressed early in this planning process so as to reconcile the imperatives of sustainable development. These imperatives obtain legitimacy if they are explored and integrated within the participatory planning process. This plan has incorporated sufficient service provisions for the people living there. This means that there is concrete provision of services for communities within walking distance – a key component of livability. This planning principle was also integrated in this process.

3.2.8 Mobility and connectivity

Mobility and connectivity are key components in the functionality of any developing setup. Mobility ensures that people are able to move from one place to another with ease and maximum comfort through provision of roads and pathways. Connectivity is dependent on mobility; various land uses and services need to be properly connected to enhance accessibility and proper service delivery.

Enhancing mobility and connectivity was an important aspect in preparation of the plan. The municipality has some well-connected internal and external access roads thus required to be maintained if not improved to better standards where possible.

3.2.9 Land usage, Space Management and Observation of Planning Standards

Physical and Land Use Planning is generally meant to ensure that there is spatial orderliness in the community. In areas or places where acceptable planning standards are not employed, instances of conflicting land uses, narrow accesses, and buildings with no set-

backs among other issues are experienced. If such negative practices are sustained, they will result into urban decay and degeneration of strategic areas into informal set-ups.

This principle has been applied in this project by; understanding how the current land is utilized; looking at how else the available space can be used optimally; how to factor in the potential land use change dynamics by being futuristic; and how best can the future be planned from the present.

3.3 Theoretical framework

3.3.1 Economic Theories

3.3.1.1 Theory of Multiplier Effect

This theory identifies the Multiplier as the marginal effect of a change of one economic variable upon another economic variable, for instance, change in primary employment upon total income or change in investment upon national income. The essence of the multiplier is that total increase in income, output or employment is about the original increase in investment. The theory forms the basis therefore of analyzing the multiplier effect of the major drivers of the economy of Rumuruti municipality as identified in Livestock, crop production, tourism and manufacturing sectors.

3.3.1.2 Economic Base Theory

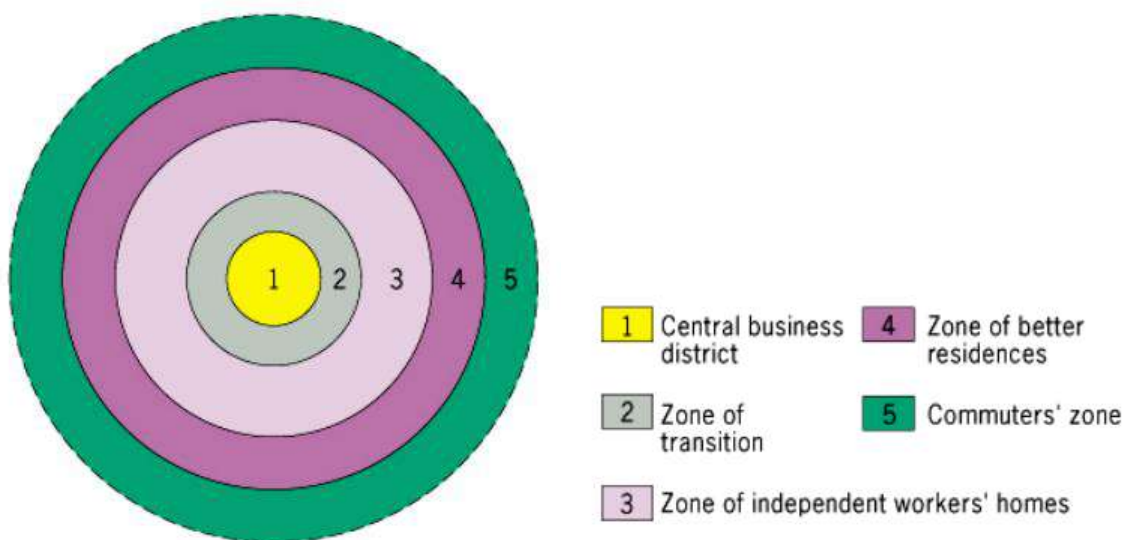
Economic Base Theory asserts that the means of strengthening and growing the local economy is to develop and enhance the basic sector. The basic sector is therefore identified as the engine of the local economy. Urban planning as a profession is closely tied to both population and economic considerations and many others. Analyzing demographic characteristics is essential to understanding the future and prospects for an area. Equally important is an understanding of the strengths, weaknesses, and changes within the local economy. Economic Base Theory provides a framework for understanding the local economy and points towards strategies that can be employed towards strengthening of the municipality economy.

3.3.2 Theories, models and Concepts informing the Human Settlements

3.3.2.1 Concentric Zone Theory

This theory was designed by Ernest Burgess in 1923 to explain how the land use structures of cities were designed. He developed an approach theorizing that a city expands from its original centre in a series of concentric zones. The theory is based on the concept that development of a city takes place outwards from its central area- the CBD, towards the suburbs.

Figure 3-1: Concentric Theory Model



Source: <http://people.hofstra.edu/geotrans/eng/ch6en/conc6en/burgess.html>

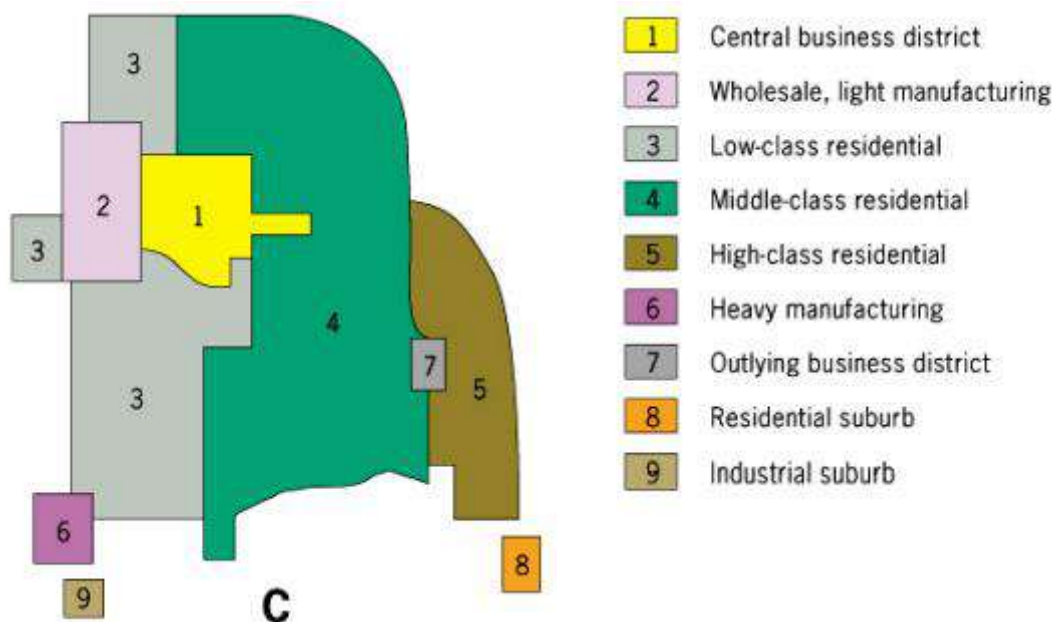
This becomes a very important theory for consideration in the formulation of the municipality plan. The theory theorizes a practical approach and considerations to the formulation of the Plan where Rumuruti township is viewed as the CBD and other zones expanding from it in an interlinked manner.

However, the theory presents various inadequacies in the sense that the CBD is seen as the only opportunity to derive certain services. This means that residents in zone 5 or 4 for instance would travel very long distances to get even lower-level services they would easily get within their neighborhoods. This inadequacy can be said to have been solved by the multiple nuclei theory developed in the 1940s.

3.3.2.2 Multiple Nuclei Theory

In an attempt to produce a theory that adequately reflected city structure, Chauncy Harris and Edward Ullman developed this theory in the 1940s. This model was based on the notion that the CBD was losing its dominant position and primacy as the nucleus of the urban area. They theorized that several urban regions would have their own subsidiary but competing nuclei bringing rise to the concept of secondary growth nodes.

Figure 3-2: Model of the multiple nuclei



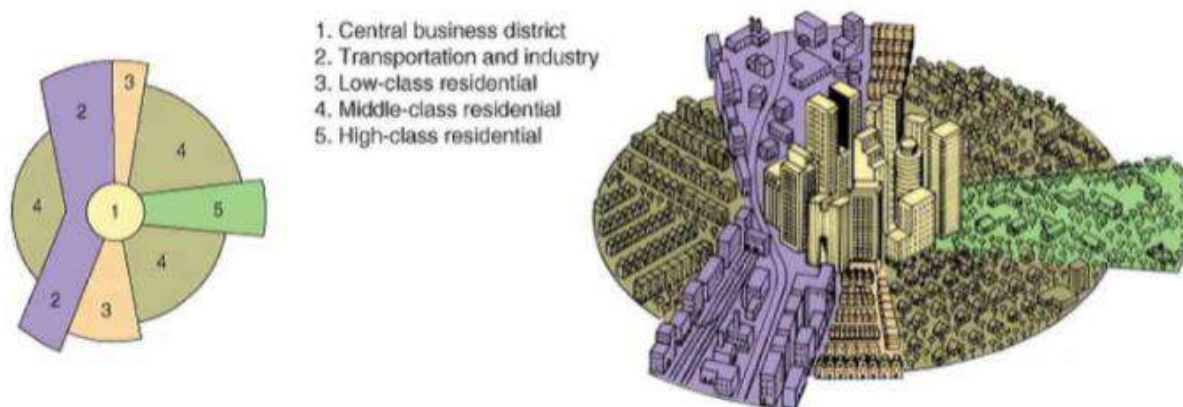
While considering this theory in the Plan formulation, it would mean that the Municipality be looked at as a series of multiple neighborhoods offering service convenience depending on the primary land uses. This would mean that every neighborhood be developed as a individual growth node where various users are able to derive certain services while higher level services are obtained from Rumuruti township (CBD).

3.3.2.3 Sector Theory Model

Sector Model is an urban land use model which talks about spatial arrangement of activities in an urban area. Hoyt argued that cities do not develop in the form of simple rings, instead they have “sectors.” He suggested that few activities grow in the form of sectors which

radiates out along the main travel links. Activities in a sector are considered to be the same throughout the sector because of the purpose/function it serves. Land use within each sector would remain the same because 'like attracts like'. The high-class sector would stay high-class because it would be the most sought-after area to live, so only the rich could afford to live there. The industrial sector would remain industrial as the area would have a typical advantage of a railway line or river. These sectors can be housing, industrial activities, etc.

Figure 3-3: Sector Theory



The theory presents a realistic view of how cities or towns grow and ideally conceptualizes the idea of zoning within urban areas. In essence, most plans are anchored in the understanding of this theory.

3.3.2.4 Transit Oriented Development (TOD) Concept²

This concept is based on integration of transport infrastructure and existing land uses with an effort to promote sustainable urban settings by promoting compact, mixed-use settlements with all essential infrastructure within a walkable distance.

3.3.2.4.1 Components of TOD

Compact Development - Location of land uses within walkable distances to maintain physical interaction between uses, and minimizing distance and energy required to access services

² Sourced from ITDP; <https://www.treehugger.com/transit-oriented-development-key-better-cities-4858210>

Cycling Prioritization- This involves prioritization of NMT transport networks within the urban fringe (Includes provision of cycle paths and related Infrastructure)

Mobility shift- Mobility shift advocates for limited use of the car as a mode of transport and advocates for NMT use

Permeability/Connectivity- Connectivity within an urban neighbourhood is the extent to which permission or restriction of vehicular or human traffic in various directions is realized. This can be achieved through creation of interconnected dense networks of streets and footpaths.

Transit- This principle is based on proximity public transport corridors.

Pedestrianization/walkability- Development of neighborhoods that promote walking. This includes creating an efficient and well-connected pedestrian network system with sufficient, spacious and well-lit pedestrian walkways that can enable residents to easily walk from one point to another. This reduces the need for vehicular transportation thus minimizing traffic congestion and in the long run creating a liveable and healthy neighbourhood.

Balanced Mixed Use Development- Transit oriented Development encourages mixed use of diverse, compatible developments within the urban fabric to enhance optimal utilization of land Mixed

Densification- Due to the fact that land is a limited resource, Densification aims at utilizing horizontal space by building structures with more floors and accommodation of more compatible functions in the same building. Through densification, users are able to acquire a wide range of functions within the same building ensuring comfort, accessibility and promotion of business

3.3.2.4.2 Advantages of TOD

The benefits of TOD can be summarized into 4 Categories as shown in table 3-1 below;

Table 3-1: Advantages of TOD

	Especially vertical developments create more room for extra use within the same site
--	--

Compact Development, densification and mixed-use development	Enables for consolidation infrastructure provision and reduces costs of provision for the same
	Promotes social mix in the planning area
	Enhances place making
	Stimulation of the Local Economy through increase in property values and acceleration of gentrification
	Optimal use of the limited land resource hence ensuring preservation of open spaces
Improved Service Provision	Improved walking, cycling and transit services hence benefitting users of these modes
	Reduced dependence on motorized transport leading to Reduced carbon emissions and environmental pollution
	Improved road network conditions, and utility services connectivity leading to increased property values
Increased Use of Alternative modes of Transport	Reduced traffic congestion and parking demand
	Reduced air and noise pollution
	Increased User Cost savings by ensuring most needs are within a walkable distance
	Increased economic development through increased access to social and commercial facilities thus generating employment
	Increased public fitness and health through walking and cycling
Sustainability	TOD model ensures prudent development of land while preserving ecological balance

3.3.2.4.3 Disadvantages

While the TOD concept presents an ideal planning way to go, its downsides are:

- Densification can result to exponentially increased population leading to overpopulation in an area
- If not properly controlled, allowance of mixed-use development would be abused (by establishment of non-compatible uses)

- With land close to transport corridors considered to be prime thus high cost of purchase, it would result to high property values and rents turning off potential developers and clients.
- Moreover, increased property values and gentrification leads to pushing away of low-income earners from the centre thus compromising social equity- one of the pillars of sustainability

The TOD principles discussed above, have greatly influenced planning of Rumuruti Municipality with the aim of providing a sustainable Plan. Borrowing from this TOD concept, it is expected that Rumuruti redevelopment will be triggered by convergence of the key proposed transportation corridors. As such, Rumuruti will become a key TOD Municipality with complementary land uses. It is also expected that TOD will increase property values and accelerate gentrification of the centre that is currently underdeveloped.

3.3.3 Plan Alternatives

This formulation of this Plan heavily relied on the integration of all the four theories discussed above to make a Plan that substantively and procedurally integrated all the components of a good city/town. This plan has identified four scenarios for possible development of Rumuruti as a municipality.

3.3.3.1 Nil Alternative

This alternative assumes that the status quo is maintained with no planning intervention. This translates to continuation of many problems that are currently being experienced such as poor supply of essential services such as water supply, solid waste management, and liquid waste management. Poor transport infrastructure, access will continue deteriorating and insecurity will start increasing due to increased poverty and poor street lighting. Moreover, the disorganized nature of the municipality will persist with increased mushrooming of informal settlements and uncoordinated land uses. Therefore, in order to promote a better and prosperous future for the people of Rumuruti Municipality, it is evident that through preparation and further implementation of the plan will promote social, economic development for both the present and future generations

3.3.3.2 Industrialization Led Scenario

This scenario is based on the understanding that creating opportunities for industrial growth and development will have a direct impact on the economy of the municipality through employment creation, increased money circulation and increased opportunities for innovation, technological advancement and revenue generation. This alternative explores various industrialization models such as Special Economic Zones and Export Processing Zones in promoting industries from light to medium to heavy industrial activities.

Accordingly, this would mean seeking partnership in the development of the industrial zones proposed in the plan as the anchor developments and drivers of growth within the Municipality.

3.3.3.3 Urbanization Led Scenario

Rumuruti being the gazetted county headquarters provides a great opportunity for urbanization noting that even though the urbanization rate is currently low, the situation is expected to increase spontaneously over time thus this scenario is considered. Through this scenario, mixed use developments have been largely used to promote expansion of the current CBD. To complement this function, pockets of pure commercial and light industrial activities (Juakali) combine with physical and social infrastructure will be availed. Provision of residential areas to accommodate the various types of housing- low, middle and high income have been considered. Moreover, environmental protection and responsibility to fragile ecosystems has been widely considered through buffering of riparian reserves and provision of measures to protect the fragile ecosystems.

3.3.3.4 Administrative/Service Led Scenario

The fact that Rumuruti is the undisputed County Headquarters means that a lot of administrative services will be concentrated within the Municipality offering service to residents from all over Laikipia County. Rumuruti hosts both the National and County Government line departments, the Municipal Board, The Sub County Hospital, the Prison, various schools and commercial services. This scenario looks at Rumuruti area as a service provider not only for residents within the municipality but also from surrounding areas.

This scenario looks at strengthening these services by providing access and support facilities such as energy, water, and ICT to make these services efficient and easy to access. The rest of the land uses would be in support of these services. Service led development creates jobs, provides key amenities that are instrumental in poverty alleviation, balanced growth and improved quality of life. However, the provision of goods is left out, and if there is no organization of these goods such as housing, spaces for trade, roads among others, a disorganized space that is hard to navigate can be developed.

3.3.3.5 Transportation Led Scenario

This scenario explores the TOD concept- the need to upgrade the existing transportation infrastructure within the municipality to promote accessibility and mobility. However, this should be done with utmost consideration of the needs and desires of the people who live and work within the area. This would be done by providing non-motorized transportation lanes, street lights, bus stops, bus parks, alternative routes/bypasses, overpasses and appropriate pedestrian crossings. Moreover, other complementary transportation modes are proposed in the municipality such as rail and air transport to promote long distance travel.

3.3.3.6 Green Growth Scenario

This scenario acknowledges the importance of green economy and environmental protection in promoting balanced urban growth. Under this scenario, the following aspects are explored;

- Provision of increased number of green spaces, playgrounds and recreational grounds within the urban ecosystem
- Conservation of the ribbon formed by the conservation areas and riparian reserves forming a recreational space that improves the aesthetics of the CBD
- Promote sustainable solid and liquid waste management within the municipality
- Promoting wetland protection

3.3.3.7 The Preferred Model

The best planning approach in this case will be to combine all the above scenarios to come up with a hybrid model that will aim at promoting economic prosperity within the municipality in line with its development potential and the overall vision of the local community.

4THE LOCAL PHYSICAL & LAND USE DEVELOPMENT PLAN FOR RUMURUTI MUNICIPALITY (2021-2031)

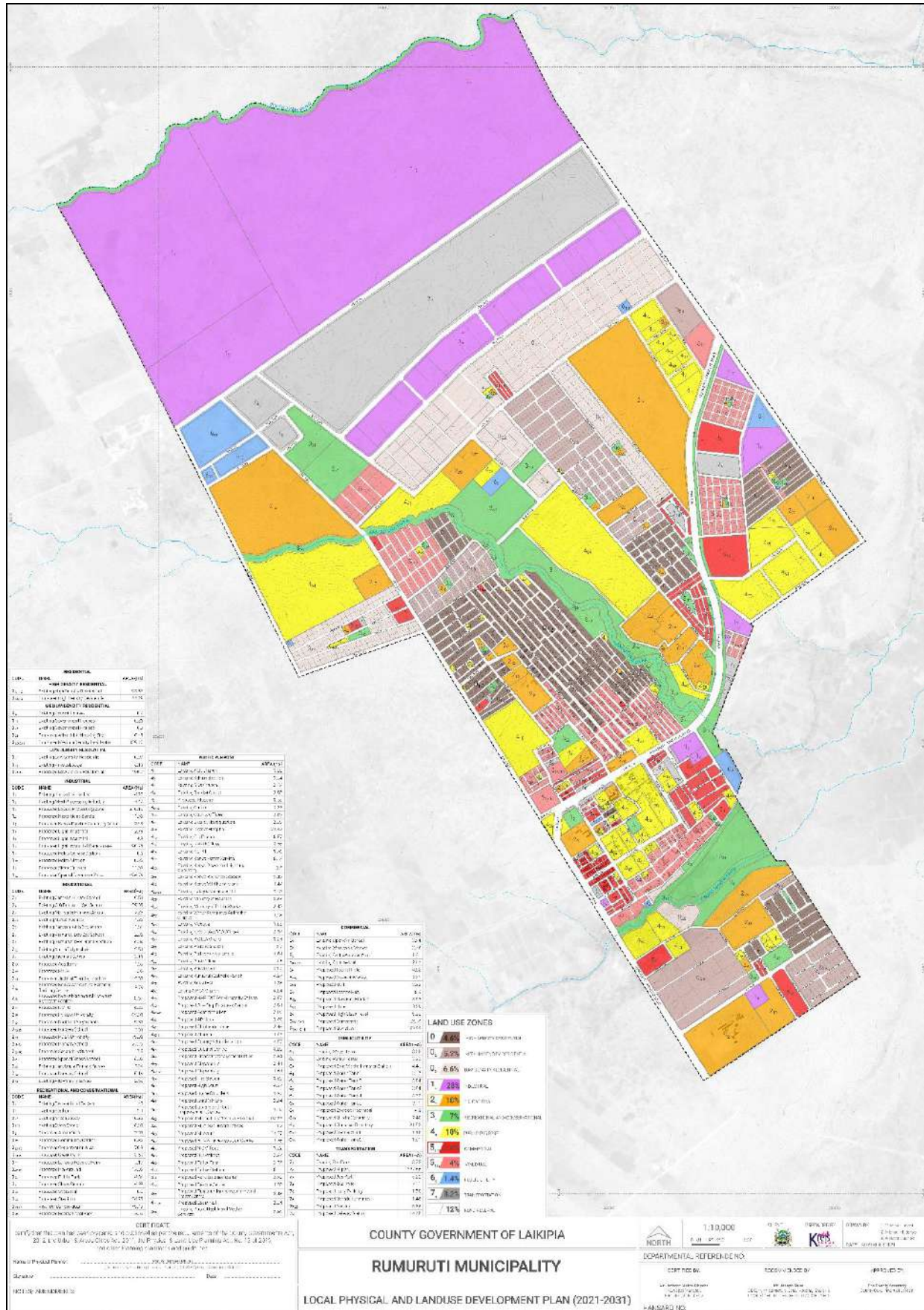
4.1 Introduction

The various land use proposals detailed in map 3-1 below indicate the proposed planning intervention for optimal utilization of land within Rumuruti municipality. However, rapid development is expected within the immediate adjacent hinterland thus the need for formulation of development management guidelines to manage urban sprawl effects.

The municipality Plan exhibits a mixed-use character aimed at optimizing land use as a commercial centre, service centre, administrative centre, transport node and an industrial centre among other prominent uses. This was aimed at promoting the economic vibrancy and the livability status of the Municipality by ensuring the live - work concept championed by the TOD principles of densification, sustainability, walkability and mixed-use developments was attained. The mixed land use planning concept accommodates multiple land uses within the same space to enhance optimization of land use given its limited nature. To ensure successful implementation of this concept in the plan, the underlying planning principle of compatibility has been considered in order to ensure functionality and seamless blend of friendly land uses.

Additionally, there has to be an intentional redevelopment and densification strategy for the municipality in strict adherence to the development guidelines and standards provided by this plan for both the immediate, medium and long-term implementation periods. This includes the set building ratios, building setbacks, plot coverages, among other development control framework provided as part of the plan. The development plan has been prepared to match the current and projected population needs once implemented. The plan and attendant land use/development guidelines are presented below.

Map 4-1: The proposed Local Physical and Land Use Development Plan for Rumuruti Municipality (2021-2031)



4.1.1.1 Development Control Guidelines; Land Use/Development Regulations; Design Standards

For sustainable development in the growth of the proposed Municipality Plan, various land use regulations and development standards need to be abided by. They are outlined in table 4-1 below.

Table 4-1: Proposed land use regulations and development standards for Rumuruti Municipality Local Physical & Land Use Development Plan

Land Use	Zone No.	Specific Classification	Zone	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
Residential	O ₁	High Density Residential		Residential – (Flats/Apartments)	• Construction of multi dwelling residential blocks (For buildings that are more than five (5) floors, then installation of lifts is mandatory) • The immediate properties next to the outer edge of the Municipality boundary on a 500 meters radius to adopt building typology, material and massing similar to the ones within the municipality boundary so as to act as a graduating buffer area as the development spans to the outer peripheral edges of the municipality boundary. • All buildings should observe building setbacks of not less than 6 meters while fronting a major road (15m and above in width) and not less than 4 meters while fronting secondary access roads (below 15m width) • The minimum plot size will be 0.045 Ha to ensure considerations such as parking are incorporated in the building designs • Every plot will be served by a road that is not less than 9 meters in width • The use of colour in the buildings maybe decided for compliance at any time by the Municipality in consultation with the County's relevant departments.

Land Use	Zone No.	Specific Classification	Zone	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
					All building renovations within the municipality to use local materials and be consistent with the original structure materials
			Commercial		- Convenient retail stores and corner shops within the residential buildings will be allowed on the ground and first floors of the buildings - Compatible offices could be allowed in the ground floor of the buildings. - Leisure and Commercial Recreational places like restaurants, pubs, hotels, and guest houses will be carefully allowed in buildings bordering major streets. Crucial considerations for residential use will be evaluated before any approval by the Laikipia County, Rumuruti Municipality Planning Authority is granted - Where a large restaurant with entertainment facilities is allowed; it should be on a land size of not less than 0.2023 Ha and the building footprint should not cover more than 40% of the land; 60% or more should be left open for parking or outdoor furniture; and should not be served by roads of less than 12 meters in width - where such is allowed, clear demarcation or buffer by road from residential units will need to be demonstrated before any approval is granted - Sound proofing of entertainment facilities will be a mandatory requirement; a noise pollution radius allowed upto a maximum of 50 meters from the entertainment facility
			Educational		- This will be limited to day care and kindergarten facilities within a residential neighborhood; - Where a residential neighborhood exceeds 40 Ha (comprehensively developed/reserved as an estate),

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
				then a consideration for a primary and secondary schools will have to be incorporated in the neighborhood design
			Recreational (Especially applies to the areas that are not currently developed proposed for O ₁)	There will be mandatory requirement for provision of public recreation amenities and open spaces or public/civic squares for every 2000 people within every residential surrounding.
			Religious	Development of a Church/Mosque is allowed preferably within corner plots so as to increase access and minimize noise pollution to the residential areas. Where such is allowed, it should not be on a land space that is less than 0.2023 Ha.
Residential	O ₂	Medium Density Residential	Primarily Residential (Preferably Maisonettes / Bungalows/Town Houses)	- These will be exclusive areas where maisonettes or bungalow residential units are allowed on plots that are not less than 0.045 Ha in size - Where town houses are allowed, they should be developed on plots that are not less than 0.2 Ha and should be allowed to develop up to three floors (Ground plus two) - Convenient corner shops will be allowed in corner plots within these residential density areas - Day care / Kindergarten facilities will also be permitted on plots that are not less than 0.1012 Ha in these residential density zones - Where an entertainment facility is allowed on this residential density zone; it should be developed on a stand-alone land of not less than 0.4046 Ha; should be clearly buffered and sound proofing installations must be enforced during construction. - Every plot will be served by a road that is not less than 9 meters in width

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
Residential	O ₃	Low Density Residential	Residential (Preferably Maisonettes / Bungalows)	- These will be exclusive areas where maisonettes or bungalow residential units are allowed on plots that are not less than 0.1012 Ha in size - All properties should be served by roads not less than 9 meters
			Educational	- This will be limited to day care and kindergarten facilities within the residential blocks within a radius of 500 meters from each other. - Where such kindergarten facilities are to be established, they should not be allowed on land that is less than 0.1012 Ha and the building footprint/built up area should not exceed 50% of the total land
Industrial	1 ₁₋₁₀	Light Industry	- Meat processing & packaging industries - Warehouses; or packaging cold rooms - Petrol Service Stations - Vehicle parking	- A buffer area of 10 meters all around the zone boundaries is proposed for excision and planted with man-made forest on indigenous/exotic tree species - All developments must demonstrate capability to handle all forms of waste at source before development approval is granted - All developments must show parking demand projections in their development proposals and in turn indicate the provisions made in the proposals to meet that demand before any approval is granted
	1 ₁₁	Heavy Industry	- Pharmaceutical Factory - Warehouses; or packaging cold rooms - Vehicle parking	- The factory will have to satisfy sound environmental requirements especially on disposal of liquid waste and related air pollution from the production of the pharmaceutical products - A buffer area of 30 meters all around the proposed site boundaries is proposed for excision and planted with man-made forest on indigenous/exotic tree species - Parking requirements applied for industrial zone above apply

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
	1 ₁₂	Heavy Industry (Proposed SEZ/EPZ)	- Manufacturing; Processing; and Packaging - warehouses/go-downs; logistical facilities and other related ancillary service	- This will be a general industrial zone intended to accommodate a wide a range of industrial and related development including industrial level production facilities, food processing, and other manufacturing as demanded - All the proposed industries to be accommodated in this zone will be allowed on lots that are not less than 0.8094 Ha - All developments within this zone will be required to occupy not more than 65% of the land in terms of built-up area and provide onsite parking facilities while still taking care of landscaping both within and outside the premises - Residential development including staff housing schemes is highly prohibited in this zone - On-site parking will be required in accordance with the requirements of different activity spaces within the zone. - Landscaping will be required along the frontage and adjacent to any development abutting a public open space area designated within the zone. - All developments within the zone will be required to provide adequate fire disaster preparedness equipment in all their premises or show preparedness of the same before occupancy/operating certificates are issued by relevant authorities - A buffer area of 10 meters all around the zone boundaries is proposed for excision and planted with man-made forest on indigenous tree species
	1 ₁₃	Heavy Industry	Quarrying & Mining activities	Relevant heavy industry regulations outlined above apply for this zone also

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
		(Proposed Stone Crusher)	warehouses/go-downs; logistical facilities and other related ancillary service	- Additionally, it will be required that the industry mitigates on all dust pollution at source by 95% of the produced dust - It will also be expected that noise suppressing and modern equipment is used for onsite activities - In the event that the activities within the site are destructive to the neighboring land uses, then the industry will take remedial actions towards compensating for damage caused
Educational	2 ₁₋₄₃	All existing primary and secondary schools	Outdoor recreational facilities consistent with educational land use	- Any erected buildings should be used for educational or related training and research activities - All buildings to incorporate designs to cater for physically challenged persons - Building footprint/built up area for any institution should not exceed 50% of the total land at any time - Allowable number of floors for any building within the primary schools is 3 (Ground plus 2); secondary schools is 4 (Ground plus 3); and institutions of higher learning and research centres could be allowed to maximum load capacity and floors with the provision that, for every building exceeding 5 floors, then a lift is a mandatory requirement.
		Proposed schools	Classrooms and Administration blocks	
		Proposed institutions of higher learning & research centres		
Recreational / Conservation / Public Space	3 ₅₃	Proposed Stadium	Recreational use	- The proposed stadium is 24.78 ha - The land is intended to accommodate organized sports and associated facilities, as well as highly controlled commercial recreational establishments. - Other ancillary facilities such as club rooms, kiosk, bars and restaurant may be permitted to operate within these establishments upon careful consideration of the Planning Authority and the National Sports Ministry. Special attention will need to be paid to parking.

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
				public transport facilities, and access to the development zone during their implementation.
	3 ₅₁	Proposed Show Ground	Recreational use	• Proper landscaping with manicured plant elements; installation of sitting benches; street furniture; and lighting to make the grounds more appealing as a vibrant recreational park • Provision of facilities that cater for physically challenged persons
	3 ₂₁	Proposed Arboretum	Public Space	• The arboretum is a key public space within the Municipality where social recreation functions and activities will be undertaken by the municipality residents. It is located adjacent to the show ground and proposed Laikipia University to tap into the huge traffic pool • The arboretum should be well maintained at all times and all trees conserved • An integrated urban design constituting the show ground, proposed Laikipia University and the proposed bus park should be implemented to create a continuum of public space • The management of the arboretum should be managed by the municipality in consultation with the Kenya Forest Service if deemed necessary
	3 ₁₋₂₀ ; 22-50; 52; & 54-56	Proposed and Existing active recreation and conservation spaces	▪ Open spaces; and parks ▪ Riverine and wetland ecosystems ▪ Public Water pans	▪ All the spaces have to be formally demarcated, surveyed and gazette as public spaces ▪ These spaces are intended to serve as recreational and leisure hubs intended to draw large Municipality residents including the targeted town population deriving services from the public administration offices and users of the adjacent mixed-use zones

Land Use	Zone No.	Specific Classification	Zone	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
					▪ The parks are to be developed with a mix of concrete and green trails incorporating creative designs to be approved and implemented by the Rumuruti Municipality ▪ Street furniture depicting the cultural orientation of Rumuruti people is highly encouraged within the parks ▪ Conservation areas are deemed necessary in the Plan for conservation due to their ecologically sensitive nature and environmental fragility. Active recreation can also be integrated with the conservation efforts of the zone. ▪ As a way of conserving the water points spread across the entire Rumuruti Municipality, and where the surface water runoff is drained and collected naturally, the Plan proposes the complete buffering of all the water points through expansion of land where they are situated to utilize the spaces as active green spaces for recreation purposes. ▪ Unless else defined, all river riparian reserves are to remain sacred to the buffer zones dictated by other legal legislations and acts of parliament guiding management of wetland ecosystems including rivers
Public Purpose	4 ₁ ;3-4;6-12;28;30;35;37;45-51; &77	Existing/Proposed Churches/Mosques		Religious use	▪ Remain un-altered as they are and/or with minimal alterations upon request for approval by the Municipality.

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
	4 _{31-32;43;67; & 69-70}	Existing AP Camps and Police Stations	Police & Security related installations	- These zones should be regulated and developed in accordance to security installation needs and special planning areas - All access points to be kept free from obstructions to ensure speedy response in case of emergencies - Maximum number of floors for building is 5 (ground plus 4). - All buildings should observe building setbacks of not less than 4 meters
	4 _{62; 74-75}	Proposed Library/Social Hall and Youth Resource Centre	Community resource center	- This zone is proposed to be a resource center and safe space for youths to learn and engage in creative activities and talent pooling. The zone is aimed at having libraries, halls with internet connectivity, workshops, indoor sports facilities, youth counselling among others. - Maximum number of floors for building is 4 (ground plus 3). - All developments on site to incorporate landscaping to improve the aesthetics of the site as a whole - Provision of facilities that cater for physically challenged persons - Building footprint/built up area should not exceed 50% of the total land at any time
	4 – all others	Assorted public purpose use	Sites to be used for public purpose needs as described and indicated in the plan	- Special considerations for onsite parking in every facility before any development approval is granted - Built up areas not to exceed 65% at any time - All developments to show landscaping and greening plans on their site development proposals before approvals are granted - Approval for development applications done in consultation with the department of public works

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
Commercial	54.1-4.8;6;11;13-14;15.1-15.11	Proposed Commercial areas	• Business premises and shops • Offices • Malls • Hotels and restaurants • Banks • Health Facilities • etc	▪ The zones are envisioned to be commercial zones with intense developments. In the long term, it is envisaged that all developments within the zone will be developed as multi story developments to create more space for business accommodation for competitiveness and alignment to the ideals of compact development. ▪ Development applications in this zone is mandatory as a way of justifying easements that will be a conditional requirement before any approval is granted as a way of ensuring the developments are regularized and the desired road reserves are obtained ▪ To ensure the zones functions efficiently, strict measures will be applied to servicing and building design and all engineering services required to be high to ensure that businesses have reliable supply of electricity, water, internet access, telecommunication and waste management. ▪ The buildings in these zones be required to observe a setback of at least 4 meters ▪ The buildings are proposed to be a maximum of 10 floors (Ground plus 9) with the building footprint in every plot not exceeding 80% ground coverage ▪ Aesthetics in the zone will be enhanced through the development of an integrated network of the adjacent proposed public spaces including the street spaces ▪ Standalone commercial developments to be developed for the purposes allocated for with a ground coverage of upto 75% as a maximum
	5 ₁₀	Proposed Business Mall & MICE Facility	• Business premises and shops • Bars and restaurants • Banks	▪ The zone is envisioned to provide a high-density mix of commercial activities through the development of a business complex centre (mall). It will be designed to

Land Use	Zone No.	Specific Classification	Zone	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
				- Hotel/Restaurants - Conferencing Facilities	accommodate various commercial uses that will spur economic developments within the Municipality. - The buildings are proposed to be a maximum of 3 floors with the building footprint not exceeding 65 % ground coverage - All buildings should observe building setbacks of not less than at least 4 meters from any road - Building designs to encourage use of natural lighting and ventilation as much as possible.
Mixed Use	5 _{16.1-16.10}	Rumuruti Township sub-urban areas	sub-	- Office - Commercial - High Density Residential - Hotel/Restaurant	- This zone is proposed adjacent to proposed commercial; high density residential; administrative areas and high traffic corridors. It is proposed to ensure that land use activities necessitated by demand from the pressure of the adjacent blocks is absorbed. <i>The land uses to be encouraged in these zones are:</i> - Office space; this can be on standalone lots or on the first and second floors of every residential high-rise flat - Highrise multi dwelling residential flats will also be allowed in this zone and should strictly be guided by the development regulations provided for high density residential areas - Commercial activities; hotel/restaurant will also be allowed in this zone – the commercial activities will be limited to wholesale shops; printing shops; small scale retail activities and convenient corner shops - If full commercial use, then such development would only be allowed on standalone properties and be guided by regulations for commercial development

Land Use	Zone No.	Specific Classification	Zone	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
				- Medium density residential - Day care / Kindergarten facilities - Commercial 5_{16.5}	- Medium density residential development guided by the same land use regulations provided for similar residential density above will be allowed in this zone - Comprehensively developed staff housing schemes will also be allowed in this zone; these may be allowed as semidetached row houses with two floors - Day care and/or Kindergarten facilities are allowed in this zone on stand alone properties that are not less than 0.2 Ha - Small scale retail and commercial activities will also be allowed in this zone including pharmacies and clinics; and small eateries/restaurants - Where a full-scale hotel/restaurant is allowed in this zone, it should be on a stand-alone property that is not less than 0.2Ha and must show proof of adequate parking consideration in their design proposals
				- Informal business activities - Commercial - Hotel/restaurant/lodges 5_{16.6-16.7}	- This zone is intended for local community business activities and is intended to be developed progressively, with adequate provision for services, waste disposal and public amenities. It is anticipated that this is the zone where '<i>jua kali</i>' kind of activities; street vendors and any other business activity the Planning Authority may categorize as informal will be allowed to operate. These activity spaces are intended to be the focus of day-to-day community activity around which will be constructed more permanent retail and community facilities. - Industrial manufacturing and food processing are not permitted in the zone, but small-scale repairs, home craft and cottage industry activities will be permitted.

Land Use	Zone No.	Specific Zone Classification	PERMITTED LAND USE	DEVELOPMENT CONTROL GUIDELINES/ DESIGN STANDARDS
				- Small scale operations for hotel; restaurant activities and lodgings will also be allowed in this zone - Residential activities are completely prohibited from this zone
Public Utility	6 ₁₋₁₃	As prescribed (Relevant utility areas)	- Cemetery Use - Solid and Liquid waste management - Crematorium	- Development of the cemetery areas to be such that landscaping can allow them to double up as public recreation/leisure areas - Waste management sites to be developed with relevant support modern infrastructure
Transportation	7 ₁₋₂₁	Transportation related infrastructure	- Existing and proposed bus parks - Proposed airport - Proposed railways station - Proposed parking areas	- The sites are proposed and planned to be transport hubs of the town where complementary facilities such as petrol serving station can be incorporated in the designs where land exceeds 1.5Ha. - The zones should anticipate the possibility of future implementation of mass transportation systems and accordingly, should propose designs indicating how these will be integrated. - Development of 7₃₋₄ should be such that they can be utilized as future park and ride stations for the Municipality commuters once the mass transportation options are implemented - The airport and railway station should be designed by the responsible government agencies in strict consultation with the County government for approval of designs - Street furniture and street lighting to be actualized on all roads - A mandatory requirement that all roads must be planted with indigenious/exotic/ornamental trees is imposed. This should be enforced by the County government to the responsible road agencies

4.2 Urban Development Strategies & Implementation Framework

Urban development strategies are action-oriented development proposals that aim to promote equitable growth of cities together with their adjoining hinterland. The plan identifies several strategies that are detailed out in the next sections.

4.2.1 Livelihood Development & Economic Strategy

The livelihood development and economic strategy aims to sustainably manage the natural resources and tap into potential areas of development to transform the livelihoods of the Rumuruti residents through promotion of production of local products, enhancing value addition to natural and agricultural resources, promoting development of small and medium industrial enterprises, attracting local and foreign investment besides facilitating transfer of technology to local residents.

It is worth noting that not all developments will be realized as a result of government action. Most of the proposed projects will only materialize as a result of collaborative actions between the government and the private sector through public private partnerships. Specific strategic interventions and actions proposed to catalyze economic development while increasing employment avenues for the increasing population include but not limited to:

STRATEGIES	ACTIONS	PRIORITY	ACTORS
Streamlining the macroeconomic environment to be favorable to local economic investments and development (taxation, cost of investment finance, trade policy on inputs and outputs of industrial and agricultural activities)	Operationalize the air and rail systems to maximize on the movement of goods and services within the County and country as a whole	Long Term	- CGL - CGL-RM - KAA - KCAA - KR
	Develop public private partnerships (PPPs) investment frameworks for the EPZ investors	Immediate-Medium Term	- CGL - CGL-RM - NLC

STRATEGIES	ACTIONS	PRIORITY	ACTORS
- Promote the strategic location of the town through lowering of costs of doing business targeting transport costs, energy availability and costs, land costs, and simplified processes for relevant permits for business. - Dispersed decentralization of economic magnets/nodes such as markets, industries, Universities, Transport Termini, and Hospitals - Utilize appropriate mix of policy instruments to restrict urban expansion into adjacent prime agricultural land (Legal, and economic, incentives) - Enhance the linkage between town and the agricultural production hinterlands for the supply of raw materials, labour and farm inputs from both crop farming and livestock rearing. - Safeguard and secure agricultural land to ensure	Opening up and tarmacking of all roads within the Municipality with road widths of 30m and above	Immediate-Long Term	- CGL - CGL-RM - KURA - KeNHA - SoK
	Establish and develop formal and modern markets in the designated zones within the Plan to eradicate informal traders from the streets as an approach to expand the revenue pool	Immediate-Medium Term	- CGL - CGL-RM - MoITE
	Develop a comprehensive value chain economic investment infrastructure for all sectors to guide full utilization of opportunities in all sectors for urban economic development	Immediate-Medium Term	- CGL - CGL-RM - NG
	Develop a Municipal Urban Economic Investment Manual which has the procedures, investment opportunities, and locations of	Immediate	- CGL - CGL-RM

STRATEGIES	ACTIONS	PRIORITY	ACTORS
sustained supplies of raw materials for industrial development in agro-processing creating a foundation for diversified industrialization in the EPZ area.	commercial and serviced land for investment		
Pursue the principle of Informal activity mix with residential, commercial and industrial area in properly planned spaces	Anchoring on the prepared GIS based cadastral database to prepare a parcel-based valuation roll for improved revenue collection.	Immediate	- CGL - CGL-RM
- Promote agriculture and horticulture as a viable livelihood resource in rich agricultural hinterlands - Promote road infrastructural development to enhance efficiency in trading and production of goods and services	Develop a municipal development regulation manual and creation of advertisement policy for the town to guide various actors will lead to employment and enhanced revenue collection	Immediate	- CGL - CGL-RM
Immediate – 2022/24; Medium Term – 2024/26; Long Term – 2027/31			

4.2.2 Environment; Public Spaces & Conservation Strategy

The environment and conservation strategy provides guidelines and actions that aid in the protection, management and restoration of natural fragile ecosystem and its components, flora and fauna. The strategy will assist to guide urban development within the Municipality in a manner that will conserve proposed open spaces, recreational areas, nature reserves such as the river riparian reserve among others. Focus is also put in building the environment's ability to adapt to climate change; protecting threatened indigenous

species as well as enhancing opportunities for everyone to enjoy nature and scenic landscapes. Some of the strategic interventions and actions are outlined below.

STRATEGIES	ACTIONS	PRIORITY	ACTOR
- Design climate resilient infrastructure (e.g. roads with adequate drainage, permeable paving surfaces) within the municipality in order to reduce the impacts of extreme rainfall events. - Retrofit existing developments with climate and disaster risk reduction technology - Promote the use of green architecture and technology for the urban developments - Develop a GIS data base of all bio-resource areas. - Buffer all the biodiversity rich areas with appropriate land	Development of a green certification programme for buildings compliance within the Municipality	Immediate-Medium Term	- CGL - CGL-RM - NEMA - NMoE
	Conserve and protect green spaces and all urban parks within the municipality as proposed in the Plan	Immediate-Long Term	- CGL - CGL-RM - NEMA - NMoE - CFAs/Conservation Associations - Rumuruti Residents
	Insist on solar PV system for new commercial buildings and hotels to reduce reliance on thermal energy	Immediate-Long Term	- CGL - CGL-RM - Private Developers
	Design buildings that take advantage of existing sun path and wind direction for natural lighting/heating and cooling	Immediate-Long Term	

STRATEGIES	ACTIONS	PRIORITY	ACTOR
uses as proposed in the Plan	Incorporate rain water harvesting requirement for new buildings to control runoff generation and subsequent flooding of wetlands during rains.	Immediate-Medium Term	▪ CGL ▪ CGL-RM ▪ Private Developers
▪ Promote the use of the river system within the town as a natural spatial organizing element ▪ Enhance Linkage of the various green spaces and urban parks within the Municipality as an important recreation network	Map and gazette all the wetlands & riparian areas, urban parks and arboretums within the municipality.	Immediate	▪ CGL ▪ CGL-RM ▪ SoK ▪ NEMA ▪ NMoE ▪ NLC
▪ Improve environmental sensitization and capacity building to build community support for local conservation ▪ Increase tree cover to a minimum of 30% in the Municipality	Provide a running/walking track planted with trees along the river riparian area to provide a buffer against incompatible land uses	Immediate-Medium Term	▪ CGL ▪ CGL-RM ▪ SoK ▪ NEMA ▪ NMoE ▪ NLC
	Plant more trees in the demarcated urban parks, arboretum and on all road reserves as a mandatory requirement	Immediate-Medium Term	▪ CGL ▪ CGL-RM ▪ KURA ▪ KeNHA ▪ NMoE ▪ KFS
Immediate – 2022/24; Medium Term – 2024/26; Long Term – 2027/31			

4.2.3 Transportation strategy

The proposed transportation options aim to enhance connectivity and ensure unhindered movement and circulation within the Municipality. The Plan is ambitious in the sense that wide corridors for the roads are proposed for acquisition. This is not only seen as a good strategy to ensure efficient movement of goods and services but also one that will enhance economic growth. Worth noting is that the transportation networks will form the basic physical and organizational structure needed to catalyze economic development across and outside the Municipality.

Additionally, the Plan is futuristic in the sense that provisions for future air and rail transport have been considered and space provided for in anticipation of accommodating these capital infrastructural investments. These are discussed elaborately in the matrix below.

POLICIES	ACTIONS	PRIORITY	ACTOR
- Develop a Municipal urban transport manual providing guidelines, standards, and range of modal choices, service standards, to various actors engaged in urban transport provision - Promote mass public transportation in the municipality through the use of light rail transport (LRT) and bus rapid transport (BRT) - Promote adequate transport network coverage and connectivity of various land	Optimizing the river riparian reserve as a nature trail/running track that will be connected to the various pedestrian walkways proposed along the roads	Immediate	- CGL - CGL-RM
	Prohibition of on-street parking along secondary distributor roads to create room for pedestrian walkways	Immediate-Medium Term	- CGL - CGL-RM - KURA - KeNHA - SoK
	Mandatory requirement for all	Immediate-Long Term	

POLICIES	ACTIONS	PRIORITY	ACTOR
uses for convenience and energy efficiency	road developments to have NMT facilities		
- Promote pedestrianization and mobility within the Municipality - Improvement of drainage infrastructural systems on all roads within the municipality - Promotion of investments geared towards improvement of parking areas as a way of mitigating excess traffic congestions on the roads - Promotion of Public Private Partnerships in the investment of mass transport systems	Opening up and tarmacking of all roads within the Municipality with road widths of 30m and above	Immediate-Long Term	
	Development of the parking spaces as proposed in the Plan to accommodate vehicle traffic	Immediate-Medium Term	- CGL - CGL-RM - KURA
	Introduce basement parking for all new structures within the township	Immediate-Long Term	- CGL - CGL-RM - Private Developers
	Improving all African location roads to all weather standard	Immediate-Medium Term	- CGL - CGL-RM
	Establishment for Park and Ride terminal points and stations at proposed bus parks (7 ₃ & 7 ₄)	Medium Term-Long Term	- CGL - CGL-RM - PPPs - KR
Immediate – 2022/24; Medium Term – 2024/26; Long Term – 2027/31			

4.2.4 Governance Strategy

In light of the successful implementation of this Plan, this is viewed as a framework in which the County government may appropriate respective resources to execute the proposed Plan. It is outlined as follows:

STRATEGIES	ACTIONS	PRIORITY	ACTOR
- Promote professionalism and integrity in the management of urban areas to insulate them from county executive and county assembly interference through a service charter by members of the urban area - Promote the establishment of urban based or citizen forums to provide oversight in the delivery of services and enhance accountability - Strengthen and build the capacity of planning in the municipality to enable service delivery	Formulate an urban management service delivery system that incorporates various actors to facilitate their roles in the urban area (Railway, KeNHA, KURA, NYAHUWASCO, Private Sector etc.)	Immediate	- CGL - CGL-RM - KURA - KeNHA - KR
	Strengthen compliance of all developments proposed in the plan through appropriate planning development instruments provided by the Plan	Immediate	- CGL - CGL-RM
	Safeguard, and secure all proposed public purpose facilities through demarcation, surveying, gazettment and allocation to respective institutions	Immediate	- CGL - CGL-RM - SoK - NLC
	Build the capacity of urban management staff of the Municipality to enable it implement the Plan, as a proper framework of managing urban development	Immediate	- CGL - CGL-RM - Consultants - Development Partners
Immediate – 2022/24; Medium Term – 2024/26; Long Term – 2027/31			

5 THE CAPITAL INVESTMENT PLAN AND IMPLEMENTATION FRAMEWORK

5.1 The Capital Investment Plan (CIP)

The projected growth of Rumuruti Municipality creates a pressing demand for the investment and development of infrastructure and other assets to support economic and social development. Such investments require capital that often far exceeds available resources to the Municipality. The unavailability of capital puts a premium on the need for the County to build capacity to appraise and prioritize its investment decisions. Hence, there is an increasing need to establish and maintain a process of planning and funding capital investment as a regular activity integrated within the urban areas together with its other activities and based on principles of good public management.

From the above perspective, investment is understood as the acquisition or building of new assets, or major repair and replacement of existing assets that have an economic life longer than one year and a value above a specified threshold. Capital Investment Planning by the County for the Municipality would include (or should include) enterprises/investments established and owned by the County for the provision of services within the Municipality and adjoining areas. CIPs may include investment by the private sector through various models of Public Private Partnerships (PPPs), or through grants and donor funds where necessary. As such, it would be very important to interrogate the financial situation of the County government as a trend analysis to decipher the likely capacity of the County to fund the proposed three-year CIPs for Rumuruti Municipality.

Nevertheless, it is rational to assess against known challenges faced by Counties and Municipalities while Capital Planning notably:

5.1.1.1 Timing Challenge

There is an intrinsic timing challenge occasioned by the complex need to balance between available funds and priority projects. On the one hand, allocating funding for capital projects should be done annually within the County and Municipality's budgeting cycles. On the other hand, complex infrastructure projects may require several years' preparation and "packaging" before external financing (grants or loans) can be sought.

5.1.1.2 Desired Demands and Availability of Funds

In most local municipalities including Rumuruti, once the costs of paying salaries is met, there are hardly any funds left for capital expenditures. Secondly, desires for capital investment are always higher than available funding. Therefore, the County and Municipality, like in the case for all urban areas in Kenya, must make choices. More often than not, the choice to invest in capital projects is usually foregone.

5.1.1.3 Capacity to Capital Plan

In most cases, new and contemporary approaches to evaluate options for complex infrastructure projects usually exceed the County's technical capacities, even in larger urban areas of Kenya. For example, capital investment should be considered within the frameworks of life cycle costing and assessment of alternatives (for example, reducing demand for the service/facility, or engaging the private sector). Such a consideration is not often easy to quantify and evaluate objectively by the Local Authorities. In addition, CIP is an evolving area of public management and Local Authorities globally are continuously trying new approaches.

In light of the challenges above and having considered the own source revenue generated within the Municipality, the priority projects with respective capital costs are presented below.

5.1.2 Identification and listing of priority projects

In coming up with the list of identified priority projects, Rumuruti residents and the Municipality management were consulted. Accordingly, they developed the list below in the hope that the County or other government agencies can partner on in implementing as a way of sparking positive growth in the Municipality.

Table 5-1: Proposed priority capital projects for Rumuruti Municipality

Project Id	Project	Sector	Unit	Quantity
Rmt1	Acquisition of land on the proposed site and developing the sewer treatment plant, sewerage	Liquid Waste Management	Land & Pipeline Infrastructure	Approx. 4.3Ha & 47Km of pipeline

	reticulation network in the municipality			
Rmt2	Opening up and improving the road network in African location	Roads Infrastructure	Length (Kms)	Approx. 59Kms of road
Rmt3	Develop a modern livestock market in the proposed site	Public Facility	Building Structure (Sqm.)	Approx. 3.02Ha
Rmt4	Provision of a water reticulation network in the municipality- towards realization of Rumuruti's own water service provider i.e RUWASCO)	Utility Infrastructure	Pipeline Length (Kms)	Approx. 47kms of pipeline on 30m plus road width and 55Kms of pipeline on 15-25m road widths
Rmt5	Development of a youth empowerment/ ICT Centre	Public Facility	Building Structure (Sqm.)	1.18Ha

Source: KREIS, 2021

5.1.3 Costing Schedule & Implementation schedule

As established earlier, the capacity of the County Government to implement the identified projects maybe inadequate given other county wide priority projects allocations. However, it would be prudent that funds be allocated for the proposed projects in the Municipality as proposed in the execution matrix below. This is considering their overall socio-economic impact and the associated costs which are low and manageable albeit in phases from the next financial year 2022/23.

Additionally, the County government together with the Municipality may seek partnership with various investors and development partners including the National government through various ministries and agencies to implement the other projects as proposed and within the agreed percentages. The matrices below outline the priority projects costs and the proposed implementation timelines. The maps indicate the spatial location where these projects are proposed to happen within the Municipality as per the Plan.

Table 5-2: Proposed Implementation matrix for Rumuruti Liquid waste management project

Specific Project / (Id): Rmt1																
Project Objective: Improved liquid waste management																
Project Location / Site: Rumuruti Township outskirts																
Project Unit / Quantity: Approx. 4.3Ha of land																
Project Description / Detail: Acquisition of land on the proposed site and developing the sewer treatment plant, sewerage reticulation network in the municipality																
Estimated Total Costs:																
Work Component / Project Works				Unit/Qty				Unit Cost		Total Cost		Source of Fund		Actors		
Acquisition of Land				Approx. 4.3Ha				8.4M/acre		89.04Million		Exchequer		CGL / CGL – RM; NLC		
Reticulation of pipeline infrastructure on all roads with road widths of 30m and above				47 Kilometers of 12 inches sewer pipeline				1400/ft		216Milion		Exchequer Grants Donor Funds		CGL NYAHUWASCo Development Partners		
Implementation Schedule																
Project component		2021/22			2022/23				2023/24				2024/25			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Identification of land																
Compensation and acquisition																
Land Surveying																
Funding; Designs & Procurement sourcing																
Piping & Reticulation																
Defects & Liability Period																
Project M & E																

Map 5-1: The spatial location of the liquid waste management project

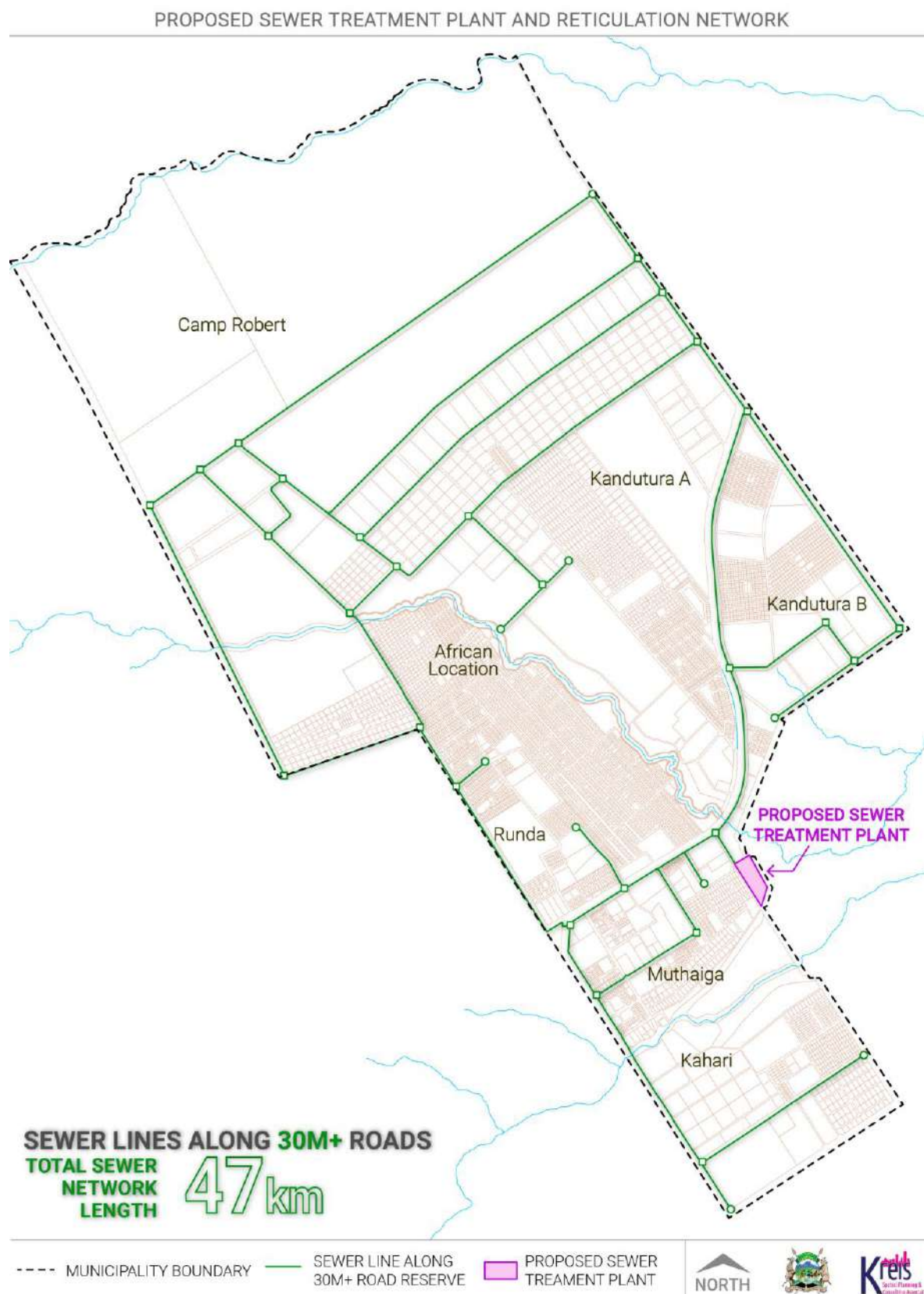


Table 5-3: Proposed Implementation matrix for improvements of road within the African location

Specific Project / (Id): Rmt2																
Project Objective: Improved Road standards																
Project Location / Site: African location																
Project Unit / Quantity: Approx. 59 kilometers of road																
Project Description / Detail: Opening up and improving the road network in African location																
Estimated Total Costs:																
Work Component / Project Works				Unit/Qty				Unit Cost		Total Cost		Source of Fund		Actors		
Earth works, road clearance, and actual construction works				59 Kilometers				10M/km		590Milion		Exchequer		CGL KURA NG-CDF		
Implementation Schedule																
Project component		2021/22			2022/23				2023/24				2024/25			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Demarcation of road wayleaves																
Land Surveying & setting out																
Funding; Designs & Procurement sourcing																
Road construction works																
Defects & Liability Period																
Project M & E																

Map 5-2: Targeted roads within the African location

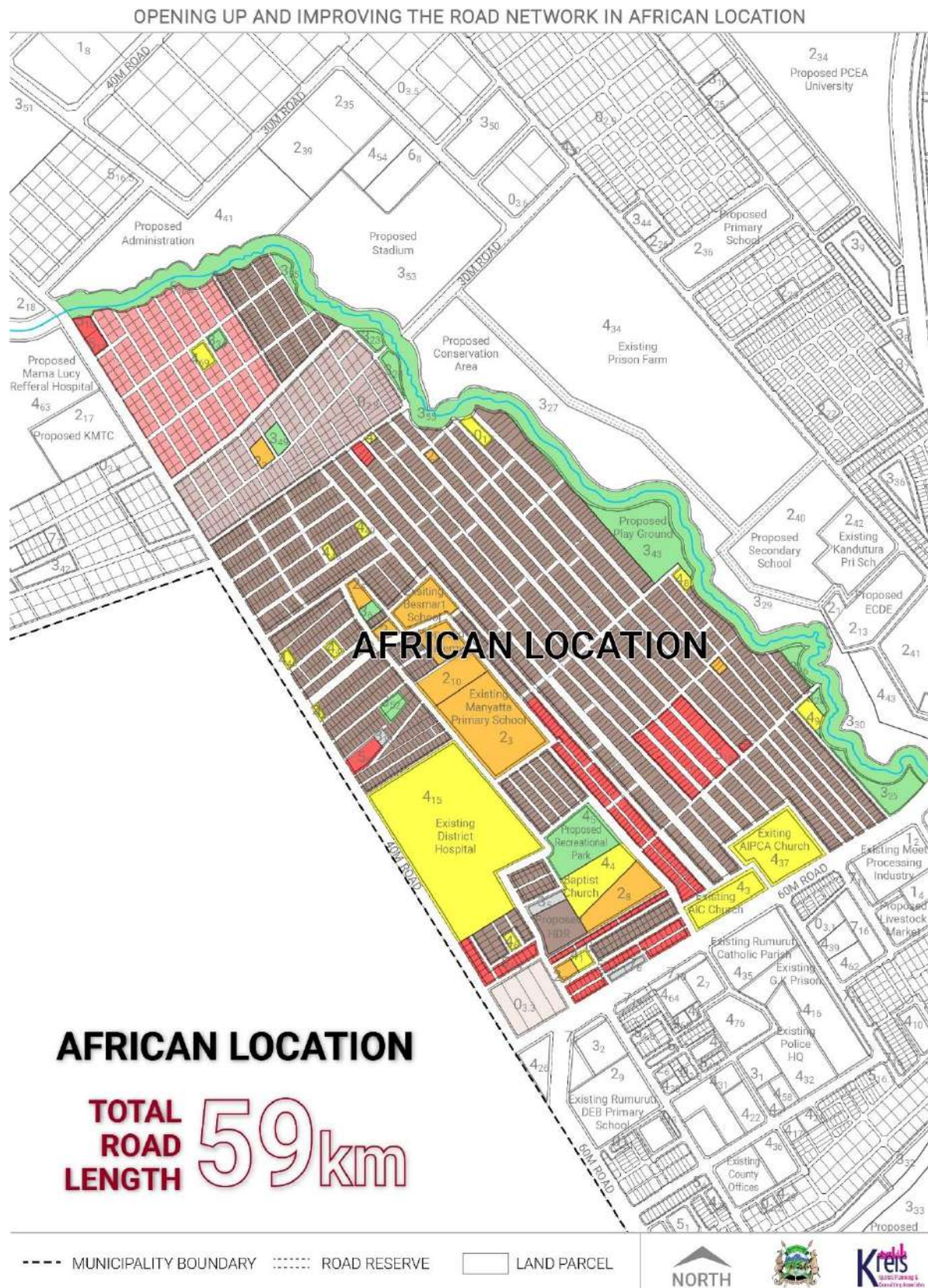


Table 5-4: Proposed project costs for the development of the modern livestock market

Specific Project / (Id): Rmt3																
Project Objective: Livelihoods and economic development																
Project Location / Site: Rumuruti Township																
Project Unit / Quantity: Approx. 3.02Ha of land																
Project Description / Detail: Develop a modern livestock market in the proposed site																
Estimated Total Costs:																
Work Component / Project Works				Unit/Qty				Unit Cost		Total Cost		Source of Fund		Actors		
Construction of buildings and relevant structures to complement operations of the livestock market				20% of total land (0.604Ha) as built-up area – 6040m²				15,000/m²		90.6Milion		Exchequer		▪ CGL ▪ CGL – RM ▪ PPPs ▪ DPs		
Implementation Schedule																
Project component		2021/22			2022/23				2023/24				2024/25			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procurement processes: Identification of consultants & Contractors																
Land Surveying; and Preparation of the site master plan																
Actual Construction																
Defects & Liability Period																
Project M & E																

Map 5-3: The location of the proposed livestock market project site

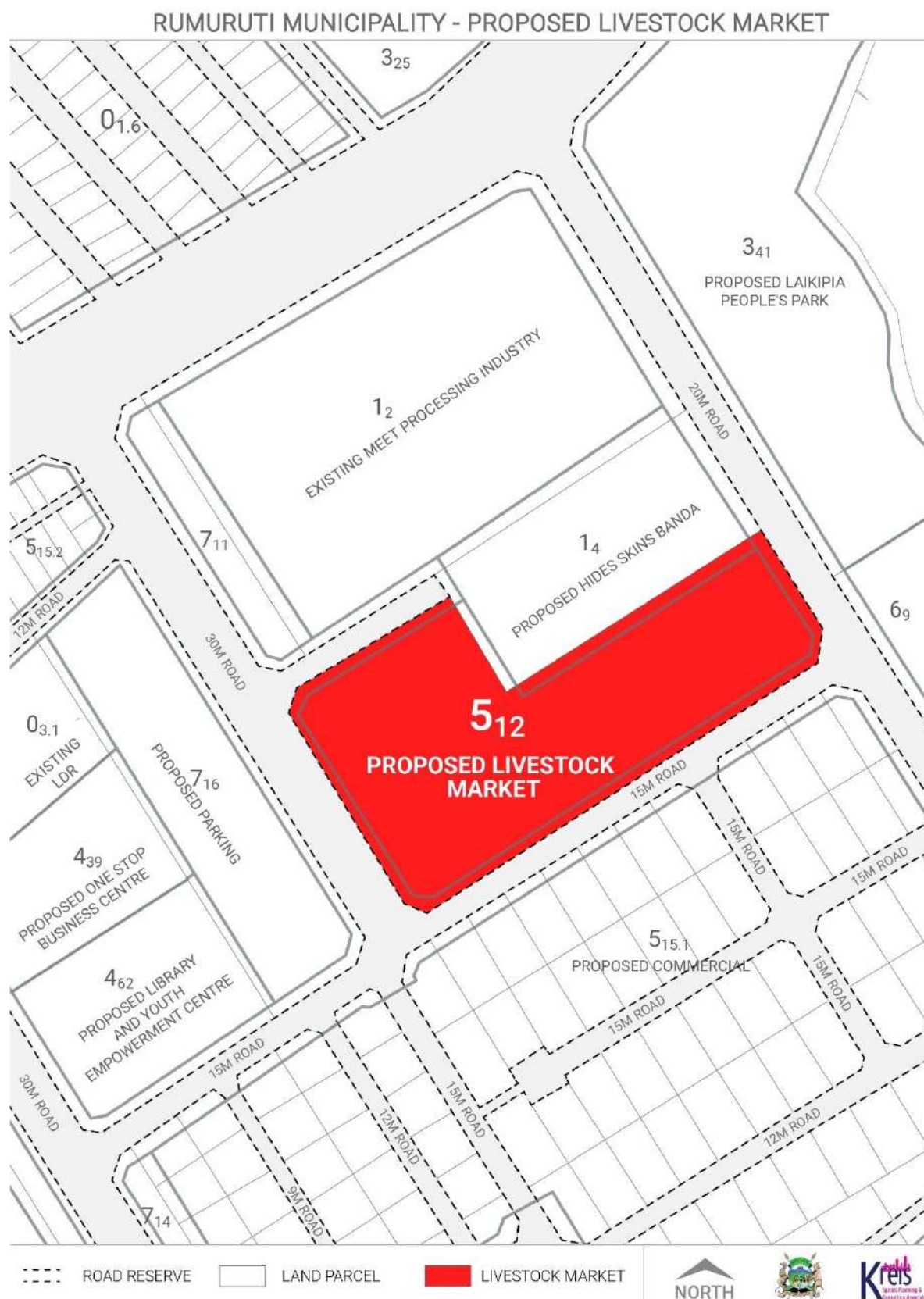


Table 5-5: Proposed water reticulation implementation costs within Rumuruti Municipality

Specific Project / (Id): Rmt4																
Project Objective: Improved fresh water access in Rumuruti Municipality																
Project Location / Site: Rumuruti Municipality																
Project Unit / Quantity: Approx. 102 kilometers of piping infrastructure																
Project Description / Detail: Provision of a water reticulation network in the municipality- towards realization of Rumuruti’s own water service provider i.e RUWASCO)																
Estimated Total Costs:																
Work Component / Project Works		Unit/Qty				Unit Cost	Total Cost		Source of Fund		Actors					
Purchase of 12 inches diameter pipes of length 47 kms (for roads above 30m width) and 4 inches diameter pipes of length 55kms (roads above 15m but below 30m width) (HDPE and GI). Cost includes excavation, Laying of the pipes of ground (reticulation) – labour and fittings		47 Kilometers (Roads above 30m in width)				1400/ft	216Milion		▪ Exchequer ▪ Grants ▪ Donor Funds		▪ CGL ▪ NYAHUWASCo ▪ Development Partners					
		55 Kilometers (Roads above 15m in width but below 30m)				1200/ft	217Milion									
Implementation Schedule																
Project component		2021/22			2022/23				2023/24				2024/25			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Funding; Designs & Procurement sourcing																
Land Surveying & demarcation of wayleaves																
Actual works																
Defects & Liability Period																
Project M & E																

Map 5-4: Targeted Water reticulation pipeline within Rumuruti Municipality

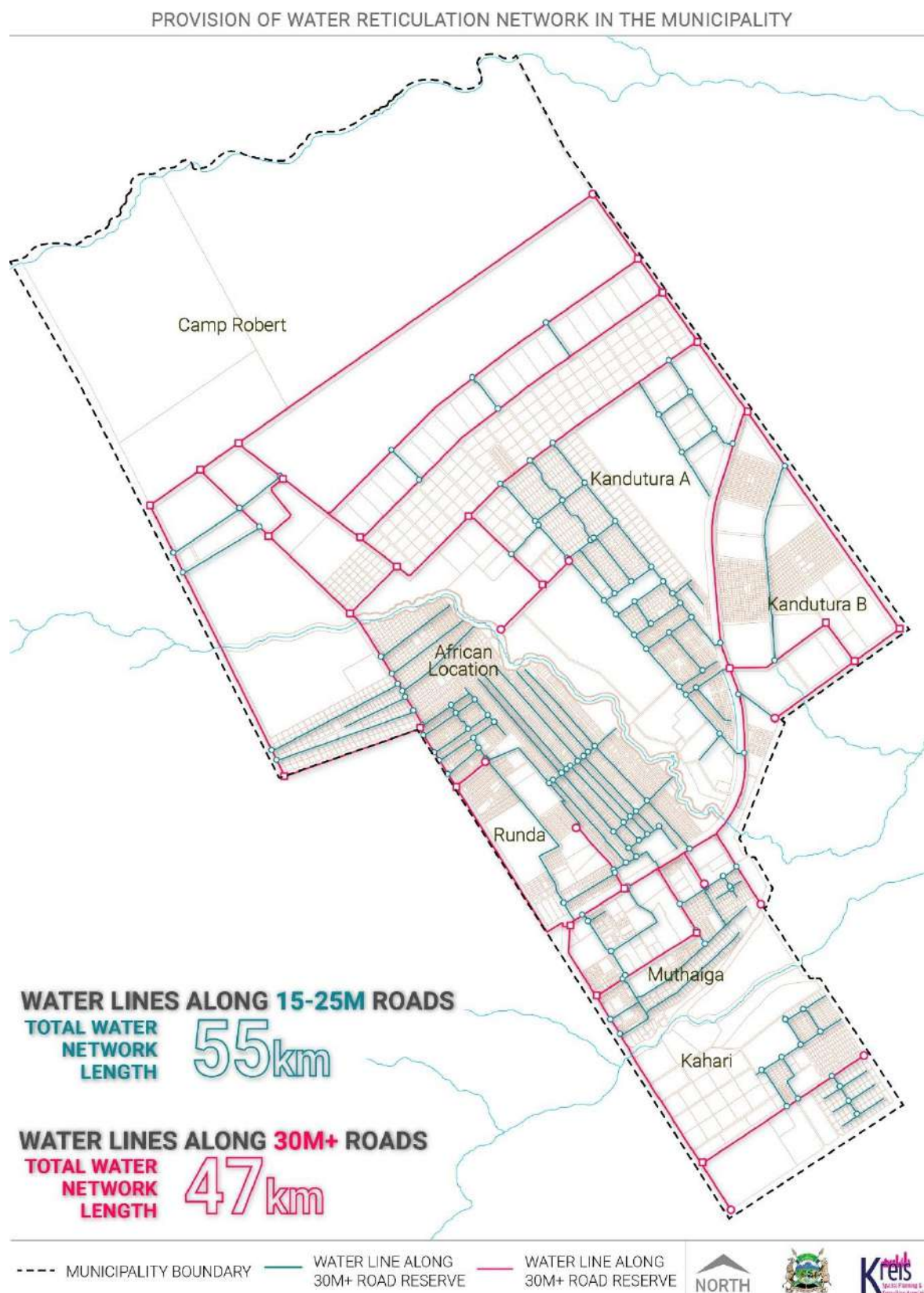


Table 5-6: Proposed project costs for the construction of a youth empowerment and resource centre

Specific Project / (Id): Rmt5																
Project Objective: To provide a resourceful platform to empower the youths and explore their talents and ICT skills																
Project Location / Site: Rumuruti Township																
Project Unit / Quantity: Approx. 1.18Ha of land																
Project Description / Detail: Development of a youth empowerment/ ICT Centre																
Estimated Total Costs:																
Work Component / Project Works			Unit/Qty					Unit Cost		Total Cost		Source of Fund		Actors		
Construction of buildings and relevant structures to complement operations of the ICT and talent centre			50% of total land (0.59Ha) as built-up area – 5900m²					35,000/m²		206.5Milion		Exchequer		▪ CGL ▪ CGL – RM ▪ Development Partners ▪ NG-CDF		
Implementation Schedule																
Project component		2021/22			2022/23				2023/24				2024/25			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procurement processes: Identification of consultants & Contractors																
Land Surveying; and Preparation of the site master plan																
Actual Construction																
Defects & Liability Period																
Project M & E																

Map 5-5: Proposed site for the construction of the Youth empowerment & ICT centre

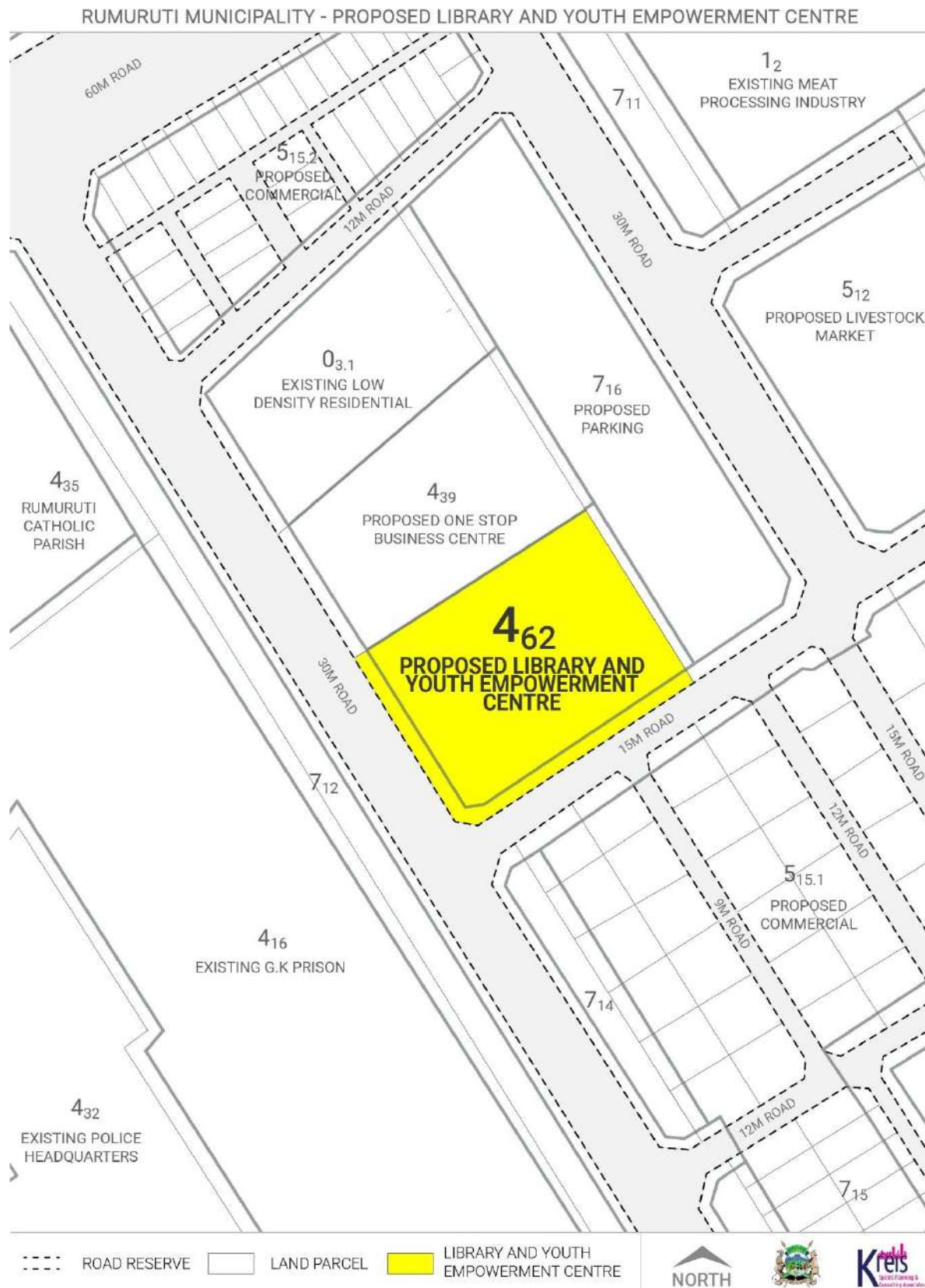


Table 5-7: Proposed priority projects costing schedule

Project Id	Approx. Cost (KES.)	Implementation Timeframe			
		2021/22	2022/23	2023/24	2024/25
Rmt1	305 million	✓		✓	
Rmt2	590 million		✓	✓	
Rmt3	90.6 million	✓	✓		
Rmt4	433 million		✓	✓	✓
Rmt5	206.5 million	✓	✓		
Total Implementation Costs is KES. 1,625,100,000					

Table 5-8: Summary of projects costs

Financial Year (F/Y)	Implementation Projects	Total Costs
2021/2022	Rmt1; Rmt3; Rmt5	99,040,000
2022/2023	Rmt2; Rmt3; Rmt4; Rmt5	592,350,000
2023/2024	Rmt1; Rmt2; Rmt4	825,500,000
2024/2025	Rmt4	108,250,000

Source: KREIS, 2021

5.1.4 Funding Mechanisms of the CIP

In light of the proposed capital expenditures and the limitations by the CGL Exchequer and Own Source Revenue streams, it is clear that there must be innovative ways to collaborate with other actors to raise the funding needed for the CIP as suggested in the implementation matrices above. In addition, PPP arrangements can be explored to fund some of the projects that are of interest to the private sector in context of the proposed Plan. Below are suggested funding sources in percentages.

Table 5-9: Summary of the funding strategy for the proposed Rumuruti Municipality CIP

Rumuruti Municipality LPLUDP	FUNDING SOURCES (%)			
	GoK	PPP	County	DPs
Rmt1: Acquisition of land on the proposed site and developing the sewer treatment plant, sewerage reticulation network in the municipality	0	0	30	70

Rumuruti Municipality LPLUDP	FUNDING SOURCES (%)			
	GoK	PPP	County	DPs
Rmt2: Opening up and improving the road network in African location	90	0	10	0
Rmt3: Develop a modern livestock market in the proposed site	30	20	50	0
Rmt4: Provision of a water reticulation network in the municipality- towards realization of Rumuruti's own water service provider i.e RUWASCO)	0	0	10	90
Rmt5: Development of a youth empowerment/ ICT Centre	40	10	40	10

Source: KREIS, 2021

From the matrix above, it is evident that the County will have to seek partnership with the National government through its various agencies such as KURA & CDF to fund selected projects such as the roads within the African location, the livestock market and the youth empowerment and resource Centre. It is expected that the government agencies will collaborate as suggested in the table above to make the implementation of the projects a realistic venture.

Additionally, the County is expected to forge partnerships and get into direct agreements with development partners who can contribute money within the suggested percentages to ensure water and sewer reticulation is achieved as proposed within the Municipality. One of the basis for such bargain would be negotiated from the intended allocation of land for investors within the SEZ & EPZ areas. This would mean that interested investors will be required to express interest for allocation of land within the two zones, and in return, the County will grant conditional allocation to ensure that the investors contribute to the infrastructural development kitty.

5.2 Monitoring & Evaluation (M&E)

Monitoring and evaluation of government projects is very crucial as it helps ensure seamless implementation and tracking of a government's performance. With regards to the Municipality Plan, the indicators of progress and performance of the government to help in the M&E can easily be drawn from the proposed land uses.

In that regard, the most definite indicators of progress to assess against in chronological order will include:

- a) Has the County government relocated head administrative functions as intended to Rumuruti town?
- b) Has the Municipality recruited and staffed its organs as required to ensure that developments are done in line with the provisions of this Plan?
- c) Has the County government or Municipality undertaken any steps towards implementing any of the Capital projects?
- d) Has the County government or Municipality entered into any partnership agreement with any of the National government agencies towards implementing any of the suggested capital projects by financial year 2022/23?
- e) Has any allocation of land been done by year 2023?
- f) Has survey and titling for African location or any other settlement been done by year 2024?
- g) Has the youth resource and empowerment centre; or the livestock market; or the roads within the African location been done or activities started by 2023?
- h) Are developments being carried out as proposed in the development guidelines of the Plan?
- i) Is a framework for the uptake of land within the SEZ & EPZ areas developed by year 2023?
- j) Have any expressions of interest been received for uptake of land within the industrial area?
- k) Has the municipality valuation roll been updated? etc.

The answer to these questions and others that may linger remain the fundamental basis of any M&E of the proposed Plan. It would be imperative for the County Government to develop a response and feedback mechanism for the questions as this will form the operational framework of the M&E.

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