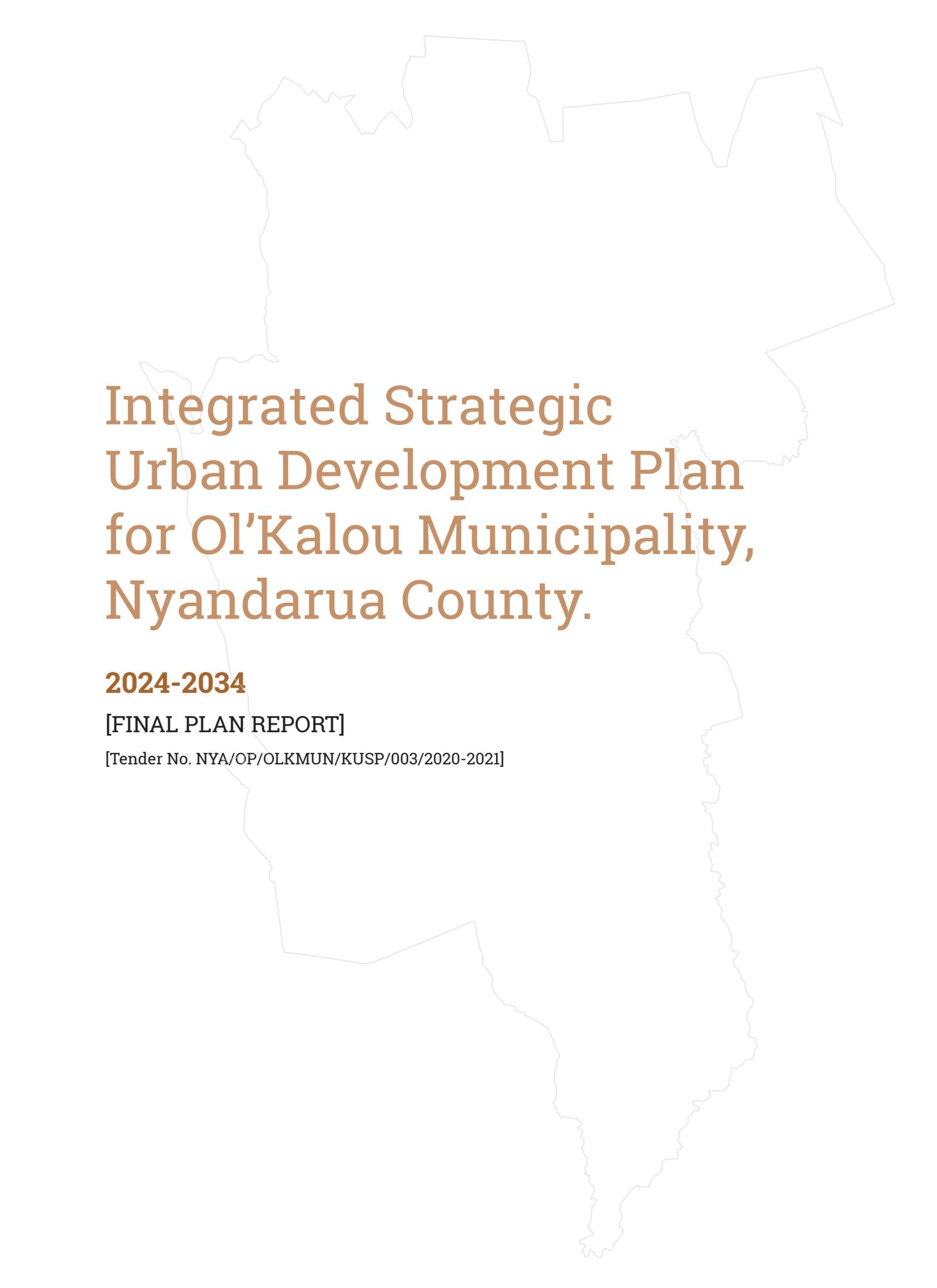




OL'KALOU MUNICIPALITY

Integrated Strategic Urban
Development Plan (ISUDP)





Integrated Strategic Urban Development Plan for Ol'Kalou Municipality, Nyandarua County.

2024-2034

[FINAL PLAN REPORT]

[Tender No. NYA/OP/OLKMUN/KUSP/003/2020-2021]

APPROVAL AND CERTIFICATION

In pursuant of the legal mandates, this Plan has been prepared, circulated and published as per the requirements of the Physical and Land Use Planning Act No 13 of 2019 and County Governments Act 2012 (Amended 2020).

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COUNTY ASSEMBLY OF NYANDARUA

..... (Hon. Clerk.)

Signature

Date:

Hansard NO.:

APPROVED DEVELOPMENT PLAN NO.:

ENDORSED BY:

H.E. GOVERNOR COUNTY GOVERNMENT OF NYANDARUA

Signature

Date:

Foreword

The Integrated Strategic Urban Development Plan (ISUDP) for Ol'Kalou Municipality is a ten-year plan that provides a development roadmap to guide urban growth for the period between 2024 and 2034. The Plan will enable the people and County Government of Nyandarua to develop Ol'Kalou into a modern town that will promote administrative, residential, commercial, industrial, transportation, and socio-economic advancement functions, enhancing growth and development in the municipality and the county at large.

This plan comes after ten years of devolution, which has been characterized by rapid urbanization mainly being witnessed within the municipality. Therefore, there is an urgent need to provide a policy framework for urbanisation and sustainability in the county.

This Plan will enable the implementation of policies, legal, and institutional framework to guide and direct urban development, which has hitherto relied on the 2000 Local Development Plan. This Plan is based on international agendas such as the Sustainable Development Goals, the national policies and plans, and the county development agenda. The Plan similarly captures the vision, aspirations, and dreams of the people of Ol'Kalou.

Based on the requirements of the Constitution of Kenya, 2010 and its implementing laws, particularly the County Government Act, 2012, the Physical and Land Use Planning Act, 2019 and the Urban Areas and City Act, 2011 (amended 2019), this document has been prepared by engaging a different range of stakeholders.



The plan identifies opportunities that will change and transform Ol'Kalou through the different programmes and projects proposed herein. The Plan aims to address accelerating growth by unlocking underutilised economic opportunities in agriculture, tourism, commerce, and industry, increasing production and productivity, adding value, and through infrastructural development such as roads, water, and social amenities, making Ol'Kalou and development in the county and beyond.

This will be reflected in a quality living and working environment, generation of employment opportunities for the residents, enhanced revenue to the County Government and an efficient transport system. This integrated urban plan for Ol'Kalou also provides for full exploitation of opportunities for expansion of industrial development and rural-urban linkages.

This calls for a concerted effort from various players and stakeholders. I, therefore, invite all our development stakeholders to embrace this plan and participate actively in its implementation, monitoring, and evaluation for better policy, program, and project outcomes.

The implementation of this plan requires resources. The county will strive to attract the resources needed to realise people-focused transformation for wealth creation in Ol'Kalou.

In order to cope with this scenario, the County Government is committed to guiding and managing urban growth in a more efficient manner. The increased population needs to be accommodated in a pleasant environment with ease of mobility and provided with adequate physical and social infrastructure and employment opportunities.

The successful implementation of the plan will therefore enable the county not only to improve service delivery but also direct development to the most appropriate locations. Sectoral programmes and projects form key components of the plan, whose objective is to ensure integration and co-ordination of development priorities.

My administration acknowledges with utmost appreciation the World Bank for its support in preparing this plan. I wish to commend the Kenya Urban Support Team National

through the Ministry of Lands, Public Works, and Housing and Urban Development for supporting the process.

I also wish to thank the County Department of Lands, Physical Planning, and Urban Development for driving this process. Appreciate the efforts of other stakeholders, including professional bodies, resident associations, the business community, community-based organizations, and wananchi, for their valuable inputs during the various stages of the preparation of this plan.

My government commits to continued engagement and collaboration with all stakeholders to achieve the full realisation of this plan. I am convinced this plan will have a positive impact on us individually and collectively.

I welcome you all to support this noble cause in realising the vision in this plan.

Hon. Moses Kiarie Badilisha
H.E. Governor

Acknowledgements

The preparation of this Integrated Strategic Urban Development Plan has been done under the guidance and support of the County Government of Nyandarua.

Special thanks go to H.E. The Governor, Hon. Moses Kiarie Badilisha; H.E. Deputy Governor, Hon. Mathara Mwangi; Ms. Judyleah Waihenya, Chief Officer Lands, Housing, and Physical Planning; Chairperson Municipal Board, Priscilla Mwirigi; and members of the Ol'Kalou Municipal Board, including Municipal Manager Anne Theuri, who provided guidance during the plan preparation process. We also thank all the County Executive Committee members and department heads who offered their valuable time and input in making this plan reflect the county's development agenda.

I also commend the county technical team led by Director Physical Planning Plan Rachel Mugo, Director of Survey Mr. Kamau, and a joint working team of namely Solomon Githinji, Moses Kiongo, Henry Ngaruiya, Joseph Munene, Benson Thuku, and Eunice Kamau who provided technical input during the final stages, where they worked jointly with the consultants reviewing the content that went in the final plan. Further, I wish to thank the interns Claire Waraga, Dennis Mwangi, Erastus Kariamu, Elijah Mbuthia, Victor Kamau, Ruth Mwangi, and Joseph Amoche.

We appreciate the leadership and residents of Ol'Kalou Municipality who sacrificed time and busy schedules, individually and in groups, to contribute to the preparation of this plan by way of memoranda and participation in discussion forums at various levels. To them and all other contributors not mentioned here,



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Hon. Stephen Kinyanjui Mburu, KK
CECM - Lands, Physical Planning and Urban
Development.

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Executive Summary

Ol'Kalou, being the headquarters of Nyandarua County and having surpassed the 50,000-population threshold pursuant to the Urban Areas and Cities Act 2011 (rev. 2019), was declared and gazetted as a municipality in 2019.

The urban area dates back to 1922, with the arrival and extension of the railway to Nyahururu. From being declared a township in 1973 and only covering 7.36 km², the now municipal area covers 364.7 km², covering the whole wards of Rurii, Kaimbaga, and Karau, as well as Ndemi and Tumaini market centres in Wanjohi and Kanjuiri Ridge wards, respectively. The main urban centres include Ol'Kalou town, Rurii, Captain, Kariamu, Tumaini, and Ndemi. The municipality enjoys proximity to Nakuru and Nairobi cities.

As per the 2019 Kenya Population and Housing Census, the population was estimated at 78,502, with 69% of the population being below the age of 35 years. Using an annual population growth rate of 4.1%, the population is projected to grow to 112,703 by 2034 and from 23,089 households to 33,148, calling for a raft of measures and the provision of different services to this population.

The topography has a mix of flat and undulating terrain, with elevations ranging from 2020 m to 2750 m above sea level. Most urban areas, such as Kariamu, Rironi, Ndemi, Captain, and Kabati, are gently sloping, whereas others, such as Tumaini, Bosnia, Pasenga, Gachwe, and Kendoto, are undulating. The area is underlain by two

main rock types: igneous rocks and alluvial rocks, both of which are stable for urban development. The area falls under the highland savannah zone vegetation, characterised by scattered trees with expansive grass cover. The major rivers include the Malewa, Endoroni, Kalou, Nyairoko, and Murindati. Lake Ol'bolosat, which is the only large natural lake in the municipality and in the larger central region,

The plan has been prepared through a participatory process. The data collection exercise involved GIS mapping of physical and social infrastructure within the municipality, including schools, health facilities, other amenities, government offices, roads, and major roads, among others. Questionnaires were administered to 464 households and 282 businesses through a scientific sampling formula to ensure equal distribution. The findings were triangulated using focused group discussions with different thematic groups and key informant interviews. The findings were presented during stakeholder workshops.

From the findings, the municipality is defined by a dense urban core that is Ol'Kalou town, with dispersed settlements as you move away from the town.

However, the municipality lacks an up-to-date plan. As a result, the municipality has seen uncoordinated development and land use conflicts. This is exacerbated by tenure insecurity, particularly in the town, which has slowed growth and investment within the municipality. Because of this and other

factors, there is evident urban sprawl as the demand for land rises, posing a threat to the municipality's rural hinterlands. Other issues that emerged affecting land include unsustainable use and subdivision of land and a deteriorating quality of the environment due to mining.

Physical Infrastructure: Access to basic physical infrastructure is also a problem. While the major roads are in reasonably good condition, the internal feeder roads are poor, limiting connectivity and accessibility. As walking accounts for 52% of the transportation modes supported by paratransit means such as the *"bodaboda"* within the municipality, there is a need for pedestrian-friendly and associated infrastructure.

There is also low connectivity to the water and sewer reticulation systems as only 2,949 households out of 23,089 have piped water forcing residents to walk for kilometres in search of water. As a result, the municipality's agricultural productivity has suffered as arable land sits idle. On the other hand, despite the presence of a sewer line within Ol'Kalou town, only 3,000 (approx.) households are connected to the network, forcing the majority of the population to rely on pit latrines and septic tanks.

The municipality also lacks a solid waste management system, resulting in indiscriminate dumping and stormwater drain blockages. The current sewerage system is inadequate in comparison to the waste generation of the current population. Storm water drainage infrastructure is also underdeveloped, with proper drainage channels concentrated primarily along major roads, such as the Gilgil-Nyahururu road, leaving the rest of the areas with almost no infrastructure. On the plus side, the municipality is well served by ICT

infrastructures such as mobile telephony, a fibre optic cable network, and postal and courier services, making it a hotbed of innovation.

Social infrastructure: access to adequate social infrastructure is important for any community. These facilities enhance attainment of economic participation. For education facilities there are 46 ECDEs mostly hosted within primary schools within the municipality, there are 49 public primary schools including 1 special school, Ol'Kalou School for the Disabled Primary. In addition, there are 20 number of secondary schools in Ol'Kalou municipality but are not evenly distributed. There is only one tertiary institution in Ol'Kalou municipality; Kenya Medical Training College (KMTC). There are three polytechnics located in Ol'Kalou, Rurii and Kahoro. By extension, Nyandarua Technical and Vocational College which was recently elevated to a National Polytechnic is only 18km from the boundary of the planning area also serves the municipality. Nyandarua University College has also been proposed and land set aside at Captain Market centre.

Access to health infrastructure is fundamental to the attainment of a healthy population. In total, Ol'Kalou Municipality has 2 hospitals, 2 health centres, 14 dispensaries, and 12 private and faith-based health facilities. However, the survey revealed there is overreliance on JM Kariuki Hospital due to inadequate facilities and services in the low-tier categories. However, the county is in the process of constructing four additional facilities namely; Mashujaa Complex at JM Kariuki Hospital, Kiganjo, Kagaa, and Kieni Dispensaries. This coupled with provision of adequate equipment, drugs and staffing will improve the health delivery system in the municipality.

Housing: The core urban area (Ol'Kalou Town) and the satellite market centres are witnessing proliferating informal settlements as a result of the rapid rate of population growth and urbanization. The informality manifests in unplanned growth and congestion and flouting of planning standards. The developments also fail to factor in the carrying capacity of the supporting physical and social infrastructure, such as water, sanitation, sewer connections, good roads, open recreational spaces, schools, and hospitals. There is also a mismatch between the rental housing market prices and the quality of accommodation and facilities offered.

Local economy: About 70% of the municipal land use is predominantly agricultural which dominate the economy of the area with crop farming, flower farms, livestock farming including dairy and subsistence agriculture which provides food security to the households. Other key sectors include trade and commerce, transport, agro-based industrialization, hospitality, financial sector, small scale industries (jua kali fabrication). Other important function include administration being the county headquarters and also national government departments and agencies. Ol'Kalou has huge potential being centrally located within the Central Region Economic Bloc, strategically within Mombasa-Nairobi-Malaba transport corridor and is approximately 2 hours drive to Nairobi, 30 minutes to Nakuru City. There is need to exploit this regional potential for the growth of the municipality.

This will enable the increasing population to meet their development needs and create employment opportunities. To implement the above, this Plan proposes the following strategies:

- Optimal and sustainable use of natural resources, protection and conservation of environmentally sensitive areas to alleviate the effects of climate change.
- Secure public land by preparing an updated inventory of all public land in liaison with the National Land Commission and Ministry of Lands. This will require registering all public land and repossessing any that has been grabbed. National.
- Sustainable use of land through efficient planning and management to unlock local economic development.
- Provision of a framework for decent and affordable housing in the municipality.
- Creating a modern, well connected and efficient transport system for movement of people, goods and services.
- Provision of adequate, reliable and affordable water supply to improve sanitation.
- Ensure access of better healthcare to all.
- Unlock the economic potential of the municipality through trade, industrialization and agriculture.
- Proper governance, and coordination between different organs and open up the civic space pursuant to Part VII & XI of CGA, 2012

Previous planning attempts to address the municipality's urban challenges have been unsuccessful because they either covered a small area, were outdated, or did not address all the urban issues. However, it is hoped that this Plan will succeed in addressing challenges and forging a better future for the municipality. The plan was therefore made in close collaboration with the County Spatial Plan for Nyandarua to achieve this goal.

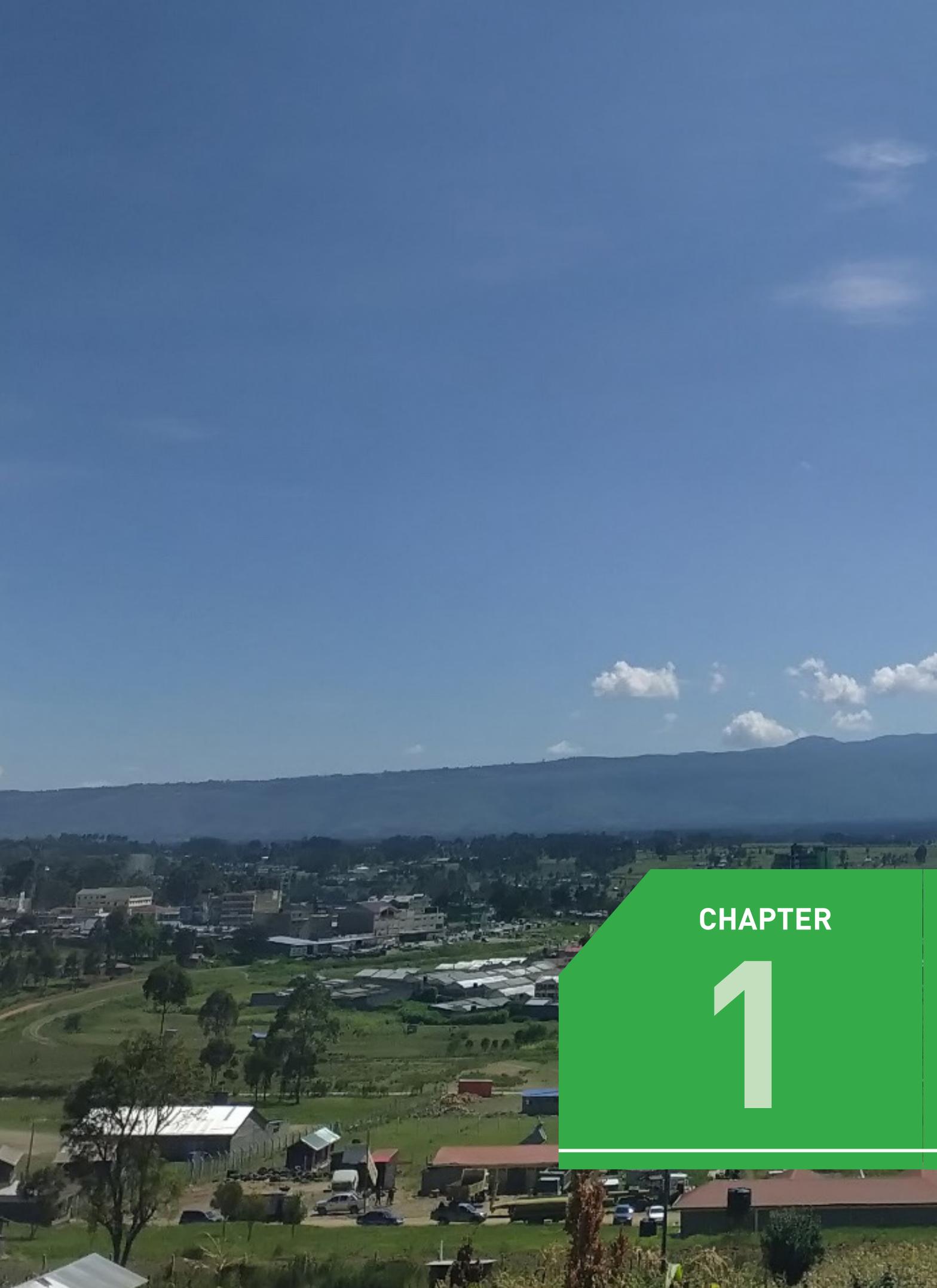
The success of this Plan lies in the willingness and ability of the County Government, the Municipal Board and other actors in conjunction with private institutions, state agencies and the general public to

implement this plan and exploit the huge social, economic, environmental and other opportunities that the municipality is endowed with in line with the national, county and municipal development objectives and programmes.

Abbreviations and Acronyms

AIC	Africa Inland Church
ATM	Automated Teller Machines
CA	County Assembly
CBD	Commercial Business District
CBOs	Community Based Organizations
CECM	County Executive Committee Member
CEREB	Central Region Economic Bloc
CGA	County Government Act
CGN	County Government of Nyandarua
CIDP	County Integrated Development Plan
CLMB	County Land Management Boards
CRVWDA	Central Rift Valley Water Works Development Agency
CSP	County Spatial Plan
D-ALF	Department of Agriculture, Livestock and Fisheries
D-ECGAC&SS	Department of Education, Children, Gender Affairs, Culture and Social Services
DEM	Digital Elevation Model
D-FEP&ICT	Department of Finance, Economic Planning and ICT
D-HS	Department of Health Services
D-LPPUD	Department of Lands, Physical Planning and Urban Development
DP	Development Plan
D-PSAD	Department of Public Service, Administration and Devolution
D-PWRTHE	Department of Public Works, Roads, Transport, Housing and Energy
D-TCDTI	Department of Tourism, Co-operative Development, Trade and Industrialization.
D-WECC&NR	Department of Water, Environment, Climate Change and Natural Resources
D-YESA	Department of Youth Empowerment, Sports and the Arts
ECDE	Early Childhood Development Education
EIA	Environmental Impact Assessments
EMCA	Environmental Management and Coordination Act
FBOs	Faith Based Organizations
FG	Farmers Group
G4S	Group for Security
GC	Ground Coverage
GDP	Gross Domestic Product
GIS	Geographical Information Systems
GPS	Global Positioning Systems
ICT	Information Communication Technology
IDeP	Integrated Development Plan
IPM	Integrated Pest Management
ISUDP	Integrated Strategic Urban Development Plan
JKIA	Jomo Kenyatta International Airport
KCSASP	Kenya Climate Smart Agriculture Support Programme
KeNHA	Kenya National Highway Authority
KeRRA	Kenya Rural Roads Authority
Kgs	Kilograms
KISIP	Kenya Informal Settlements Improvement Project

Km/Hr	Kilometre per Hour
KMP	Kenya Municipal Programme
Kms	Kilometres
KMTC	Kenya Medical Training College
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
Ksh	Kenyan Shillings
KURA	Kenya Urban Roads Authority
KUSP	Kenya Urban Support Programme
KWFT	Kenya Women Finance Trust
kWh	Kilo Watt Hour
LH	Low Highlands
LIMS	Land Information Management System
LP&LUDP	Local Physical and Land Use Development Plan
LPG	Liquefied Petroleum Gas
MGR	Metre Gauge Railway
MSME	Mediums and Small-Scale Enterprises
MTP	Medium Term Plan
NCPB	National Cereals Produce Board
NGO	Non-Governmental Organization
NLC	National Lands Commission
NMT	Non-Motorized Transport
NSP	National Spatial Plan
ODK	Open Data Kit
OLWASCO	Ol'Kalou Water and Sewerage Company
PCEA	Presbyterian Church of East Africa
PDP	Part Development Plan
PLUPA	Physical and Land Use Planning Act
PPP	Public Private Partnerships
PR	Plot Ratio
PSV	Public Service Vehicles
RIMs	Registry Index Maps
S	Sewered
SACCO	Savings and Credit Societies
SDG	Sustainable Development Goals
SLM	Sustainable Land Management
SMEP	Small and Micro Enterprise Programs
TIN	Triangulated Irregular Network
TOD	Transit Oriented Development
ToRs	Terms of reference
U	Unsewered
UACA	Urban Areas and Cities Act
UH	Upper Highland
ULS	Urban Lines Consultant LTD
WRA	Water resources Authority
WSTF	Water Sector Trust Fund



CHAPTER

1



INTRODUCTION



1.1: Background

Well-planned and well-managed human settlements enjoy better access to employment opportunities, security and safety, health care education and other public services. The plan implementation and transformation must be based on inclusion, resilience and authenticity. The New Urban Agenda underlines their linkages where ***“it lays out standards and principles for the planning, construction, development, management, and improvement of urban areas along its five main pillars of implementation: national urban policies, urban legislation and regulations, urban planning and design, local economy and municipal finance, and local implementation. It is a resource for every level of government, from national to local; for civil society organizations; the private sector; constituent groups; and for all who call the urban spaces of the world “home” to realize this vision¹.”***

Urban issues are often complex and particular to the unique conditions of each local area. Consequently, using the best global practices and guidelines, they can be managed properly only from perspectives rooted in local realities.

Kenya is experiencing urbanisation in an unsustainable manner, characterised by uncontrolled and uncoordinated spatial growth. Many Kenyan towns are haphazard, therefore experiencing challenges such as the growth of informal settlements, unmitigated urban sprawl, illegal subdivisions, a lack of integrated development, environmental degradation, poverty and unemployment, and inadequate provision of social and physical infrastructure. According to Sessional Paper No. 10 of 2012 on Kenya’s Vision 2030, under the social pillar, the country is envisioned to predominately be urbanised by 2030, hence

the need to initiate proper urban planning and development strategies with Kenya’s major cities and towns².

In light of the above, the County Government of Nyandarua commenced the preparation of Ol’Kalou Municipality Integrated Strategic Urban Development Plan with the aim of planning for a sustainable municipality in a way that it meets the needs of the residents, for present and future generations. This ISUDP aims at providing a comprehensive description of the existing situation, and highlights the potential opportunities, challenges, and constraints of the planning area. Moreover, the plan will provide strategies for sustainable development and an implementation framework.

1.2: Problem Statement

The establishment of the municipality has been the catalyst of urbanization and increased population within Ol’Kalou. Albeit the growth being beneficial to the municipality, it has manifested as being uncontrolled and haphazard evidenced by infrastructure deficits, mushrooming of informal settlements, land conversions and subdivisions and loss of agricultural value. Consequently, these challenges have been a cause of alarm and thus necessitated prompt policy interventions. Further, the municipality still relies on the outdated Approved Development Plan of 2000, which has been overtaken by development events contrary to the legal provisions of Section 45 of the Physical and Land Use Planning Act, 2019, County Governments Act, 2012 and the Urban Areas and Cities Act, 2011, which call for preparation of an up-to-date development framework.

Sustainable Goal 11 calls for creation of

¹ UN-HABITAT, 2020. New Urban Agenda

² Republic of Kenya, 2012. Sessional Paper No. 10 of 2012 on Kenya Vision 2030

inclusive, safe, resilient, and sustainable cities and communities that ensure universal access to services such as affordable healthcare, public transport, and green open spaces. To realize the foregoing, a physical and land use development framework is needed to guide sustainable development of urban and rural communities. This justifies the initiative to prepare an Integrated Strategic Urban Development Plan for Ol'Kalou Municipality. The plan aims at fulfilling the legal requirements and developing sustainable interventions which will enhance rural-urban linkages within the municipality, catalyse agricultural economic potential, promote sustainable land use, and compact urban development, and stimulate equitable economic growth for all actors for the integrated development of the municipality.

1.3: Local Planning Concept

The Kenya Vision 2030 identifies poor and unsustainable urban planning as a key challenge associated with the spread of informal urban centres and moves further to provide the foundation for a concerted approach to urban sustainability. In its Second Medium Term Plan (MTP II) 2013 – 2017, it gave recognition to the fundamental role devolution frameworks play in the achievement of good governance where rapid urbanization is highlighted as one of four key challenges facing the country. In the current Third Medium Term Plan (MTP III) 2018-2022, additional initiatives to establish and support municipalities has taken a centre stage.

The Kenya Municipal Program (KMP) and the Kenya Urban Support Program (KUSP) are part of the new dawn in urban governance, in supporting county governments to coordinate and integrate their spatial and sectoral planning. Among the programs and projects planned during this phase is the

Integrated Urban Development Planning that includes the dissemination of the National Urban Development Policy to counties, the creation of an Urban Observatory Centre and developing standards for urban land management and development control.

In the context of the MTP III, the Physical and Land Use Planning Act cements the planning framework into the county governance fabric in accordance to the County Governments Act (17 of 2012). At the urban level, the import of the Urban Areas and Cities Act (13 of 2011) provide support for the establishment of municipalities and confers powers and capacity to act effectively through adequate powers and resources to achieve economic development, support infrastructure development, promote economic investment and the provision of public services. There is, therefore, need to develop programs consistent with social, economic and environmental outlay to guide rapid urbanization.

The Constitution of Kenya, 2010 mandates cooperation between the National and County Governments in the performance of functions and exercise of powers. County Governments are tasked with the preparation of County Spatial Plan (CSPs), ISUDPs for urban areas and other local plans to promote land use regulation and land development, budgeting, and coordination of activities within urban areas.

The focus of this plan is to analyse past, current and the anticipated future trends of growth to provide trajectory of desired standards and level development of Ol'Kalou municipality. This plan will be anchored and informed by international, national, county, and local aspirations.

This plan aims at striving to improve the

quality of life of the residents and making Ol’Kalou an urban centre of excellence in the county and beyond.

To ensure that Ol’Kalou Municipality will realise sustainable development, land use planning and urban management will be guided by the legislative and policy framework. By adopting and implementing the planning tools—statutes, regulations, rules, codes, policies, and best practices—this will influence optimal and sustainable land uses, leading to seamless urban growth and enhancing the delivery of housing, trade and commerce, industrial growth, physical and social infrastructure, and agriculture, among others.

The planning approach and its implementation will also focus on urban revitalization, with the aim of improving areas that are in a state of decline within the municipality. The economic development strategies will assist in the identification of growth areas to foster greater prosperity within the municipality.

Environmental planning will emphasize on sustainability. The focus will include reduction of air and noise pollution, conservation of wetlands and habitats of endangered species, and reduction of disasters from both natural and human activities.

The success of this plan both its making, implementation, monitoring, and evaluation requires active and sustained consultations with the community and relevant stakeholders to ensure transparency and ownership.

1.4: Terms of Reference

The project Terms of References (ToRs) for this plan as are as elucidated below.

- a) Confirmation of the planning boundaries.
- b) Preparing an elaborate base map showing the existing spatial structure of the planning area to include, at the minimum planning boundaries, existing road network, landmarks, major natural features, and topography.
- c) Carrying out contextual analysis of the planning area and its environs.
- d) Undertaking a population demographic study, land-use, and socio-economic study of the planning area, analysing changes that have occurred over time and projecting future scenarios, -
- e) Undertaking an assessment of transport, infrastructure and utility needs, housing, and community services. This will include spatial mapping of the transport, infrastructure, and utility network in the planning area.
- f) Define the immediate extent of the Central Business District (CBD) and prepare detailed action plans for redevelopment of the CBD and satellite market centres.
- g) Identify suitable land for residential, industrial, education, recreational, commercial, public purpose and utilities, transportation, and other uses applicable to the planning area.
- h) Analyse the current institutional and administrative framework in enabling planning and development.
- i) Project land use, infrastructure, and services requirement over the plan period.
- j) Prepare a detailed 10-year land use plan.
- k) Prepare detailed 10-year sectoral

development plans in support of land use plan.

- l) Prepare zoning plans and regulations for the planning area with requisite development densities and guidelines.
- m) Carry out detailed analysis on revenue potential and enhancement to support plan implementation.
- n) Prepare an implementation mechanism for the plan to include proposed requisite resources and institutional frameworks.

1.5: Objectives of the Plan

Towns of the future should build infrastructure and urban spaces where life thrives, and the most common problems are addressed. The purpose and objective of the ISUDP are to:

- i). Provide a basis for physical and social infrastructure provision for present and projected population during the 10 years of the plan period and beyond.
- ii). Examine demographic changes in the last ten years and those projected over the life of the plan, and analyse how they relate to economic changes, welfare, and administrative shifts.
- iii). Identify environmental issues and concerns affecting the planning area and propose strategies to address them.
- iv). Identify development potentials of the planning area.
- v). Provide a basis for development control and investment decisions.
- vi). Allocate sufficient spaces for various land uses and ensure efficient function,

user convenience and flexibility to accommodate future growth.

- vii). Promote and enhance safety and security.
- viii). Uphold innovative civic and urban design that enhances the character and form of the planning area.
- ix). Preserve cultural and heritage sites.
- x). Develop implementation plans and monitoring framework.

1.6: Justification of the Plan

The preparation of Ol'Kalou ISUDP is happening at a time when the Municipality is experiencing rapid growth due to transformation into a county headquarters and municipality status. This new prominence has also witnessed population increase and hence the need come up with planning framework which will provide planning and development guidance in meeting the current and future needs of the people, and the functions of the Municipality.

The Municipality's planning and management functions are being carried without a current Plan to guide sustainable development. The Municipality still relies on the outdated approved Development Plan of 2000. Lack of an updated framework to guide development has led to inadequate infrastructure provision with regard to water supply sanitation, solid waste management and storm water drainage; inadequate housing and social amenities; urban poverty and unemployment; presence of unplanned residential neighbourhoods and mushrooming of slums and informal settlements, uncontrolled subdivision and land use conversion, land tenure insecurity and double allocation and grabbing of public land. Other challenges facing Ol'Kalou include

low economic growth in trade, commerce and industry and low revenue collection leading to inadequate service delivery.

The legal provision for the preparation of the Ol'Kalou spatial plan is provided by the Constitution of Kenya 2010, the Physical and Land Use Planning Act 2019, the County Governments Act 2012, and the Urban Areas and Cities Act 2011. In addition to these legal provisions, this plan will identify priority programmes that will drive Ol'Kalou into a well-planned municipality. This will propel it to become the county administrative headquarters, a commercial, transportation, and manufacturing hub that will take advantage of being a county administrative headquarters, a commercial, transportation, and manufacturing hub, taking into account its rich agricultural hinterland and hence strengthening rural-urban linkages. The plan will also provide strategies on how to improve municipal revenue generation and enhance

governance and administrative systems, leading to better service delivery and citizen engagement.

The proposed plan will take in cognizance the existing development trends, structuring elements, and the aspiration of the stakeholders to define the next path of growth of the Municipality. The plan will come up with a legal and policy institutionalization framework that will guide the plan implementation, optimal utilization of land, equitable provision of physical and social infrastructure and amenities to meet the current and future needs of the town within the planning horizon. To enhance the form and character of the town, the plan will incorporate innovative urban design concepts that will give the town unique identity. This plan is therefore seeking to make Ol'Kalou a Municipality whose development is based on balanced social, economic, and environmental considerations.





CHAPTER

2



PLANNING CONTEXT

2.1: Overview

This chapter describes the planning context of the Ol'Kalou municipality. This includes aspects of the geographical location at different scales, the planning and development history of the planning area, as well as a detailed methodology of the plan preparation process from inception to the approval phase.

2.2: National Context

Ol'Kalou municipality is located in Nyandarua County. The county has an area of 3,246 km² and lies in the central part of Kenya between latitude 0°8' North and 0°50' South and between Longitude 35° 13' East and 36°42' West.

The National Spatial Plan 2015-2045 assorts the county as a high agricultural potential zone with potentials in agriculture, tourism, irrigation, dairy production and urbanization³. It is surrounded by equally potent counties of Nakuru to the west, Kiambu County to the south, Nyeri and Murang'a counties to the east and; Laikipia County to the north. The county is also strategically located between the two; Lamu-Lodwar and Mombasa-Malaba national corridors, and approximately a two hours' drive from Nairobi. These present potential development opportunities. This is clearly depicted in Map 2-1

2.3: Regional Context

Regionally, the county is located within the Central Region Economic Bloc (CEREB) together with 9 other counties of Nakuru, Kiambu, Murang'a, Kirinyaga, Embu, Tharaka Nithi, Meru, Nyeri and Laikipia. CEREB was formed to leverage economies of scale

and for joint and harmonic implementation of projects and programs. To Ol'Kalou municipality and the county, this not only means easier transportation of people, goods and services but also presents a ready market for produce as most of these counties are within 100km radius. This is depicted in Map 2-2

2.4: Local Context

Locally, the municipality is found within Ol'Kalou constituency/sub-county, one of the five (5) constituencies/sub-counties in Nyandarua County. It is made up of three whole wards of Rurii, Kaimbaga and Karau; and Tumaini and Ndemi centres in Kanjuri Ridge and Wanjohi wards respectively. The municipality has an approximate area of 364.66 km². Natural structuring elements such as River Malewa defines the municipality's eastern boundaries whereas River Mukuyu defines the southern boundary. Lake Ol'bolosat outlines its north-eastern tip.

The municipality is located about 15 Kms West of Aberdare ranges, approximately 40kms East of Nakuru City and about 160kms from Nairobi, the capital city. As such, it is the seat of the county headquarters, the county government and other national government agencies. Other key installations and landmarks include JM Kariuki County Referral Hospital, Lake Ol'bolosat and hotels like Holiday Premier, Tango, Tranquil, Macqooti Grill and Chill, and Royal Gardens.

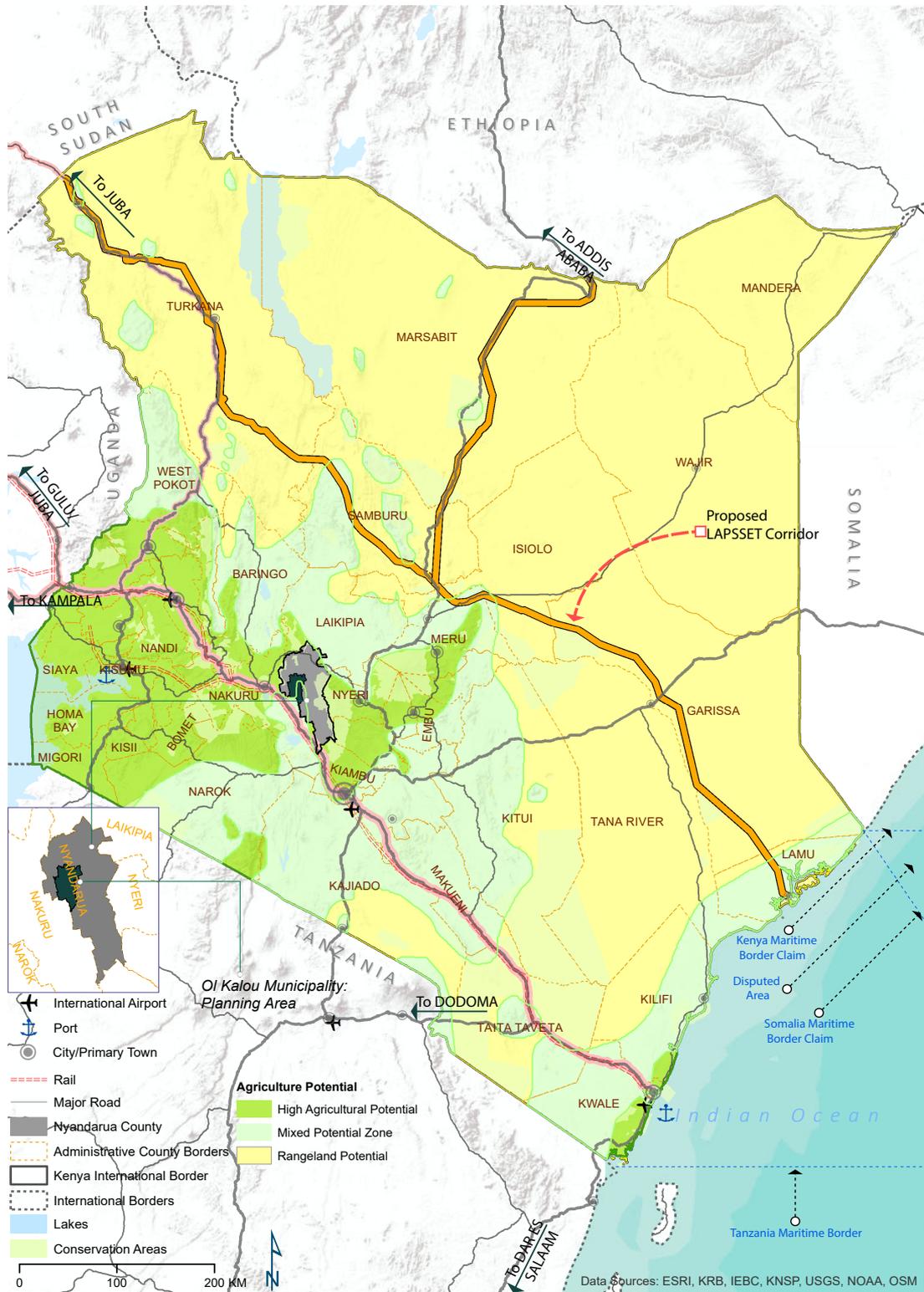
2.5: History and Previous Planning Interventions

2.5.1: History

The history of Ol'Kalou dates back to 1922, with the arrival of the railway line. The area

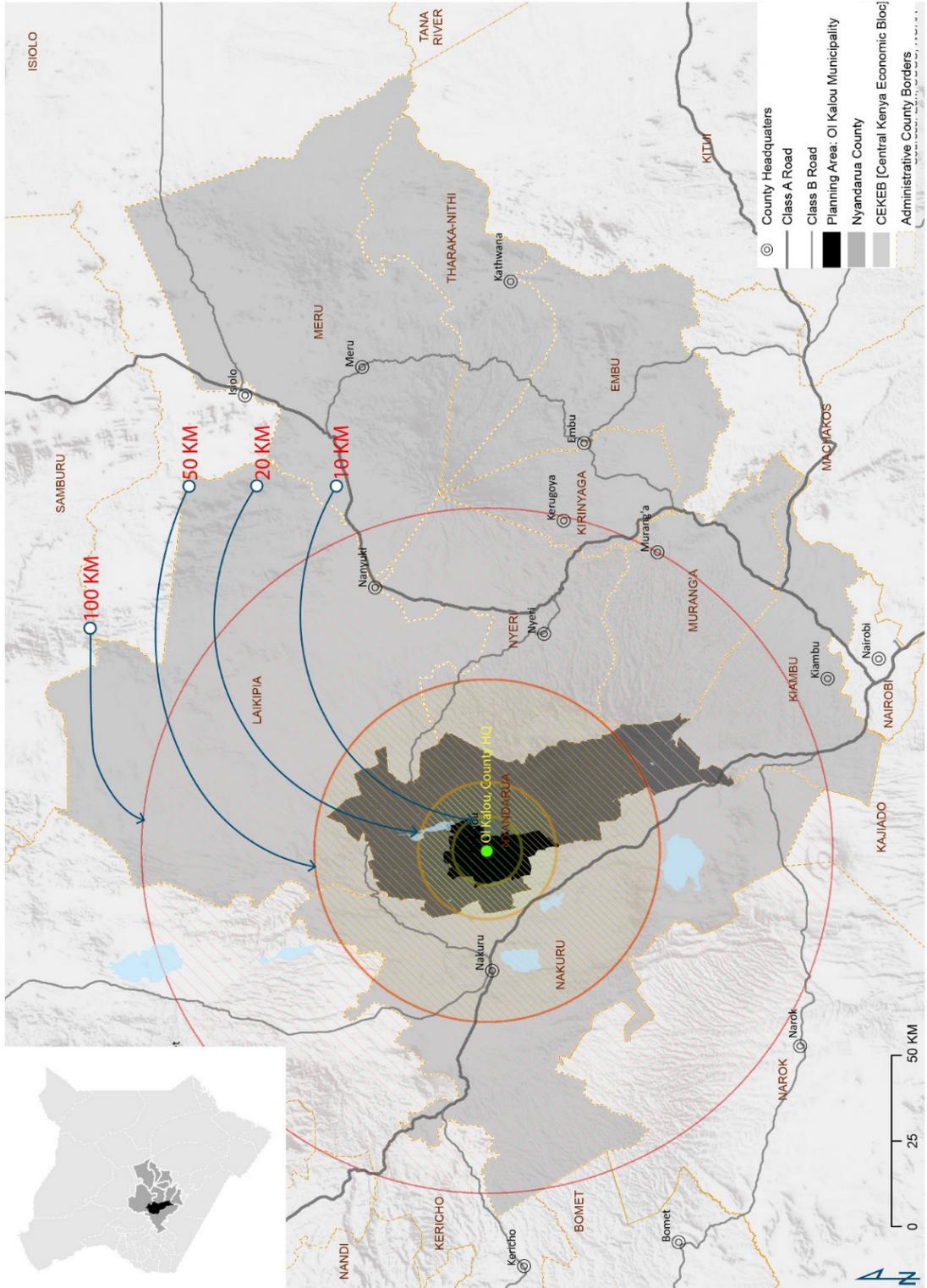
³ Republic of Kenya, 2017. National Spatial Plan 2015-2045

Map 2-1: National Location Context



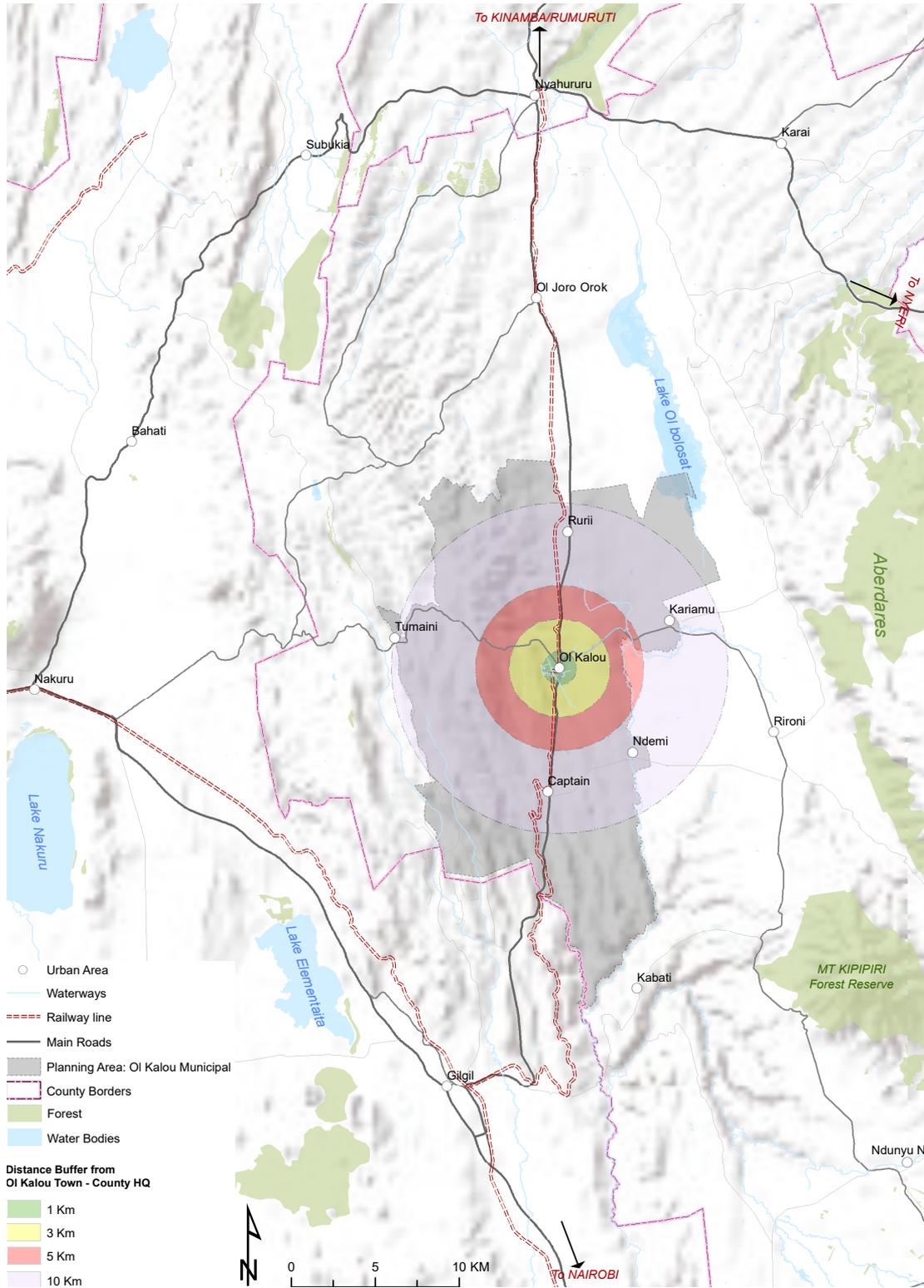
Source: Urban Lines Consultants Ltd, 2022

Map 2-2: Regional Location Context



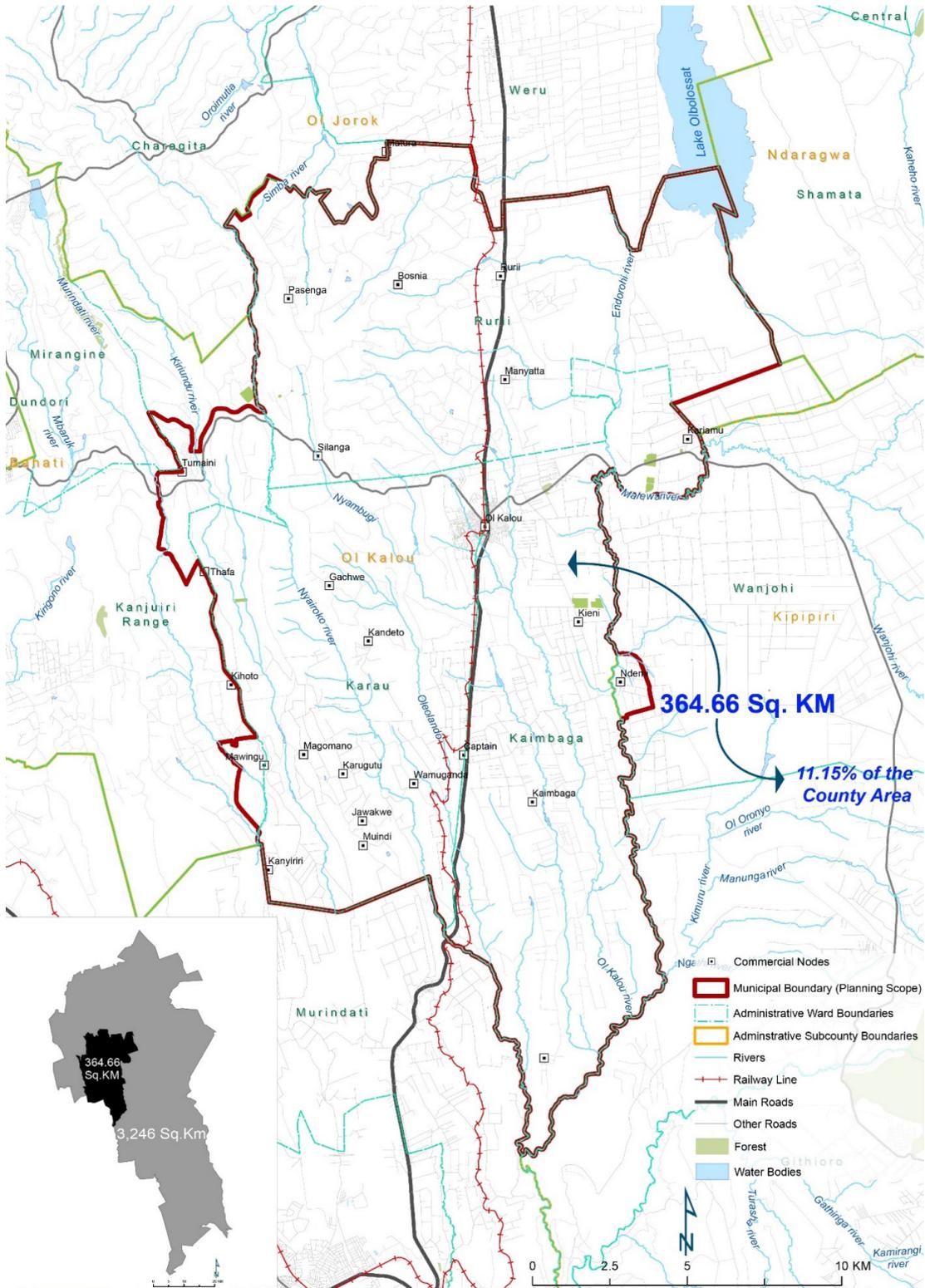
Source: Urban Lines Consultants Ltd, 2022

Map 2-3: Local Locational Context



Source: Urban Lines Consultants Ltd, 2022

Map 2-4: Geographical scope of the planning area



Source: Urban Lines Consultants Ltd, 2022

was initially inhabited by the Maasai nomadic community, and *“Ol’Kalou”* in *Masaai* means a short shrub, which was common in the area.

In 1903, Sir Charles Elliot, who was the commissioner of the white settlers, recommended the area as suitable for white settlement. This led to the evacuation of all the Maasai pastoralists in 1911, and the area was acquired by a European land-selling company. These settlers converted the area into a mixed commercial farming hub, which became successful, resulting in the extension of the railway line to Nyahururu through Ol’Kalou. A railway station was put up in Ol’Kalou town to facilitate the movement of goods in and out of Ol’Kalou. The land under which Ol’Kalou town is located was later bought by a white settler, Mr. Morgan Greenville, who after independence subdivided the land and sold it to his employees at a peppercorn fee due to pressure coming in from the town’s hinterland. The land was then taken up by African settlers who were re-settled there by a government settlement trust fund program. Finally,

Morgan handed over Ol’Kalou Township to the government in 1973 when he surrendered the title deed.

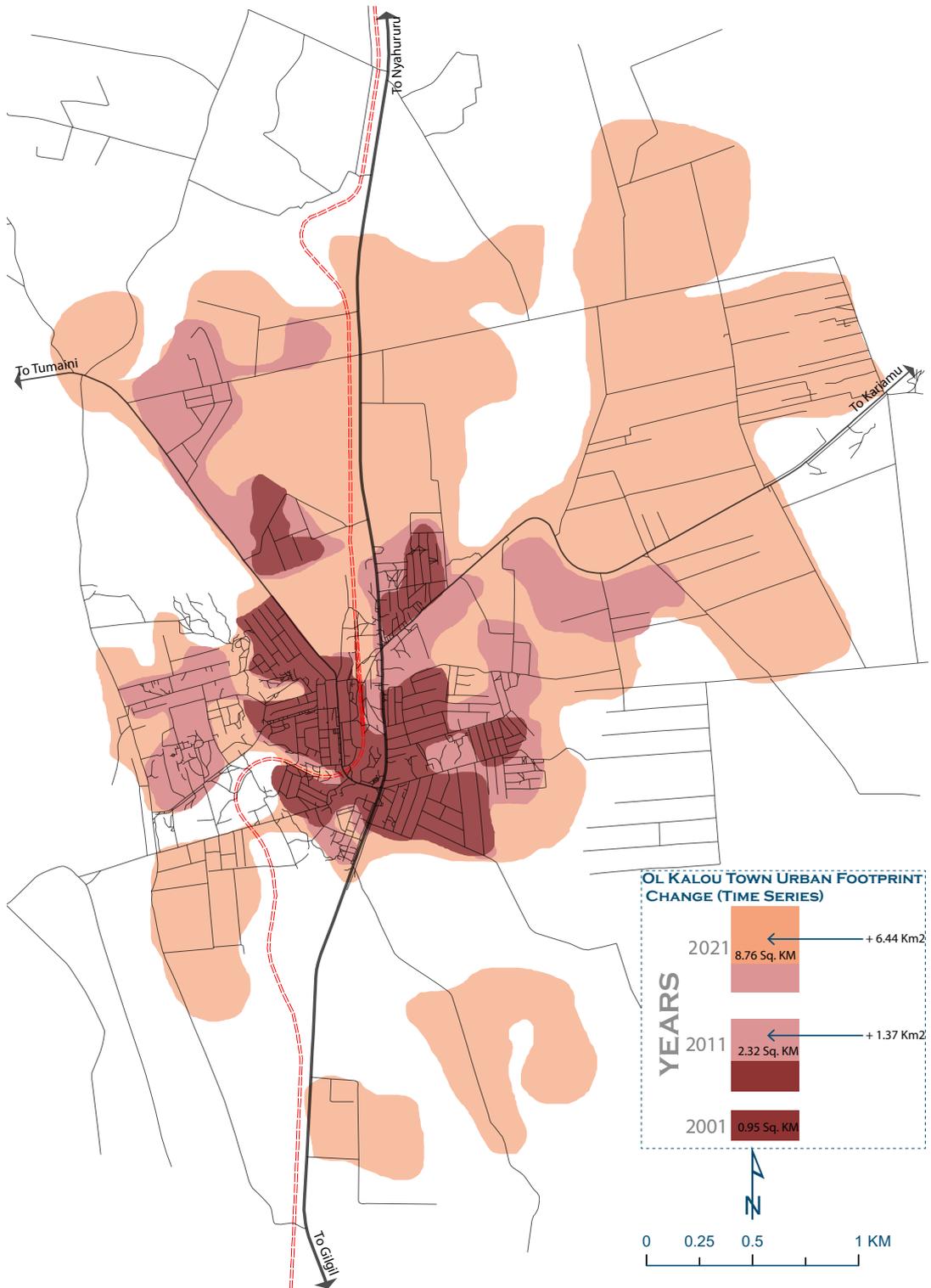
Since then, the urban footprint of the town has grown ninefold, from 0.95 km² in 2001 to 8.76 km² in 2021, with the last ten years seeing the most drastic change. Between 2003 and 2013, the town experienced rapid growth, with people buying land for development. This coincided with a thriving national economy growing by double digits. This culminated with the advent of the 2010 Constitution, touted as an “enabler” on many fronts. Rightly so, the Constitution created semi-autonomous organs, the 47 counties, through which more funds have been allocated towards infrastructure, public institutions, and service provision. The devolved county units have accelerated both public and private investments within the planning area. The Map 2-5 below illustrates the growth of the town over the last 20 years (2001-2021).

Plate 2-1: A house dating back to the colonial period at Mawingu Dispensary



Source: Field Survey 2022, Urban Lines Consultants Ltd

Map 2-5: Urban Footprint Change Time Series



Data Source: Adopted from Landsat Images from USGS Website 2001, 2011 and 2021

2.5.2: The Year 2000 OI'Kalou Development Plan

The current OI'Kalou plan was prepared in 2000, superseding the 1995 plan. Piecemeal processes like amendments to market centres Part Development Plans (PDPs), subdivision, change, and extension of users have been the main planning processes. This has resulted in land use conflicts, which have hampered proper planning and development management. Therefore, as it stands, there is a need for an up-to-date planning tool as the DP has not only been overtaken by events but only covers a small portion, i.e., 7.36 km², in comparison to the municipality's coverage, i.e., 364.66 km². **(See Appendix 21.1 for the then-delineated town development plan).**

2.5.3: County Initiated Plans

Some of the county-initiated planning interventions include the Nyandarua County Spatial Plan 2020-2030, the Nyandarua CIDP 2018–2022, the Nyandarua CIDP 2023-2027, and the OI'Kalou Municipality Integrated Development Plan (IDeP) 2021–2025, as discussed below.

2.5.3.1 Nyandarua County Spatial Plan (CSP) 2020 – 2030. (Draft)

The 10-year plan envisions a competitive, prosperous, well-governed, and habitable County with a highly transformative economy based on tourism, agro-processing, service, and high-quality infrastructure. The CSP proposed the formation of several municipalities within the county, namely, OI'Kalou, Engineer, and Mairo Inya, with the goal of distributing development activities, people, and urbanization within its jurisdiction. The plan also recommends a framework of sectoral coordination and unlocking the lower socio-economic potential of the County through preparing lower-level plans and resource allocation leading to accelerated equitable development.

2.5.3.2 Nyandarua County Integrated Development Plans (CIDP2, CIDP3) (2018-2022, 2023-2027)

These are five-year capital investment plans meant to provide a participatory approach to the prioritisation of county government-led projects at the ward level. This planning, as defined in County Government Act 2011 Section 108, outlines how the funds will be appropriated.

The CIDP aims to promote equitable development through citizen participation in project prioritisation and budgeting. Some of the proposed projects in the current CIDP within the municipality area include the development and maintenance of basic physical infrastructure, including roads, storm drainage systems, walkways, flood lights, and street lights; the construction and maintenance of markets; the construction and maintenance of slaughter houses; the provision of animal health services; the construction and operationalization of cottage industries; the maintenance of existing recreational and social facilities; and the purchase and acquisition of land for recreation and social facilities, among others.

2.5.3.3 OI'Kalou Municipality Integrated Urban Development Plan (IDeP) 2021-2025

This is a detailed municipal planning approach that guides the municipal development programmes and projects in a coherent and coordinated manner for the next five years. The plan was also prepared to guide the municipality in executing its mandate, responsibilities, and functions as defined in the County Government 2011 Section 48, the Urban Areas and Cities Act Section 9, and the OI-Kalou Municipal Charter gazetted on May 8, 2018.

Some of the key proposals contained in the current IDeP include the preparation of the Integrated Strategic Urban Development (ISUDP), strengthening the institutional framework and staffing of the municipality, and delegation of the devolved functions at the municipal level as per the Urban Area and City Act and further defined in the Municipal Charter.

2.5.4: Local Assessment Report for Nyandarua County, 2020

The UN-Habitat and Cities Alliance carried out a local assessment on the status of Nyandarua County in 2020. The objectives were to analyse and map the county's urban growth patterns and challenges. The assessment recommended, among others, the need for policy reforms and implementation to accelerate growth, supporting local economic development by supporting the agricultural sector through value addition, reducing losses and increasing returns, and investing in infrastructure to support rural-urban growth.

Despite these planning attempts, the municipality is facing challenges such as uncoordinated urbanization, the downside being a lack of a spatial planning framework and related instruments to guide the development.

2.5.5: Ol'Kalou Township Local Physical & Land Use Development Plan 2022

The County Department of Lands, Physical Planning, and Urban Development with the support of Ministry of Lands, Public Works, Housing, and Urban Development developed a local physical and land use development plan for Ol'Kalou township as a basis of provision of infrastructure, development control, protection and conservation of environmentally sensitive areas and as a basis for surveying and issuance of title deeds.

Though only targeting the township, the plan is envisaged to improve the quality of life of the residents by transforming the area into a more liveable human settlement, guide investments and unlock the economic potential within the municipality which is currently limited due to lack of title deeds.

2.6: Methodology

2.6.1: Phase 1: Inception and Mobilization

The preparation of this Plan commenced with the publication of the Notice of Intention to Plan on November 3, 2021 (see Appendix 21.2) as per Section 47 of the Physical and Land Use Planning Act No. 13 of 2019 and as further elucidated in the Local Physical and Land Use Development Plan Regulations, 2021.

In accordance to planning process, the first stakeholders' consultative workshop was held with participants drawn from National, County, Municipality and agencies technical team, County assembly, Municipal Board and local community representatives. The plan's purpose, objectives, planning area, plan making process, and preliminary findings were discussed and further refined.

The planning team carried out a preliminary literature review of past reports, publications, topo-cadastral maps and a reconnaissance survey to get an indepth understanding of potential opportunities, challenges and previous planning attempts. These were also used to refine data collection tools and inform stakeholder identification and mapping.

2.6.2: Phase 2: Development of Base map and Survey Report.

This phase entailed working with the Client to confirm the planning area boundary. The planning area was defined by the Rurii,

Plate 2-2: Kick-Off Meeting at Royal Gardens Hotel



Source: Urban Lines Consultants Ltd, 2022

Kaimbaga, and Karau wards. Other areas include parts of Kanjuri Ward covering the Tumaini market, the National Youth Service and their environs, and Ndemi market which is in Wanjohi Ward. The total area is 364.7 sq. km.

An extensive ground mapping and ground truthing exercise to obtain geospatial data on facilities and physical features in the planning area was undertaken simultaneously with the digitization of the cadastral layout

and respective buildings. This was further informed by secondary mapping data with the combination of Google Earth, ODK, and high-resolution satellite imagery acquired to assist in the digitization process. The output at this stage was a detailed base map capturing the important natural and man-made features that structure the municipality.

The photo on the other page shows part of the team embarking on the mapping exercise. The base map is presented in chapter 4.

Plate 2-3: Planning Team during the mapping exercise



Source: Field Survey - Urban Lines Consultants Ltd, 2022

2.6.3: Phase 3: Data Generation and Situation Analysis

Using the base maps prepared, socio-economic survey based on purposive and cluster sampling was undertaken to verify data collected from secondary sources and to highlight development potential and challenges of the project area. .

The sample size for the study was determined as follows;

$$n = \frac{N}{1 + N(e)^2}$$

Where n= collected sample size, N = population size, and e = Margin of error (MoE), e = 0.045 based on the research condition (Yamane, 1967).

$$78,502 = \frac{78,502}{1 + 78,502 (.045)^2} = 491$$

Thus, a total of 464 questionnaires were administered to households (representing a response rate of 95%) and 282 business questionnaires were also successfully filled. The respondents were drawn from all wards and settlements across the municipality. The questionnaires were administered using an online Open Data Kit (ODK) installed on mobile devices. For the households, the questionnaires queried on household size, challenges in the household, economic status, and activities among others whereas to the businesses, the questionnaire queried on ease of doing business, the challenges the traders face and suggestions to these challenges.

In addition, the team held focus group discussions with the following stakeholder and interest groups.

Key informant interviews were also undertaken, with the following key technical personnel.

Table 2.1: Focused Group Discussion Group

Category	Sub-Category	Date of Interview
Transport Sector	Boda -Boda Groups	7th April 2022
	Matatu Saccos	
	Truck Drivers	
	Taxi	
Informal Sector	Market Traders	8th April 2022
	Jua Kali	
	Vendors	
Groups	Hawkers	11th April 2022
	FBOs & CBOs	
	Business Community	
	Farmers	
	Youth Groups	
Minority Groups	Women Group Leaders	12th April 2022
	Elderly	
	Persons Living with Disability	
	Children	
	Squatters/Landless	

Source: Field Survey - Urban Lines Consultants Ltd, 2022

Plate 2-4: Focus group discussion in Ndemi



Source: Field Survey - Urban Lines Consultants Ltd, 2022

Table 2.2: Dates of Key Informant Interviews

Key Informant	Date of Interview
Education and Environment officers	14th April 2022
Chief Medical officer, public health officer	14th April 2022
Sub County & Ward Administrators	15th April 2022
OLWASCO Technical Manager, Roads Department	13th April 2022
Area Chiefs	15th April 2022
Social Development office, Sports officer	14th April 2022
Lands and physical planning, Municipality	18th April 2022
Agricultural Officer	17th May 2022
Trade, Cooperatives and Finance officer	17th May 2022

Source: Urban Lines Consultants Ltd, 2022

The findings of the situational analysis were analysed, synthesised, and presented to the community and stakeholders during the 2nd stakeholder’s workshop held on the 21st of July 2022 at the Aberdare Resort Conference. The participants were led through a participatory planning session where they provided proposals on the vision and the desired development strategies of the municipality.

2.6.4: Phase 4: Preparation of Draft ISUDP

The team, having refined the community

concepts, modelled alternative development proposals and presented them to the technical working group for evaluation. Using the preferred model, the team developed the detailed structure plan. This was followed by strategies on thematic areas such as environment, transport, local economy among others.

Based on the structure plan, the team zoned the municipality and developed guidelines for each zone depending on the land use. The compiled draft ISUDP was presented to the 3rd stakeholders’ workshop for validation

Figure 2-1: Group Sessions during the 2nd Stakeholder's Workshop



Source: Field Survey - Urban Lines Consultants Ltd, 2022

Figure 2.2: 3rd Stakeholders Workshop



and to get the community inputs on the plan proposals.

2.6.5: Phase 5: Preparation of Final ISUDP

Once the presentation of the draft plan was done and comments from different stakeholders were received, the consultant embarked on incorporation of the comments, and all received revisions. The consultant then proceeded with submission of the final draft plan to county (Ol'Kalou county planning team).

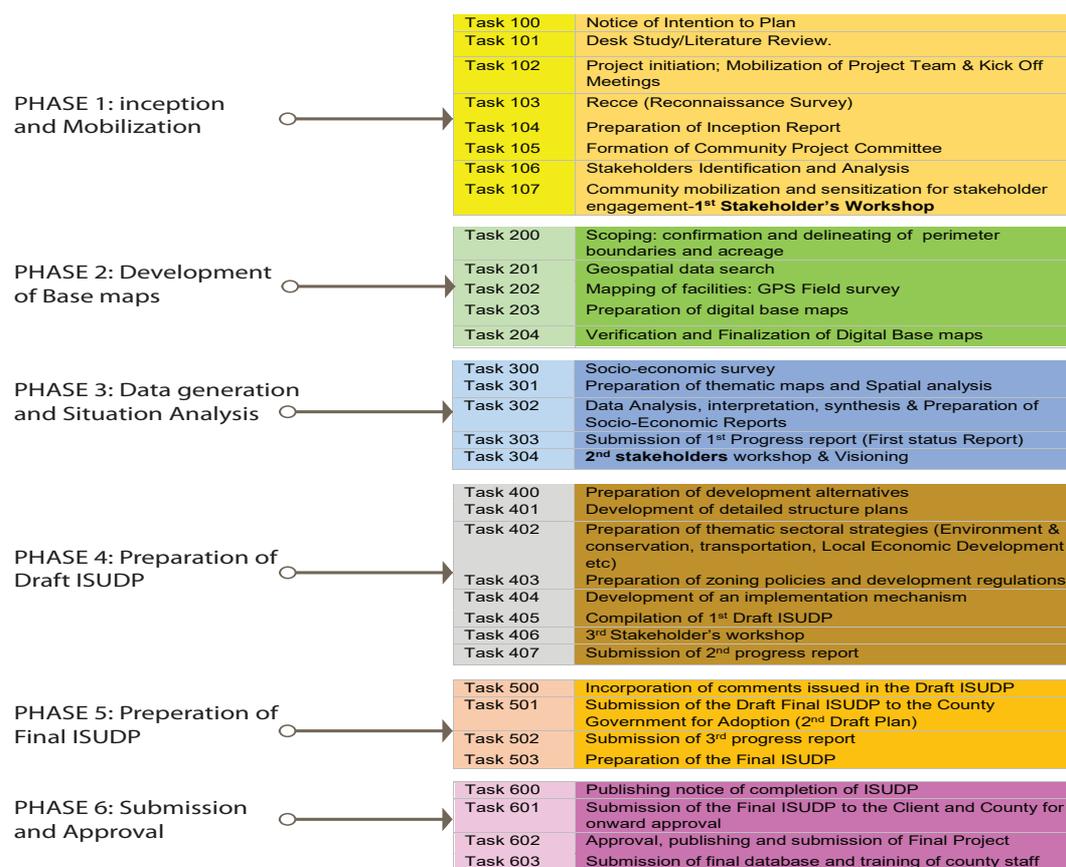
2.6.6: Phase 6: Submission and Approval

Upon submission of the final ISUDP plan, the County published the notice of plan

completion on Daily Nation dated 18th July 2023 and on Kenya Gazette on 31st July 2023 notifying the members of public the completion the draft plan to give their written comments within 60 (sixty) days upon which the Final Plan will be approved in accordance Physical and Land Use Planning Act No. 3 (2019) Section 49 (1), (2) and (3) (See annex 3 for the completion notice),

The figure below summarizes the methodological approach of preparation of Ol'Kalou Municipality ISUDP. It summarizes the phases and specific tasks that have been covered.

Figure 2.3: Summary of the Methodology process in Phases and Tasks



Source: Urban Lines Consultants Ltd, 2022



CHAPTER

3



POLICY AND LEGAL FRAMEWORK LINKAGES

3.1: Overview

Planning is a versatile undertaking interweaved in application of different policies; institutions and stakeholder involvement; legislation and citizen participation in the entire process. Therefore, this Plan has been primed within the context of: The Constitution of Kenya; Physical and Land Use Planning Act, No. 13 of 2019; Urban Areas and Cities Act, No. 3 of 2019; Kenya Vision 2030; SDGs, and other relevant legal and policy frameworks as discussed within this chapter.

3.2: Legal Framework

3.2.1: The Constitution 2010

The Constitution of Kenya, 2010 provides the overarching legislation that guided the preparation of this Plan. Through the objects of a devolved system of government, the Constitution places planning functions both at the national and county levels. Pursuant to the Fourth Schedule of the Constitution, the national government is mandated to formulate the general principles of land use planning and co-ordinate planning by the counties. In turn, counties are in charge of preparing county and urban area physical and land use plans and carry out development control within their areas of jurisdiction.

Pursuant to Article 10 of the Kenya Constitution (2010), the preparation of this Plan has been guided by the spirit of participation of the people, human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination, and protection of the marginalised with the overall goal of attainment of sustainable development. With regards to achieving the objectives of Article 60 of the Constitution, this Plan has observed and achieved various principles achieved such as (a) security of land rights; (b) sustainable and productive

management of land resources; and (c) sound conservation and protection of ecologically sensitive areas such as forests, swamps, and wetlands.

Subject to Article 66 of the Constitution of Kenya, this Plan is being prepared under the supervision of the Ol'Kalou municipal board and the Department of Lands Physical Planning and Urban Development in a bid to support the overall state mandate of regulating the use of any land, or any interest in or right over any land, in the interest of defence, public safety, public order, public morality, public health, or land use planning.

Lastly, the overall implementation of this Plan will be overseen and monitored by the National Land Commission (NLC) established under Article 67. Other functions to be performed by NLC with regards to the implementation of this Plan include amongst others: to manage public land on behalf of the County Government of Nyandarua; to conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities.

3.2.2: County Government Act No. 17 of 2012

The County Governments Act 2012 mandates the County Governments to prepare county plans which include "cities and urban areas plans," amongst others. The said Act provides that the "county planning framework shall integrate economic, physical, social, environmental and spatial planning" (subsection 104(2)). The key principles of planning and development facilitation require the integration of national policies and plans in all processes and concepts, and further serve as a basis for engagement between county government and its citizens, other stakeholders, and interest groups. Other

relevant sections of this Act to the preparation of this ISUDP include:

- Subsection 102 (c) and 103 (f) that provide for the protection and integration of the rights and interest of minorities and marginalized groups and communities and the integration of under-developed and marginalized areas to bring them to the level generally enjoyed by the rest of the Country; and
- Subsection 103 (i) that provides for the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya as provided in Article 69 of the Constitution.

3.2.3: Physical and Land Use Planning Act No. 13 of 2019

This Act regulates physical planning activities in Kenya. It empowers County Governments to regulate development within their areas of jurisdiction. Further, it empowers the Director of Physical Planning to prepare various types of physical and land use development plans. In addition, the Director formulates National, Regional and Local Physical development policies, guidelines, and strategies. Under Section 20 of this Act, the County Director of Physical and Land Use Planning's responsibilities include: advising the County Government on physical and land use planning matters that impact the County; formulating County physical and land use planning policies, guidelines and standards; preparation of County physical and land use development plans; and preparation of local physical and land use development plans. The Director also participates in the preparation of inter-county physical and land use development plans and carries out research on matters relating to physical, and land use development planning at the County level. In addition, the Director makes recommendations to the County Government on the establishment of planning units as may be necessary. The

Act also stipulates the responsibility of the Director's office in maintaining the County land information system to guide physical and land use planning; communicate decisions of the County Government on development applications, and issue development permissions and other development control instruments with the approval of the County Executive Committee Member.

Section 36 of the Act mandates each County to develop a 10-year physical and land use development plan. The plan should be in conformity with the National Physical and Land Use Development Plan and any relevant Inter-County Physical and Land Use Development Plan. According to Section 37 of the Act, the plan should provide an overall physical and land use development framework for the County; guide rural development and settlement; provide a basis for infrastructure and services delivery and direct the use and management of natural resources. In addition, the plan should enhance environmental protection and conservation; identify the proper zones for industrial, commercial, residential and social developments; improve transport and communication networks and linkages, and promote the safeguarding of national security amongst other purposes that may be determined by the planning authority. This Act lends guidance to the development of the contents of structure plans, development plans, advisory plans, zoning plans, and subdivision plans amongst other plans. The Act also stipulates the plan preparation and approval processes. Section 56 of the Act empowers the Nyandarua County Government to prohibit or to control the use and development of land and buildings in the interests of proper and orderly development of its area and to review development applications and grant development Permissions.

3.2.4: Urban Areas and Cities Act 2019

This Act establishes a legislative framework for the classification of areas as urban areas or cities, their manner of governance and management including the participation of residents. It also provides that Town Committees should “formulate and implement an integrated development plan” (Subsection 20(2-c)) as well as “control land use, land subdivision, land development and zoning within the framework of the spatial and master plans for the (town) as may be delegated by the County Government (Subsection 20(2-d)).” The integrated development plan “shall bind, guide and inform all planning development and decisions and ensure comprehensive inclusion of all functions” (Subsection 36(2)).

3.2.5: Environment Management and Co-ordination (Amendment) Act, 2015

This ISUDP seeks to ensure that every person has a clean and healthy environment and has the duty to safeguard and enhance the environment pursuant to Section 3 of Environment Management and Co-ordination Act (EMCA) (Amendment) of 2015. The entitlement to a clean and healthy environment in this ISUDP has included access by any person to various public elements or segments of the environment for recreational, educational, health, spiritual and cultural purposes. Other regulations that stem from EMCA (Amendment) Act of 2015 which have been considered during the preparation of this ISUDP include Environmental (Impact

Table 3.1: Other related Planning legislative frameworks

Law	Purpose
The Kenya Roads Act, 2017	<ul style="list-style-type: none"> To provide for the classification, management, construction, and maintenance of public roads;
The National Land Commission Act, 2012	<ul style="list-style-type: none"> To make further provision as per the functions and powers of the National Land Commission, qualifications and procedures for appointments to the Commission; to give effect to the objects and principles of devolved government in land management and administration and for connected purposes.
The Dairy Industry Act, Cap 336	<ul style="list-style-type: none"> To provide for the improvement and control of the dairy industry and its products.
The Special Economic Zones Act, 2015	<ul style="list-style-type: none"> To provide for the establishment of special economic zones; the promotion and facilitation of global and local investors; the development and management of enabling environment for such investments, and for connected purposes.
Water Act (2002)	<ul style="list-style-type: none"> Provide guidelines on plan proposals touching on management, conservation, use and control of water resources, water supply, and sewerage services.
Agriculture, Fisheries and Food Authority (2013)	<ul style="list-style-type: none"> Provides the confines within which to make proposals on agriculture promotion and conservation of soils and fertility for sustainable agriculture and optimization of land use.

Source: Urban Lines Consultants Ltd, 2022

Assessment and Audit) Regulations, 2003
Waste Management Regulations, 2006 Water
Quality Regulations, Wetlands, Riverbanks,
Lake Shore and Sea Shore Management
Regulations, 2009 (Legal Notice No. 19).

3.3: Policy Framework

3.3.1: Kenya Vision 2030:

As the country's development blueprint covering the period 2008-2030, Kenya Vision 2030 aims to achieve a "globally competitive and prosperous country with a high quality of life by 2030." In support of this vision (economic pillar), Ol'Kalou ISUDP seeks to increase the level of value addition of local agriculture products such as Potatoes, cereals, seedlings, milk, feeds, and horticulture. Value addition of agricultural produce shall increase the farmers' earnings and therefore enhance their livelihoods. In addition, manufacturing for the East and Central African regional market shall be made possible through export production approach thus increasing the country's foreign exchange earnings. Moreover, Vision 2030 puts forward proposals in with promotion of information and communications technology (ICT), gender balance and catering for persons with disabilities. All these aspects have been observed in the ISUDP through provisions for all socio-economic groups and the people with disabilities both through access to economic activities and social rights.

3.3.2: Sustainable Development Goals

SDGs is a global framework consisting of 17 goals drawn from a shared common universal vision of progress towards a safe, just and sustainable space for all human beings to thrive on the planet. Goal 11 on Sustainable cities and communities, advocates making cities and human settlements inclusive, safe, resilient and Sustainable by creating jobs and business opportunities, safe and affordable

housing, and building resilient societies and economies. Moreover, urban areas can be made sustainable by investing in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.

3.3.3: National Environment Policy, 2013:

With regards to the provisions of the National Environment Policy, 2013, the ISUDP recognizes the importance of the link between development and sustainable environment by:

- Addressing environmental degradation issues and challenges facing the Municipality. Notable drivers of environmental degradation are high population growth rate, inappropriate technology, unsustainable consumption and production patterns, and increased incidences of poverty and climate change.
- Providing a framework for an integrated approach to planning and sustainable management of Kenya's environment and natural resources.
- Ensuring sustainable management of the environment and natural resources, such as unique terrestrial and aquatic ecosystems, for both county and national economic growth and improved livelihoods.
- Promoting and enhancing cooperation, collaboration, synergy and partnerships
- Participation in the protection, conservation, sustainable management of the environment and natural resources.

3.3.4: Sessional Paper No. 3 of 2009 on National Land Policy:

Sessional Paper No. 3 of 2009 on National Land Policy provides an overall framework and defines the key measures required to address, amongst others, the critical issues on land, land use planning, environmental degradation, conflicts and unplanned proliferation of informal urban settlements, outdated legal

Table 3.2: Relevant Policies

Policy	Purpose
National Information & Communications Technology (ICT) Policy, 2016	Seeks to improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable, and affordable ICT services.
National Climate Change Response Strategy, 2010	Seeks to strengthen and focus nationwide actions towards climate change adaptation and greenhouse gas emission mitigation.
Energy Policy, 2012	Seeks to ensure adequate, quality, cost-effective, and affordable supply of energy to meet development needs while protecting and conserving the environment.
National Urban Development Policy	Creates a framework for sustainable urban development in the country and addresses the following thematic areas: urban national and county urban planning; land, environment and climate change; social infrastructure and services; physical infrastructure and services; urban housing; urban safety and disaster risk management; and marginalized and vulnerable groups
National Land Use Policy	The policy provides a framework for regulating the use, development and management of land and land related resources in Kenya for, productivity, sustainability and efficiency.
National Spatial Plan	The policy provides a national framework for utilization of land in the country. It clusters various parts of the country based on their potentiality, which can be exploited to spur equitable development. It also provides a functional strategy for human settlement by among others identifying the diverse roles the human settlements play. It identifies programs and projects to be implemented through the County Spatial Plans.
The National Water Services Strategy (2007- 2015)	The objective is to provide an effective and efficient response to the challenges facing water service provision in the country. To ensure sustainable access to safe water and basic sanitation to all Kenyans.
Flood Mitigation Strategy, 2009	It aims at stipulating national goals, objectives and actions to reduce the vulnerability of this country to effects of floods. The strategy, not only deals directly with the flood hazard, but also has strong links with national social, economic and other development policies since the disasters caused by floods result into a complex-interactions between social, economic, political and environmental processes.
National Agribusiness Strategy, 2012	The strategy's vision is to bring about a highly productive and efficient agribusiness sector, competitive both locally and internationally. It will help the agricultural sector move from a focus on subsistence to a focus on meeting market and commercial demand
National Agriculture Sector Strategy 2012 - 2016	This seeks to reduce food insecurity, mostly using a twin-track approach. Key elements are: to expand production in non-irrigated agriculture, finding the better varieties for rain-fed agriculture that are both drought and salinity resistant; to establish and support private sector industry for seeds and nursery material quality, providing farmers with improved varieties of seeds;

Source: Urban Lines Consultants Ltd, 2022

framework, institutional framework and information management. In tandem with the provisions of this policy, the Ol’Kalou ISUDP has promoted and encouraged multi-sectoral approach to land use, provision of social, economic and other incentives and put in place an enabling environment for investment, agriculture, livestock development and the exploitation of natural resources.

3.3.5: Sessional Paper No. 1 of 2017 on National Land Use Policy:

This policy emphasizes the importance of land as a resource for the economic life of a majority of people in Kenya. The way people handle and use land resource is decisive for their social and economic well-being as well as for the sustained quality of land resources. In tandem with this policy, the Ol’Kalou ISUDP seeks to strike a balance between satisfying the human livelihood needs and sustainable use of resources for posterity. This has been taken into consideration in the ISUDP through:

- Anchoring the Ol’Kalou Municipality’s land development initiatives that will respond positively to market demands;
- Environmental management and sustainable production initiatives in the utilization of land resources;
- Coordination and integration of institutional linkages in planning at sectoral and cross-sectoral levels to foster collaboration and decision making amongst different land users; and
- Optimum utilization of land resources to meet governance, socio-economic, political, and cultural obligations of the people of the County and Kenya at large.

3.4: Relevant County Legislation and Policies

3.4.1: Nyandarua County Land Management Bill, 2023

This is a Bill by the County Assembly of Nyandarua to provide for the preparation of physical and land use development plans, development control, survey, mapping and land administration and management and for related purposes. The Bill creates several units to achieve its purpose i.e., Physical and Land Use Planning Unit, Land Survey, The Land Valuation, Administration and Management Unit.

Once the Bill is passed, the Planning Unit will oversee development of physical planning framework for the preparation and implementation of physical and land use development plans. The survey unit on the other hand, will be responsible for surveying and maintenance of county boundaries, creation and maintenance of County GIS database, boundary re-establishment and area confirmation, survey and re-survey of planned market centres, topographic surveys, land surveying for new grants, cartography.

According to the Bill, the Land Valuation Unit will be responsible for the preparation of annual supplementary valuation roll. To achieve this, it is required to regularly update records with the relevant land use data in conjunction with the planning and survey units for rating purpose. The unit may provide advisory services and provide a framework that allows public partnerships on acquisition of land for public purposes e.g., schools, health centres etc to enhance investments in urban development infrastructure.

The Bill further provides for alternative disputes resolution mechanisms through establishment of committees at the county and sub county levels. The committee will address and resolve land-related matters in collaboration with other agencies. They will also provide advice to the CECM (County Executive Committee Member) on various aspects of physical planning, land surveying, and land administration. Additionally, they will conduct studies and offer guidance and recommendations on issues related to the same. The committee will also be responsible for evaluating development applications

that could have a significant impact on neighbouring land, such as industrial projects, waste disposal sites, or sewerage treatment facilities, which may harm the environment. Furthermore, they may review applications concerning land that is adjacent to or in close proximity to protected areas, with the aim of ensuring their preservation and safeguarding..

The Bill is relevant in the land management within the municipality as it will address the existing land challenges including land disputes and encroachment on public land.

3.5: Key Planning Issues

Constraints	Opportunities
<ul style="list-style-type: none"> • Low awareness on planning among the populace and implementors • Weak linkages between the actors when interpreting the law. There is strong focus on revenue vis-a viz planning compliance. • Existing loopholes in the law 	<ul style="list-style-type: none"> • Existence pool of policies and laws that support planning and development processes.

Source: Urban Lines Consultants Ltd, 2022





CHAPTER

4



**BASEMAP, PHYSIOGRAPHY,
ENVIRONMENT AND NATURAL
RESOURCES**

4.1: Overview

This chapter describes the municipality's unique physiographic characteristics such as topography, diverse soil and rock types, the everchanging climate and their implication on this enchanting planning area. The chapter further provides insight into the environment and natural resources including threats posed to these resources. At the end, the chapter analyses the potential that may be harnessed for the good of the municipality and county at large.

4.2: Base Map

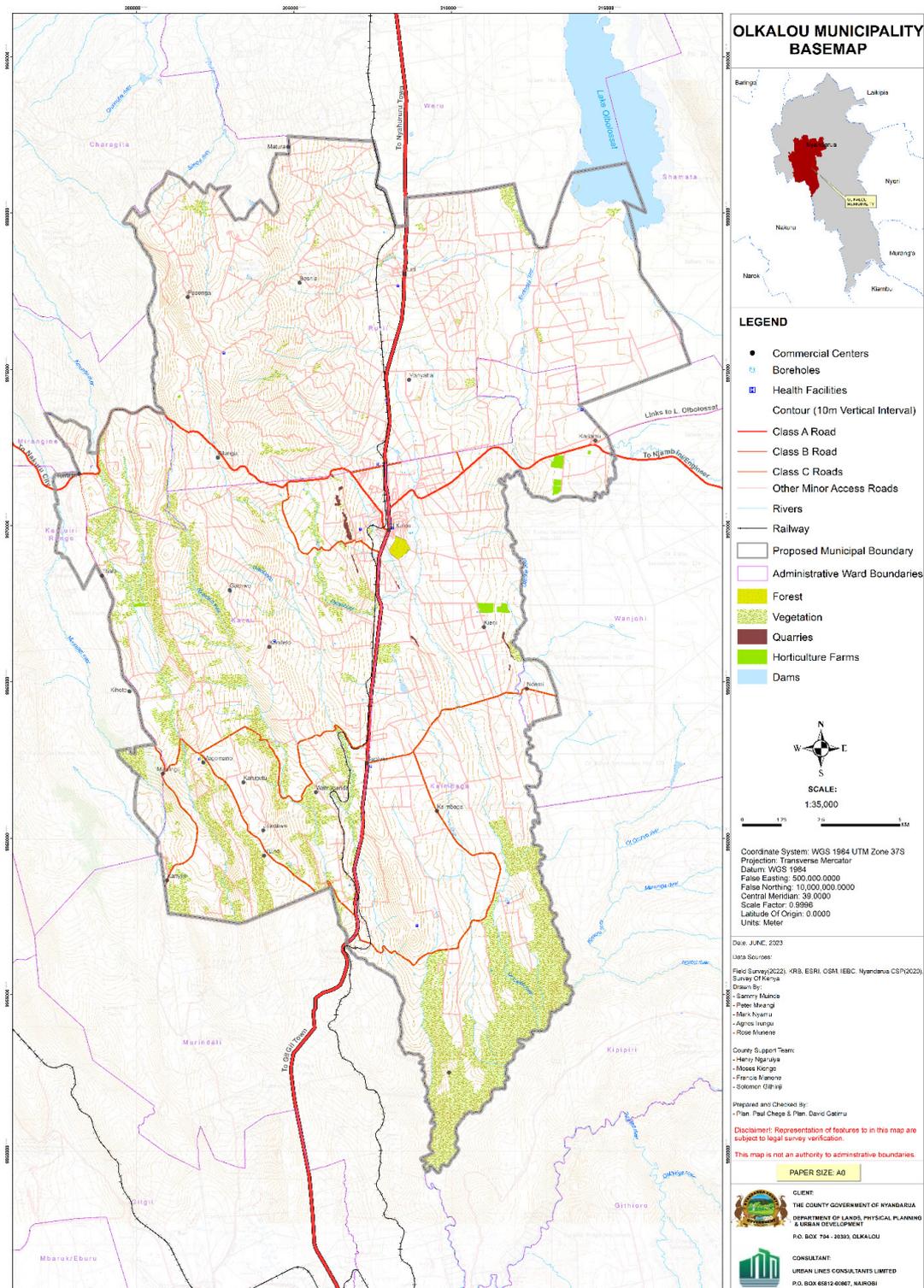
The base map is an important component during any planning process as it is the basis upon which planning decisions are made. The base map, whose preparation methodology is as outlined in section 2.6, was prepared in a GIS environment and its analysis spread out

within the geographic extents of the defined structuring elements. These key structuring elements include but are not limited to topographic features, transportation networks, water bodies, key physical and social facilities, major landmarks, and political and administrative boundaries.

The base map contains the following spatial data:

- Resource mapping: quarries, horticulture farms, rivers & water ways, dams, structures
- Land use & economic activities: Tree cover, tourism sites, industries, markets, commercial centres
- Infrastructure and utilities: road network, water reticulation, sewer network, power lines, bore holes, railway lines and stations
- Terrain: Contours, TINs, DEM and Hill Shade
- Cadastral: Parcel boundaries

Map 4-1: Ol'Kalou Municipality Base map



Source: Urban Lines Consultants Ltd, 2022

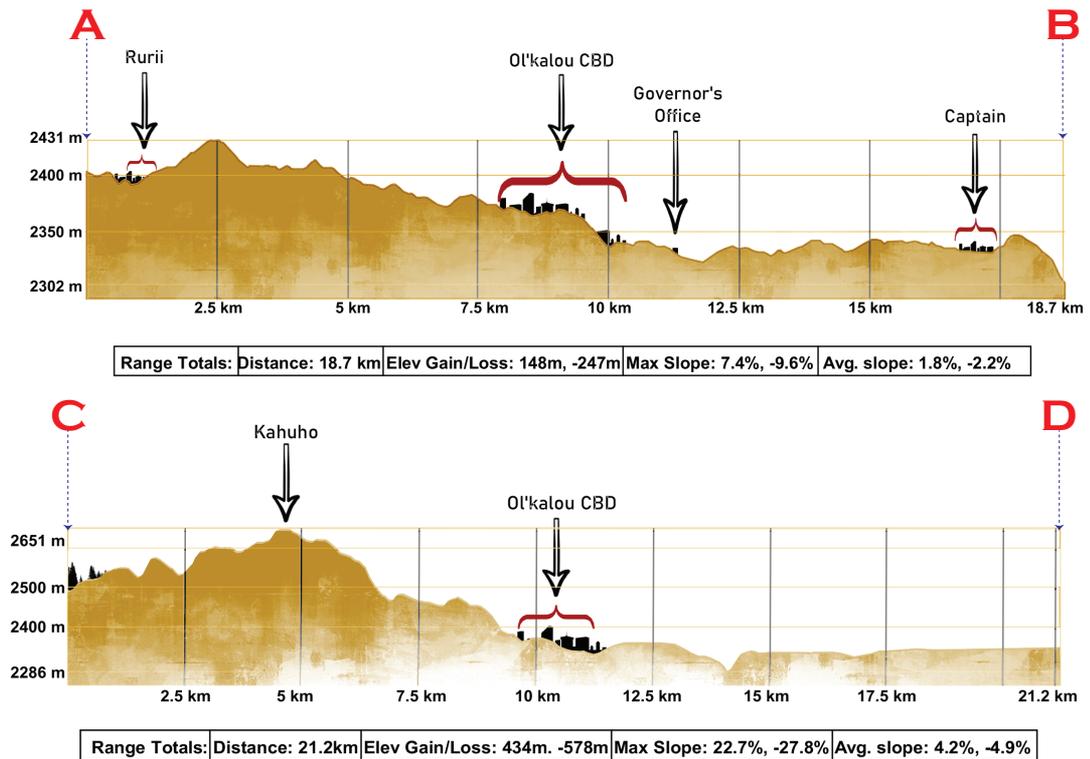
4.3: Topography & Landforms

The municipality has a mix of flat and undulating terrain, with elevations ranging from 2020 m to 2750 m above sea level. The nature of topography in an area can either encourage or constrain urban development.

Most urban areas, such as Kariamu, Rironi, Ndemi, Captain, and Kabati, are gently sloping, whereas others, such as Tumaini, Bosnia, Pasenga, Gachwe, and Kendoto, are undulating. The topography in these areas may limit accessibility and connectivity as it escalates the cost of construction of linear infrastructure such as roads, sewers, and electricity, among others.

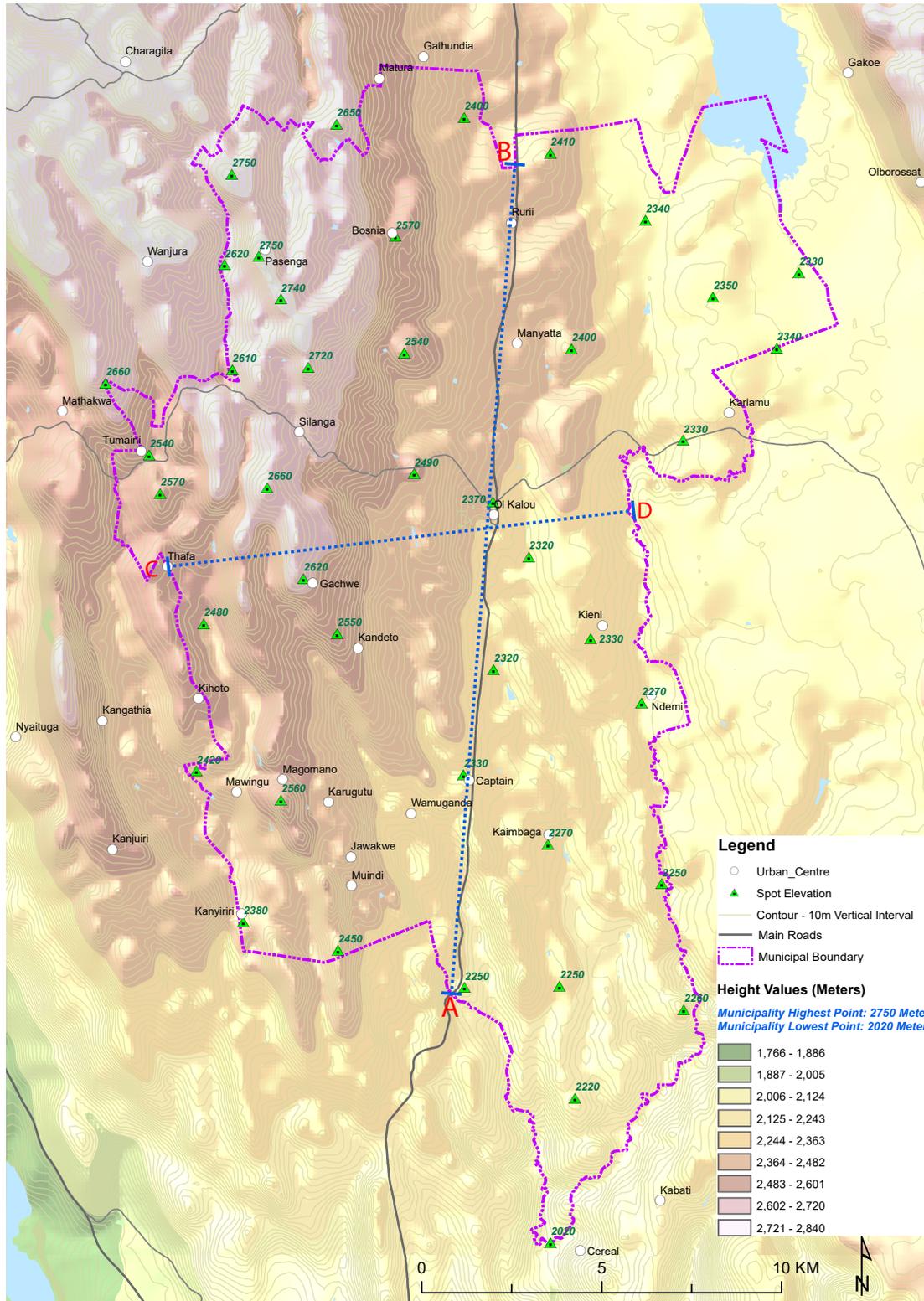
However, being part of the lower western region of the Aberdare's Mountain range, other parts of the planning area's terrain are characterised as relatively flat, making it easy for the development of a road network and buildings. These include areas such as Kariamu, Kieni, Ndemi, Manyatta, and Kaimbaga, which may be prone to flooding, especially during heavy rainfall, and hence may require designing effective drainage systems to manage flood risk. See figure 4-1 for a topographical illustration of the municipality. The sections AB and CD represent specific cross-section paths as indicated on the aforementioned map.

Figure 4-1: Cross-Sections showing topography



Source: Urban Lines Consultants Ltd, 2022

Map 4-2: Topography



Source: Urban Lines Consultants Ltd, 2022

4.4: Hydrology and Drainage

Ol'Kalou municipality falls within a mosaic of 7 basins namely **Equator, Kalou River Basin, Kirigono, Kiriundu, Malewa, Nyairoko, Olbolosat, Simba, Turasha and Wanjohi** Basins. River **Malewa**, one of the four main rivers in Nyandarua County, meanders its way through the municipality along the **Malewa** basin in a north-south axis. **Endoroni** river drains into the river at Gichungo. Thereafter, it joins Ol'Kalou river from the adjacent Kalou river basin forming the southern boundary of the municipality. Other major rivers are **Nyairoko** and **Murindati** rivers along the **Nyairoko** and **Kiriundu** basins respectively. All these rivers are permanent and flow from the north to the south along well defined river valleys. There are also seasonal rivers.

In addition, the municipality has several water pans and dams that meet the local community water needs, such as supporting agricultural

activities through irrigation and domestic uses such as feeding animals and cleaning, particularly during the dry seasons. Nyakanga, Ndungire, Muiru, and Kanguo dams are among the most notable in the region.

Lake Ol'bolosat is the only large natural water mass in the municipality and the only lake in the central region. It is fed by streams and underground water seepage from the Aberdare and Dundori Hills outside the municipality. This lake has great tourism potential but is threatened by human settlements and intensive water uptake by flower farms and other private farms along the river courses and their natural refilling system. Map 4-3 shows the hydrology and drainage map of Ol'Kalou municipality.

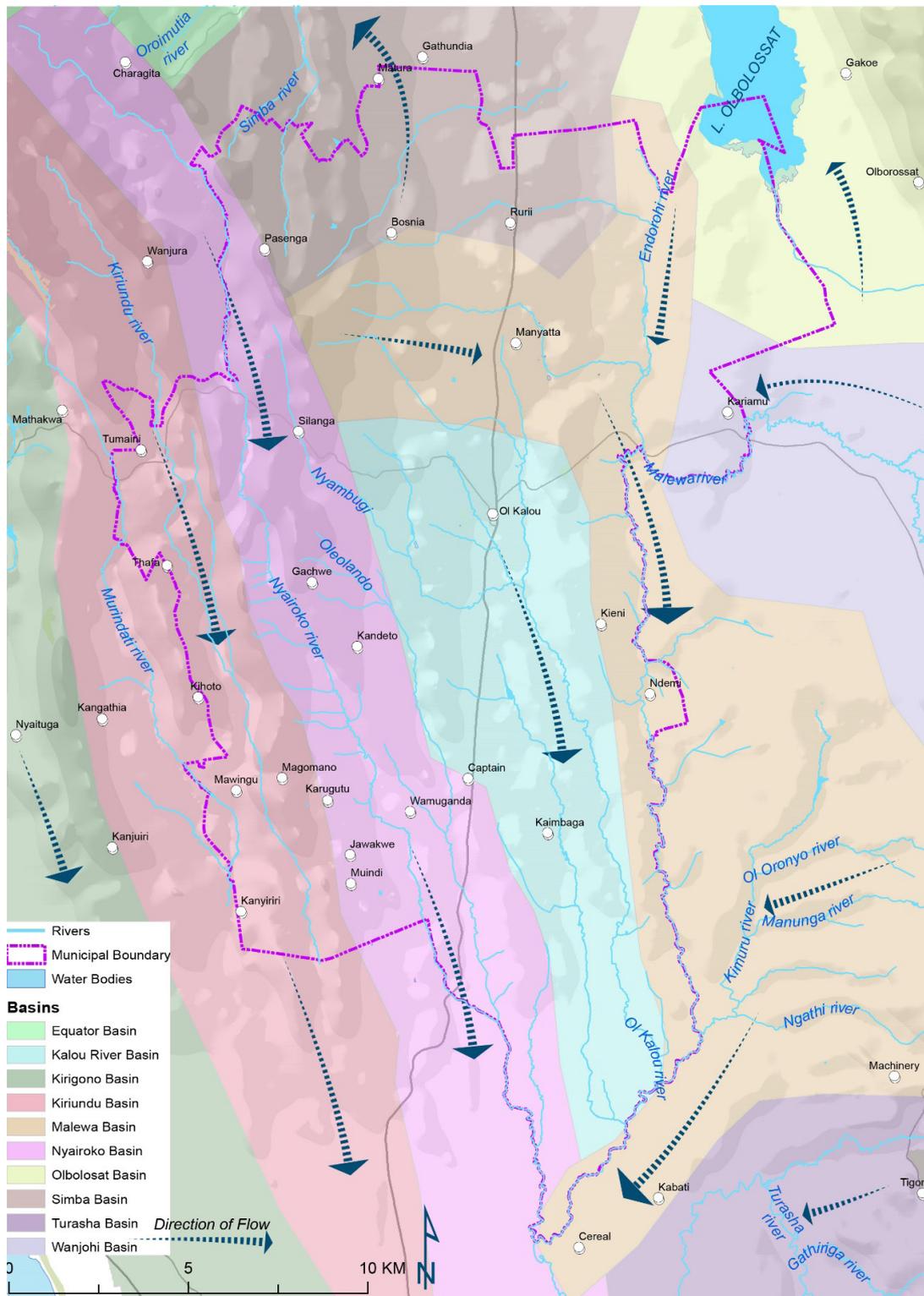
4.5: Geology and Soils

Land in the municipality is geologically stable for urban development and human settlement,

Figure 4-2: Nyakanga Dam in Rurii Ward



Map 4.2: Drainage and Hydrology of Ol'Kalou Municipality



Source: Urban Lines Consultants Ltd, 2022

as it is underlain by two main rock types: igneous rocks and alluvial rocks⁴. These rocks are strong and stable for developments.

The resultant rock weathering has transformed the Aberdare ranges, which cut up the slopes into shallow valleys and the gorges into deep and well-drained soils. The study area is marked by good prospects for sustainable groundwater development. The boreholes drilled in the Ol'Kalou area and its immediate surroundings exclusively draw water from aquifers occurring within the Rumuruti Phonolites and also further north from the younger Losioli Phonolites.

In terms of soil, the municipality is endowed with well-drained and fertile soils, mainly loam soil. There are also huge deposits of sand soil along the Ol'Kalou riverbeds. The soils in the county are of volcanic origin and vary in drainage. Notably, the soils on the Ol'Kalou plateau are poorly drained clay loams, contrasting with the well-drained clay loams in the north-eastern part of Ol'Kalou. As such, these soils have different crop production potentials. The plateaus hold the key settlement zones where development in the county is carried out.

4.6: Vegetation

According to Nyandarua CIDP (2018-2022), Ol'Kalou Municipality falls under the highland savannah zone, characterized by scattered trees with expansive grass cover. In elevated areas, (Ol'bolosat Forest and Aberdare's) tree cover increases forming thick forests with thick undergrowth. Nyayo Forests, Presidential Planted Park and tree nurseries are found in the planning area. However, most of the natural vegetation has been cleared leading to environmental hazards such as environmental

degradation which has claimed large portions of arable land. This has had some negative effects such as reduced rainfall, soil erosion, reduced soil fertility, poor health, and reduced food production.

The environmentally sensitive areas play a critical role in nature where they serve as habitats to a wide range of species requires protection. They include riparian reserves, lakes, wetlands, forests, and open/green spaces in urban areas. The main ecologically sensitive areas in Ol'Kalou municipality are Lake Ol'bolosat, the Malewa river ecosystem, Nyairoko River (which has a wetland along its course), Aberdare Forest and Ol'bolosat forest.

4.7: Climate

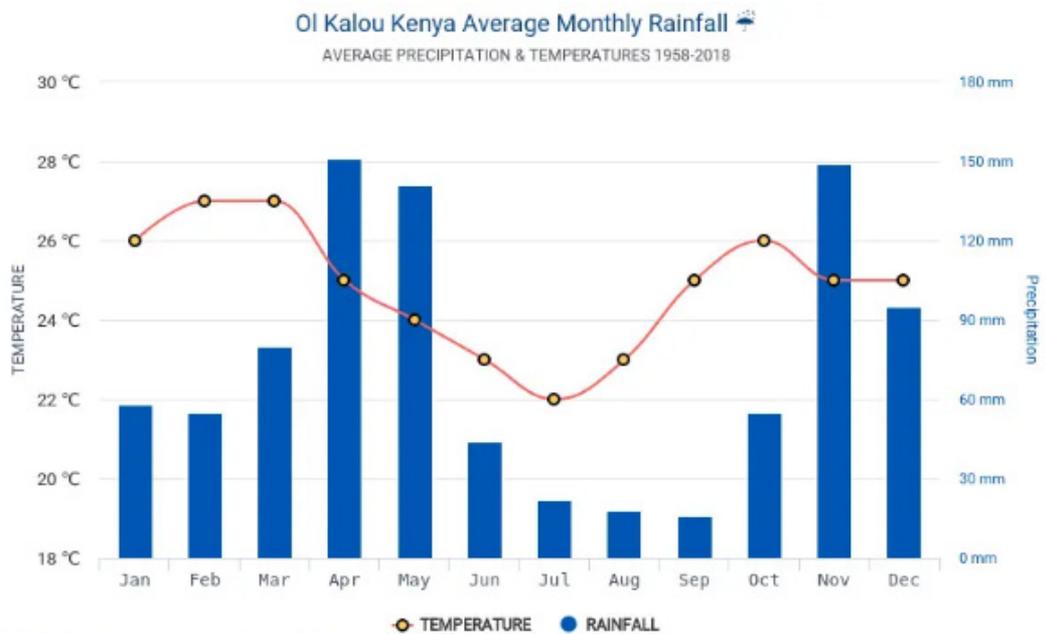
Ol'Kalou Municipality has a cool and temperate tropical climate. The climatic elements are elaborated below.

4.7.1: Rainfall and Temperature

The annual amount of rainfall in the municipality is 884mm with peaks in the months of April, May and November. The months of July, August and September are the driest with less than 30mm of rainfall.

On the other hand, the average annual temperature is 25°C with February (27°C) and July (22°C) being the warmest and coldest months respectively. During cold season nights, these temperatures fall to below 7-9°C. The variation in temperature has an effect on people's health and the types of crops that can be cultivated.

⁴ County Government of Nyandarua, 2021. Ol'Kalou Municipality IDeP

Figure 4-4: Combined average rainfall and temperature

Source: <https://cdn.hikb.at/charts/average-monthly-rain/olkalou-average-monthly>

4.7.2: Wind

The average wind speed in Ol'Kalou is approximately 11.28km/hr with windiest month being March, with a wind speed of approximately 12.7km/hr. The predominant average hourly wind direction varies with the wind direction most often from the east. This provides an opportunity to harness wind energy for productive use, such as water pumping and industrial.

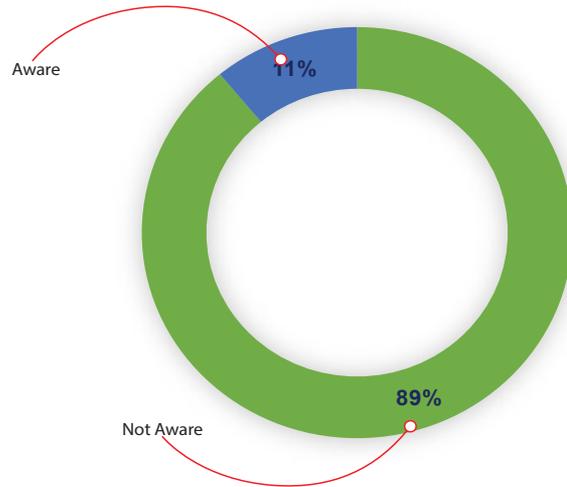
4.7.3: Sunlight

The planning area has an average of approximately 6.51 kWh. The brightest months are between the months of January and March with approximately 7.3kWh and the darkest months are between July and August with an average of approximately 5.7kWh. The sunshine hours provide optimum for solar energy as well as the promotion of other human activities such as tourist attraction and agriculture; through food production processed.

4.8: Physical Environment

The municipality is well endowed with natural resources such as forests, rivers, Lake Ol'bolosat and water pan forming a globally unique natural heritage. However, exploitation of these resources is uncontrolled, and this has resulted to over exploitation and other unsustainable human activities such as: deforestation, encroachment on Riparian reserves, use of fertilizers that have harmful chemicals on farms, human settlement, and construction of physical infrastructure on environmentally fragile areas. Apparently, majority of the residents (about 89%) are not aware of any measures put in place to curb issues of land degradation in the municipality as illustrated in the chart below.

Figure 4-5: Residents' awareness on measures to curb land degradation



Source: Urban Lines Consultants Ltd, 2022

4.9: Urban Greenery and Open Spaces

Besides providing scenic views, recreational facilities also enhance the quality of life for a community by providing areas for outdoor

activities, interaction, and relaxation. Some of the major recreational facilities in the municipality include Ol'Kalou stadium which is still under construction, Lake Ol'bolosat and Arboretum. Other supplementary playing grounds are as captured in the table below.

Table 4-1: Urban Greenery, Open and Recreational Spaces in the area

Urban Greenery and Recreational Spaces	
• Ol'Kalou Sports Stadium	• KMTC Grounds
• Arboretum	• Gathundia Playgrounds
• Nyayo Planted Forest	• Captain Playfield
• Kariamu Open Field	• Sheba
• Gichagi field	• Gichungo Playgrounds
• Malewa River	• Lake Ol'bolosat
• Njewakwe playfield	• Rurii Grounds
• Kia Nyayo	• Mwireri playfield

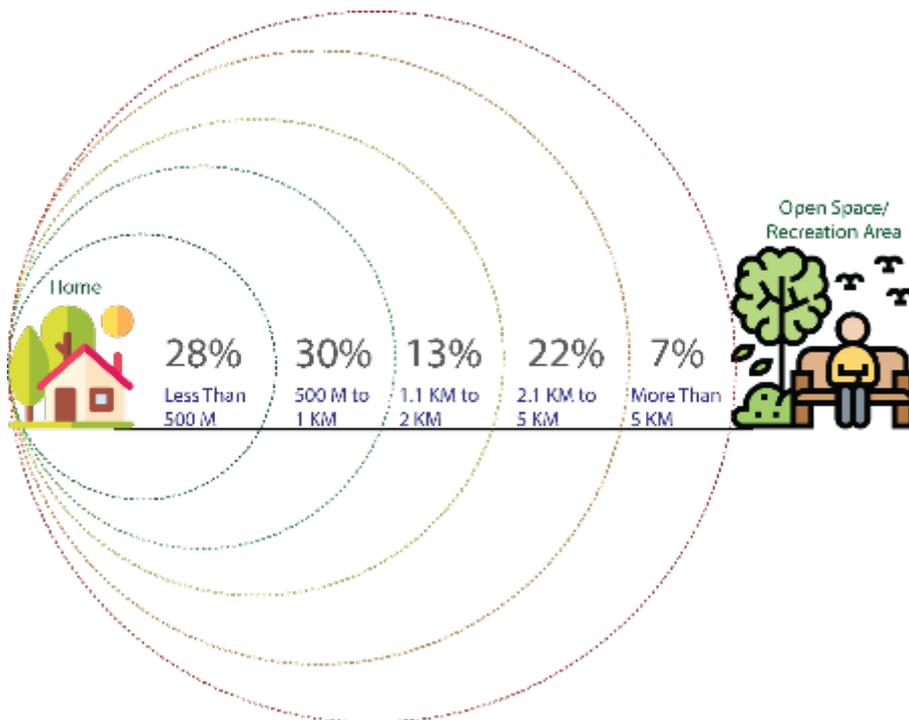
Sources: Field Survey, Urban Lines Consultants LTD, 2022

Most of these recreational facilities are within 500m to 1km access within the neighbourhood therefore easily accessed as illustrated in the figure below.

However, from the field survey, it was evident that access to these facilities is limited due to the following reasons;

- There is restricted access into Ol 'Kalou Arboretum, stadium and Nyayo planted forest.
- Lack of water and sanitation facilities such as ablution blocks.
- Some of the facilities are poorly maintained rendering the ground unsuitable for sport activities
- Some facilities are used as grazing areas due to unrestricted access and lack of fencing
- Invasion of wild animals like hippopotamus from Lake Ol'Bolosat and Aberdare Ranges
- Long distances making them difficult to access especially by children.
- Poorly developed facilities to support sports, arts, and culture due to low public financial allocation.

Figure 4-6: Access to open spaces and recreational areas



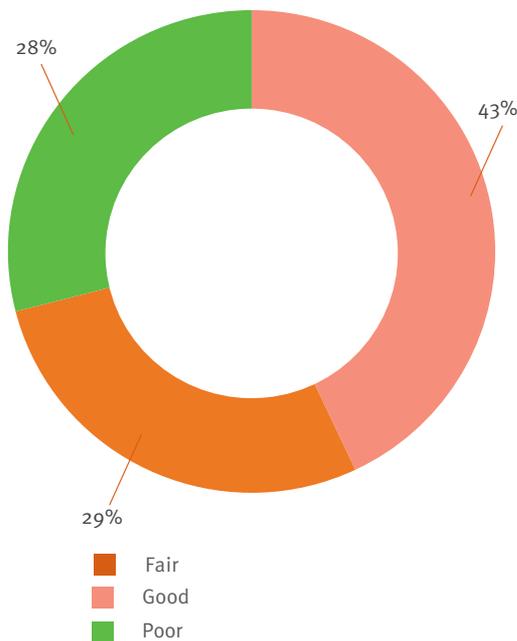
Source: Urban Lines Consultants Ltd, 2022

Plate 4-1: Ol'Kalou Arboretum



Source: Urban Lines Consultants Ltd, 2022

Chart 4-1: Resident's opinion on condition of available recreational facilities



4.10: Environmental Sensitive Areas

These are areas that require special protection due to their fragility, physical characteristics, scenery form, historical value as well as wildlife component. Policies and strategies are often well laid out to ensure adequate protection of environmentally sensitive areas in varied zones. Sensitive areas within Ol'Kalou municipality include; water bodies such as Lake Ol'bolosat, Malewa and Ol'Kalou rivers; forests (Nyayo and Kenyatta Forest), mines, flood prone areas including valleys among others.

The Water Resource Authority (WRA) classifies riparian reserves as equally sensitive areas and the authority recommends buffers of highest water mark, on both sides of the rivers. Likewise, the lakes and other water bodies should be buffered accordingly with prerequisite buffers to enable their conservation and keep away the imminent threat of indiscriminate cultivation and planting of trees which abstract a lot of water.

Other areas of concern are the mining sites in the municipality. The municipality is seeing an increase in mining activities especially in areas around Ndemi and the periphery of Ol'Kalou town where due to increase demand of building materials in Nyandarua and neighbouring counties there is shift from agriculture to quarrying activities.

While it is possible that the immediate profit may be higher in quarrying than in farming, the adverse long-term effects once the quarries are exhausted are difficult to run away from. As the quarries are not properly decommissioned, they, in the long run, render large lands unusable for years. Additionally, there is loss of soil cover, land degradation, loss of aesthetic beauty leading to destruction of landscape, and open quarries which

pose health risks and disaster hazards- by being breeding areas for mosquitoes, and death traps to children and adults. Noise and air pollution are also negative effects of the mining activities. This points to the unsustainability of the mining activity. The plate below shows some of the mining activities in the planning area:

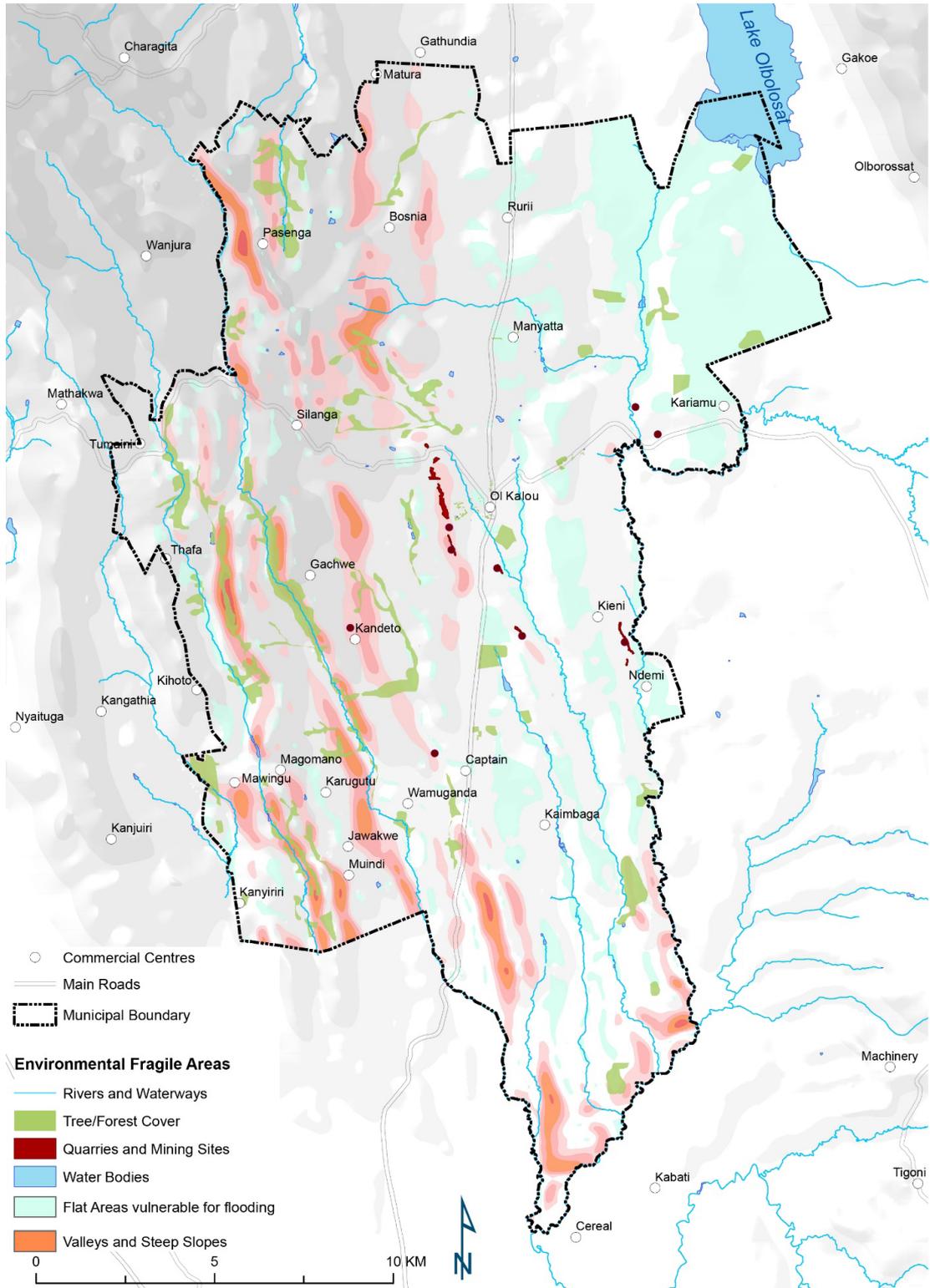
The map below shows the environmentally sensitive areas i.e., the mine areas in Ol'Kalou and Ndemi, steep slopes and valleys in Kandeto, Mawingu and part of Passenga. The steep slopes often require specialized engineering solutions when building and extending linear infrastructure such as roads, water and sewer eventually making the undertakings costly.

Plate 4-2: Land degradation: Derelict quarries in Ol'Kalou, Ndemi



Source: Field Survey - 2022

Map 4-4: Environmentally fragile areas



Source: Urban Lines Consultants Ltd, 2022

4.11: Climate Change and Adaptation

Globally, climate change has become a major concern in recent years, requiring significant attention. Human activities have caused long-term changes in weather patterns, especially high temperatures leading to forest fires, as well as the release of greenhouse gases into the atmosphere. The Paris Agreement of 2015 and even more recently Conference of the Parties 27 (CoP27), was a commitment by various countries to reduce greenhouse gas emissions, implement climate change adaptation measures, and provide financial and technological assistance to developing countries.

At the national level, Kenya is experiencing various impacts of climate change, including rising temperatures, changing rainfall patterns, increased frequency and intensity of droughts and floods, and rising sea levels along the coastline.

Within the municipality, some of the manifestations of climate change in the municipality include;

- Unpredictable rainfall pattern that has led to reduction in farm produce and yields. This also has exacerbated the water situation leading to drying up of rivers and drop in water levels of Lake Ol'bolosat and other dams in the area.

- On the flipside, flooding is rife during heavy rains posing a threat to the communities that live near low lying and flood prone areas.

To address the climate change at the local level, there is need to promote sustainable agriculture through climate smart practices, water harvesting, enhancing disaster preparedness, adoption of renewable energy utility at households, firms and institutional levels, and sustainable land management.

4.12: Disaster Risk Reduction and Management

Major disasters in the municipality can be categorized into two; man-made and natural disasters. The main natural disaster experienced in the municipality is flooding whereas main man-made disasters include road accidents, fire outbreaks in both homes and forests and substance abuse.

Some main causes of household fires in the urban areas are due to poor and illegal power connections especially in the informal settlement, endangering behaviour such as smoking and failing to take due care of risks when intoxicated. Other causes are narrow alleys in the settlement, and congestion in market places.

The County Department of Public Works, Roads, Transport, Housing and Energy is mandated to improve disaster preparedness, safety and enhance resilience⁵.

4.13: Key Planning Issues

Sub-Sector	Planning Issues	Opportunities
Topography	<ul style="list-style-type: none"> Low lying areas are prone to flooding during heavy rain. 	<ul style="list-style-type: none"> The gentle sloping areas favour human settlement, infrastructural development and utilities provision. Areas with undulating topographies can be used for outdoor activities like ziplining.
Climate	<ul style="list-style-type: none"> The low temperatures within the planning area leads to night frost that affects crops. There is inadequate amount of rainfall in Ol'Kalou to support agriculture 	<ul style="list-style-type: none"> Introduce crops which are drought and frost resistant. The existing water pans and dams can be expanded to store more water which can be used for irrigation during dry seasons.
Geology and soil	<ul style="list-style-type: none"> Some areas with stable ground Good soils in Western and Northern part of municipality Poorly drained cotton back soils in parts of Ol'Kalou, Captain and Ndami. Soil erosion and degradation in Southern part of municipality. 	<ul style="list-style-type: none"> Stable geology for urban development Fertile soil that is good for agriculture Promote soil and water conservation
Vegetation	<ul style="list-style-type: none"> Most of the natural vegetation has been cleared leading to environmental hazards such as environmental degradation 	<ul style="list-style-type: none"> The vegetation cover plays a role in maintaining the ecological and social value of the planning area. It presents a potential for eco-tourism and recreation.
Hydrology	<ul style="list-style-type: none"> Surface water run-off from rivers causes flooding in the residential areas near the riparian area 	<ul style="list-style-type: none"> Rivers are water sources for domestic, agriculture and industrial use in Ol'Kalou Municipality. Opportunities for construction of dams and water pans for agriculture and livestock.
Physical Environment	<ul style="list-style-type: none"> Threat from mining, deforestation and encroachment for human settlement. Uncontrolled quarrying mining 	<ul style="list-style-type: none"> Conservation measures Existence of laws and policies to conserve these areas. Recreational and tourism opportunities
Urban Greenery and Open Spaces	<ul style="list-style-type: none"> Restrictions to access these facilities especially Ol'Kalou Arboretum, stadium and Nyayo planted forest. Recreational facilities in the area not enough. Inadequate sanitation facilities e.g., ablution block 	<ul style="list-style-type: none"> Develop these facilities for much needed recreational and sporting spaces in the Municipality. Surrender/reservation of recreational land during subdivision

⁵ County Government of Nyandarua, 2018. Nyandarua County Integrated Development Plan (CIDP2) 2018-2022

Environmental Sensitive Areas	<ul style="list-style-type: none"> • Encroachment at Lake Ol'bolosat, rivers, wetlands, forests • Deforestation 	<ul style="list-style-type: none"> • Presence of agencies that are mandated with the protection and conservation of the environment. • Zoning and protection of the areas e.g., riparian as per the relevant laws i.e., NEMA etc
Climate Change and Adaptation	<ul style="list-style-type: none"> • Unpredictable and unreliable climate • Inadequate precipitation and change in rainfall patterns • Drought • Drying up of rivers and lakes • Decline in crop yield 	<ul style="list-style-type: none"> • Smart farming practices. • Carbon credit financing • Green architecture and building • International and national policies supporting climate change • Diversification of farming into drought resistant crops
Disaster Risk Reduction and Management	<ul style="list-style-type: none"> • Open and abandoned quarries lead to derelict land and poses dangers to human and animals. • Poor roads which lack traffic calming measures e.g., no bumps • Most roads lack walkways which causes accidents • Unreliable fire brigade services. Inadequate bridges especially in rural areas. 	<ul style="list-style-type: none"> • Existence of a disaster management department with strategy. • Quarries provide opportunity for recreational and green sites • Quarries are potential sites for water harvesting and conservation. • Implementation NMT and road policies



CHAPTER

5



POPULATION AND DEMOGRAPHY

5.1: Overview

Population is a key parameter that informs and guides allocation, distribution and sharing of resources to ensure equity. Besides broadly discussing population and demographic characteristics, this chapter will also query, inform, and justify allocation of resources within the municipality. This is appraised by critical analysis of population and demographic characteristics such as size, density, structure, distribution, marital status, migration rates, causative factors, and trends among others.

Based on the 2019 KPHC census survey and trend analysis, Ol'Kalou municipality's population is anticipated to grow from 78,502 persons to 112,703 by the year 2023. This population will require additional allocations of resources such as schools, health facilities, and other support amenities. The details of the analysis are outlined below.

5.2: Population Size and Distribution

According to the 2019 Kenya Population and Housing Census Report, Ol'Kalou Municipality had a population of 78,502 people, with 38,951 and 39,551 males and females, respectively. However, the population of Tumaini and Ndemi centres, which are in Kanjuiri Ridge and Wanjohi Wards, respectively, is based on estimates since they are partially covered by the plan. The table below shows the municipality population per ward, based on gender and sub-location.

With the consideration that the planning area is urbanizing, the plan similarly developed a scenario for population growth dependent on this factor by applying a growth rate of 4%. According to the World Bank collection of development indicators, urban population growth (annual %) in Kenya was reported at 4.0212 % in 2019. The population in the

Table 5-1: Population Size per Wards

Ward Name	Male Population	Female Population	Ward Population	Sub-Location Name	Sub-location Population
Kaimbaga	12,995	13,075	26,070	Gichungo	17,753
Ol'Kalou	10,911	11,157	22,068	Kaimbaga	8,317
				Ol'Kalou	7,446
				Munyeki	2,569
				Kagaa	3,675
Rurii	13,425	13,699	27,124	Mawingu	8,378
				Passenga	16,358
Rurii	13,425	13,699	27,124	Rurii	10,766
				Tumaini	1,706
Kanjuiri Ridge	853	853	1,706	Ndemi	1,534
Wanjohi	767	767	1,534	-	78,502
Total	38,951	39,551	78,502	-	

Source: 2019 Kenya Population and Housing Census

planning area is set to grow from 24,216 in 2019 to 38,770 in 2030 while the current urban population is set to increase from 4,728 in 2019 to 7,568 in 2030

5.3: Population Structure

Ol'Kalou Municipality has an expansive population structure, with a broad base of young and growing people and a narrow top of old and ageing people. This indicates higher fertility rates, low life expectancy, or emigration to other towns and counties in search of employment once people reach the age of majority. Ol'Kalou's population structure is shown in the pyramid below.

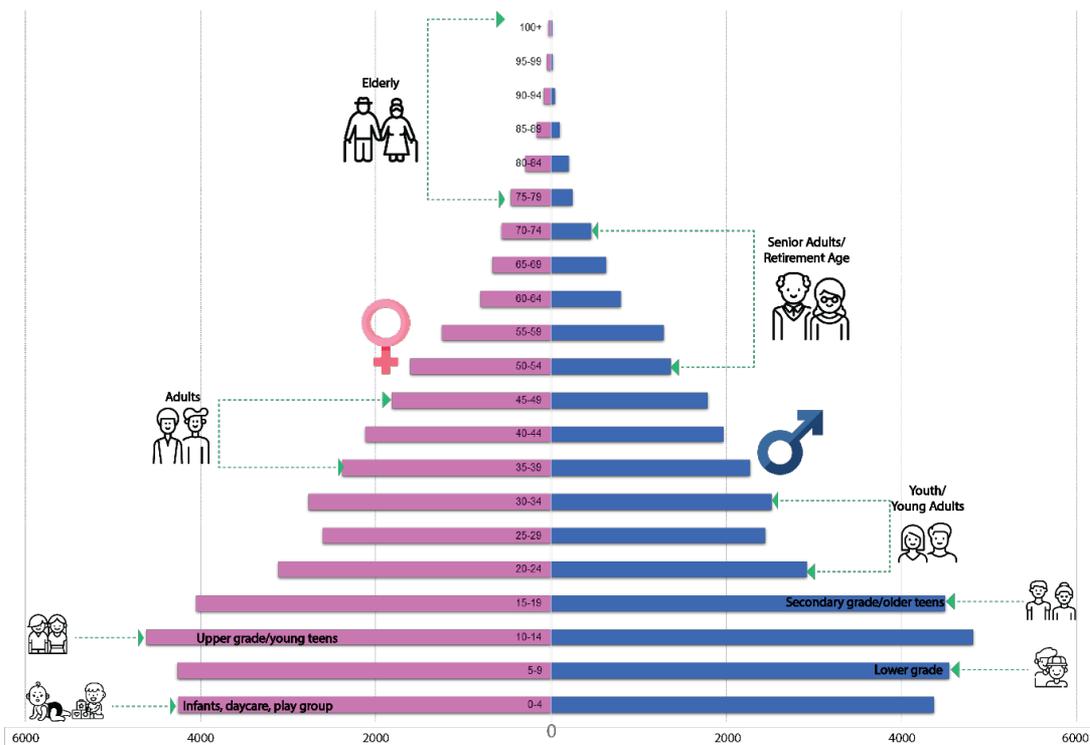
From the pyramid below, the age cohort of 0–24 years accounts for 55% of the

population, showing there are high fertility rates in the municipality. To meet the needs of this population, there is a need to provide adequate education, housing, health and recreational facilities, food security, and job opportunities as this population transitions into the working population.

The working population, mainly 25–69 years old, accounts for 41% of the population. This group requires stable employment opportunities, well-developed transportation systems, affordable health care, affordable housing options, access to financial services, and social interaction spaces as they raise their families and prepare for retirement.

On the other hand, despite being a minority, the elderly (70+) requires quality healthcare,

Figure 5-1: Population Pyramid



Source: Urban Lines Consultants Ltd, 2022

age-friendly infrastructure and housing options, safety, home care services, and social support and protection.

Therefore, this Plan will propose programmes and projects that will cater to all the age cohorts in the municipality to not only ensure specific needs are met but also ensure socio-economic inclusion for all.

5.4: Population Density and Distribution

Using the 2019 census as shown in the table below, the municipality has a low population density, with an average of 208 people per square kilometre, or 2 people per hectare.

However, the above analysis assumes a general distribution across each ward while further analysis using buildings gives 41–50 per hectare within the urban core, whereas in the peri-urban is at 11–20 and rural centres at 1–10 per hectare as illustrated in Map 5-1 below. Each household is assumed to have a household of four people, translating to 200 in urban areas, 80 in peri urban and 40 people per hectare in the rural areas.

Another factor that influences population distribution in the municipality is the suitability of the land in terms of topography, fertility, and intended use. As in other established towns, human settlements are dense and clustered as you get to urban centres. Such settlements enjoy efficient infrastructure provision and greater economic opportunities.

Contrastingly, as in the case of Mawingu, where the terrain is rugged and water is scarce, the population is dispersed resulting in low land utilization, limited economic opportunities, and increased costs for providing and maintaining infrastructure such as roads, water, and power supply.

To address these challenges, promoting compact development in easily habitable areas is necessary to not only reduce infrastructure costs but conserve land for agriculture.

Map 5-1 shows the spatial distribution of households while map 5-2 depicts the building footprints in Ol'Kalou Municipality.

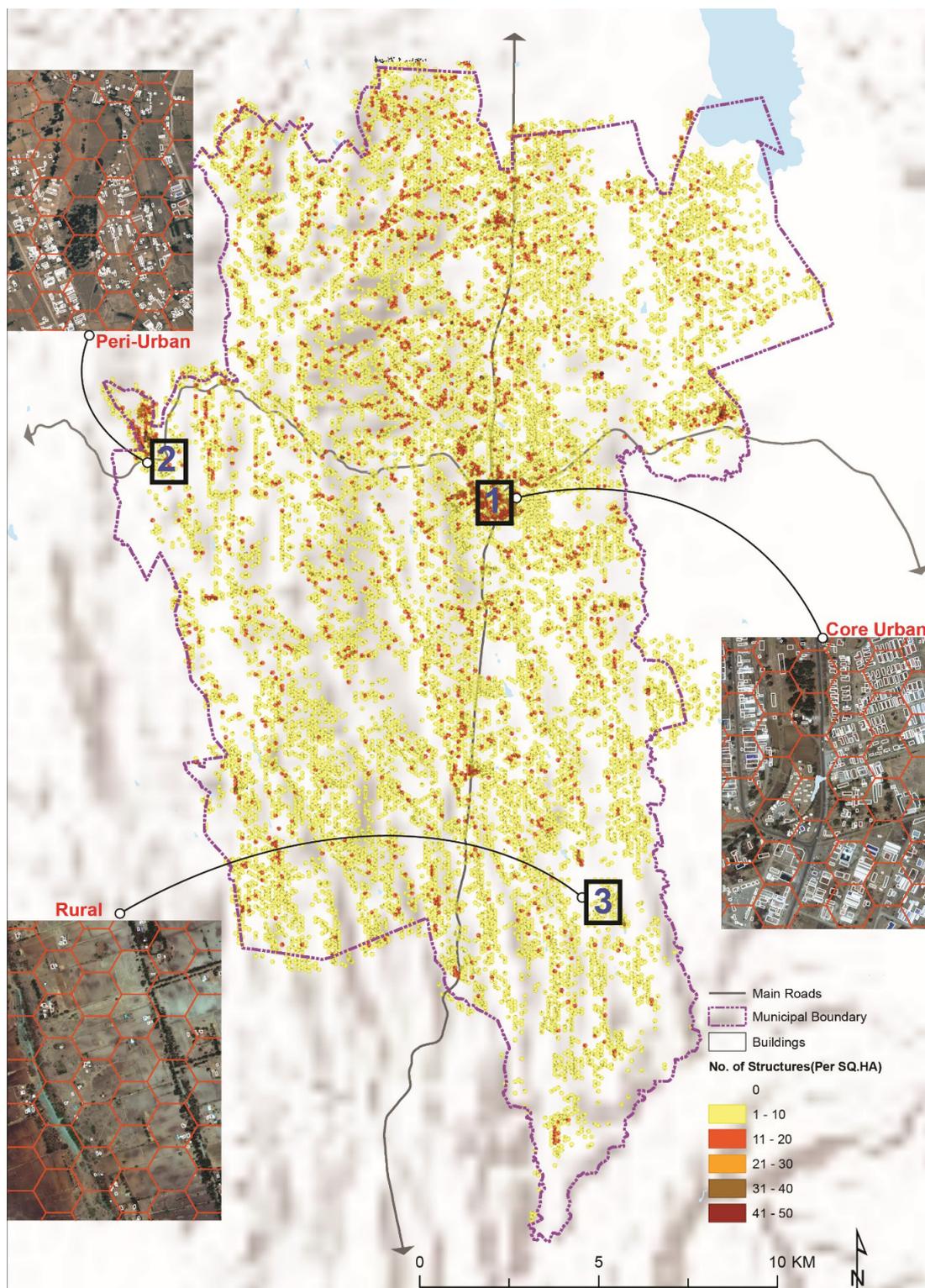
Table 5-2: Population Density

Ward Name	2019 Popn.	Area (Ha)	Area (Km2)	Popn. Per km2	Popn. per ha
Karau	22,068	10,569.07	105.69	209	2.1
Rurii	27,124	13,487.82	134	213	2.1
Kaimbaga	26,070	11,423.65	114	232	2.3
Tumaini centre ⁶	1,706	2,857	2.857	165	1.6
Ndemi ⁷	1,534	1,962	1.962	121	1.2
Total	78,502	36,470	364.7	208.2	2.2

⁶ (50% of Tumaini sub-location population as per 2019 census)

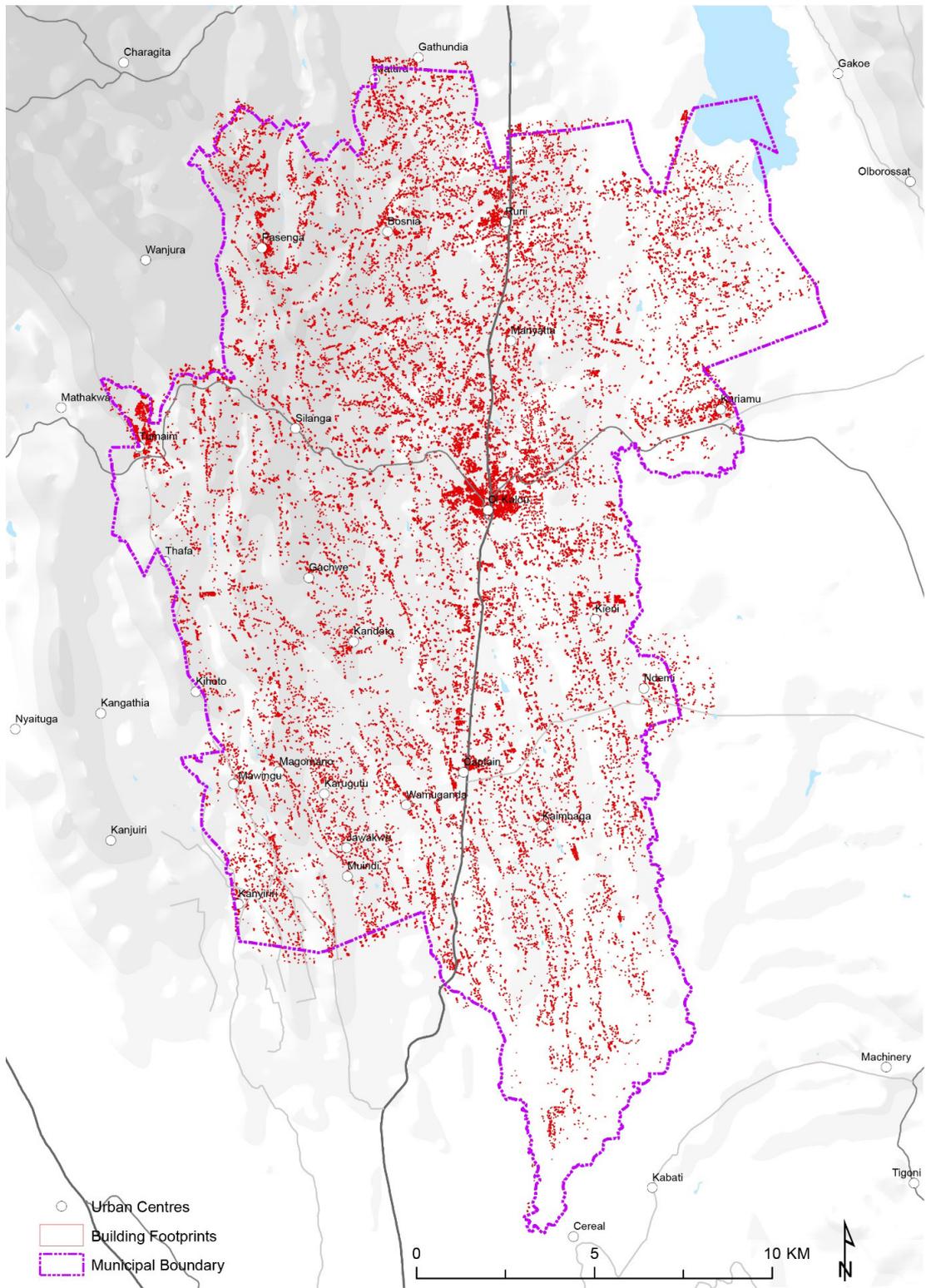
⁷ (50% of Kanjuiri sub-location population as per 2019 census)

Map 5-1: Density and settlement patterns



Source: Urban Lines Consultants Ltd, 2022

Map 5-2: Distribution of building footprints



Source: Urban Lines Consultants Ltd, 2022

5.5: Population Projection

The population growth rate of Nyandarua County is 2% per annum against the national rate of 2.2% per annum. The municipality growth rate is 4.1% per annum which is reflective of an urban area. According to the World Bank collection of development indicators, urban population growth (annum %) in Kenya was reported at 4.0212% in 2019. As per these parameters, the population in the municipality is projected to increase from 78,502 in 2019, to 112,703 by 2032.

The expected growth of population calls for the need to plan and provide housing, water, education, health facilities, roads, and social amenities, among others. Apart from physical and social infrastructures, there is a need to create jobs by promoting investments in industrial, business, and other sectors to provide employment, especially to the youthful population.

Formula:

(Population projected annually *Current population* No of years)/100) +Current population

$$(2*78502*10)/100) +78502$$

5.6: Demographic Characteristics

5.6.1: Average Household Size

As per the 2019 census, there were a total of 23,089 households in the municipality with an average household size of 3.4 members. By the end of the plan period in 2032, there will be 33,148 households. This translates to the provision of about 1,000 new houses per year and other related services such as water, electricity, sewer, solid waste management, educational facilities

Table 5-3: Population Projections for Ol'Kalou Municipality

Census Ward	2009	2019	2028	2032
	Census Figures		Projected Figures	
Kaimbaga	17,926	26,070	31,870	37,428
Karau	25,514	22,068	26,978	31,683
Rurii	23,952	27,124	33,159	38,941
Ndemi		1,534	1,875	2,202
Tumaini		1,706	2,085	2,449
Total	67,392	78,502	95,970	112,703

Source: projected based on Kenya Population Housing Census 1999, 2009 and 2019

5.6.2: Marital Status

As per the data collected from the field survey, it was observed that 66% of respondents were married with only 34% being either single, widowed, or separated. While the majority of households in Ol’Kalou are married status, there is a need to ensure the socio-economic needs of women, widows, and children are addressed by mainstreaming the planning and provision of services. Figure 5-2 shows the distribution of household marital status by gender.

other areas. The reasons attributed to this immigration include 25% in search for work, 15.3% marriage, and 9.4% availability of affordable land for agriculture. Another 6.25% moved to Ol’Kalou for other reasons such as education and the low cost of living as shown in the figure 5-3 below.

5.6.3: Migration Status

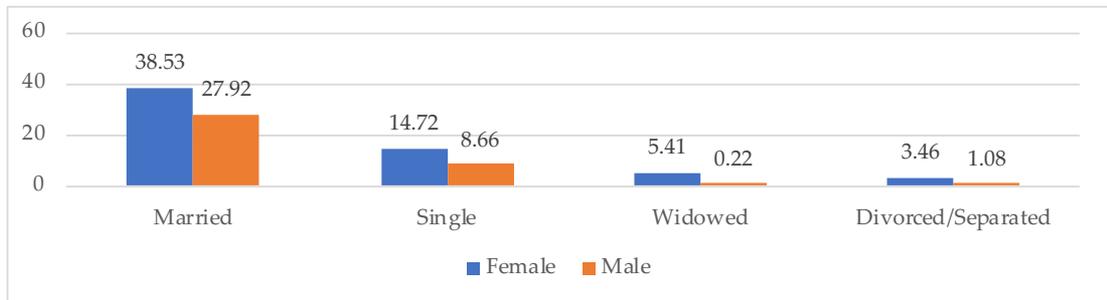
5.6.3.2: Emigration

5.6.3.1: Immigration

On the other hand, 36% of the respondents reported some of their family members had moved out of the municipality. The reasons for emigration were attributed to search for work (67%), marriage (26%), education (5%), others reasons (2%). This shows there is need for the County to enhance employment opportunities to retain labour force which is a critical human capital in promoting development in the Municipality and the County at range.

The field shows that, 55% of respondents reported to have moved to Ol’Kalou from

Figure -5-2: Percentages of the Marital Status of the Respondents



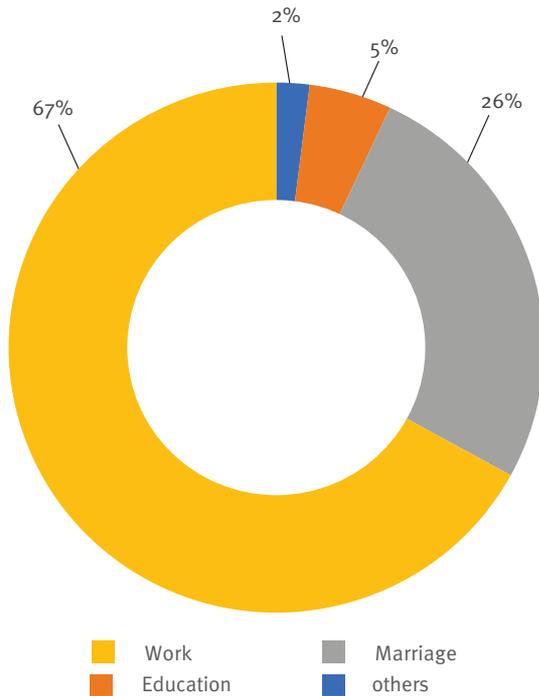
Source: ULS Field Survey, 2022

Figure -5-3: Reasons for Immigration



Source: ULS Field Survey, 2022

Figure 5-4: Reasons for Migration from the planning area



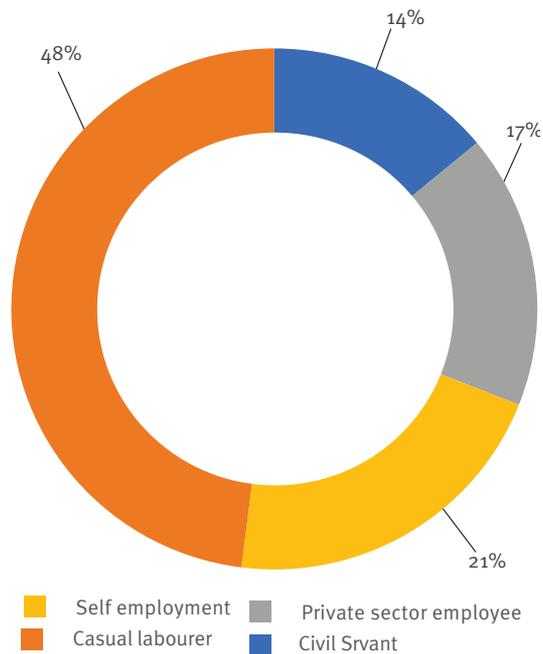
Source: ULS Field Survey, 2022

5.7: Socio-Economic Analysis

Employment: The survey shows 31% are in formal employment, 48% in self-employment and 14% are casual workers as per Figure 5.5 below. Those in self-employed are mainly in agricultural sector, *juakali*, hawking and merchandise activities.

However, overall, 61% of the population is unemployed or are underemployed in engaging in subsistence farming or insignificant trading activities.

Figure 5-5: Employment sector



5.8: Income and Savings Culture

The survey, established that 51% of the respondents saves a portion of their monthly with majority saving less than ksh.10,000 per month.

The main modes of saving are co-operatives saccos (35%), bank (35%), groups (16%), mobile phone savings (12%) and 3% use informal means. The survey main lending facilities are the cooperatives/saccos, banks and groups

Figure 5-6: Means of Savings



Source: ULS field survey, 2022

5.9: Key Planning Issues

Sub sector	Planning issue	Opportunity
Population	<ul style="list-style-type: none"> The municipality youthful population calls for increase provision of facilities such as education, medical and recreational Population is projected to grow to 112,703 need to plan for the various requirements 	<ul style="list-style-type: none"> The youthful population translates into availability of manpower to support economic growth Increase in population provides market for business and investments
Demography	<ul style="list-style-type: none"> High unemployment rates among the youths leading to high dependency ratios 51% of population reported moving the municipality in search of jobs, marriage and land. Growth of single and female-led households require inclusion in socio-economic programmes 49% do not have a savings culture. 	<ul style="list-style-type: none"> Promotes increased investment to create employment opportunities. Socio-economic and gender empowerment programmes Investment to support women and vulnerable groups. Mainstreaming gender issues in municipal development programmes. Promote inclusive savings via banks, SACCOs and community saving groups.



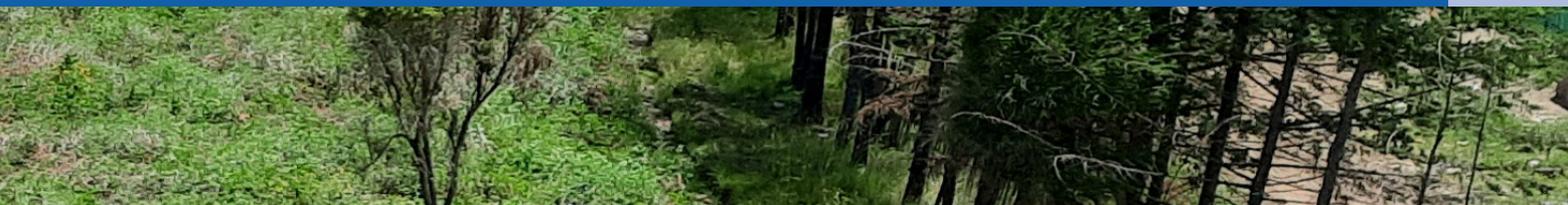


CHAPTER

6



LAND USE ANALYSIS



6.1: Overview

This chapter describes the status of land including tenure systems, land use and cover, and drivers of change on land matters in the Municipality. This is with the view of unlocking the potential of land in the municipality as a resource and factor of production. Also, there is a need to develop favourable policies and regulations to support key economic sectors such as agriculture, tourism, industrialization, and infrastructure provision.

6.2: Land Tenure

There are three land tenure categories in Kenya as outlined in Article 61 of Constitution of Kenya (2010) and National Land Policy (2009), these are, **private land** held by an individual under freehold tenure system or leasehold system, **public land** held by the Government or State agencies, and **community land** held by a community on basis of ethnicity, culture or other similar interests. While the leasehold has special conditions in terms of ownerships as per the lease period; freehold and community land has exclusive right of ownership.

The survey revealed freehold land accounts for 82% while 18% is under leasehold. Most of

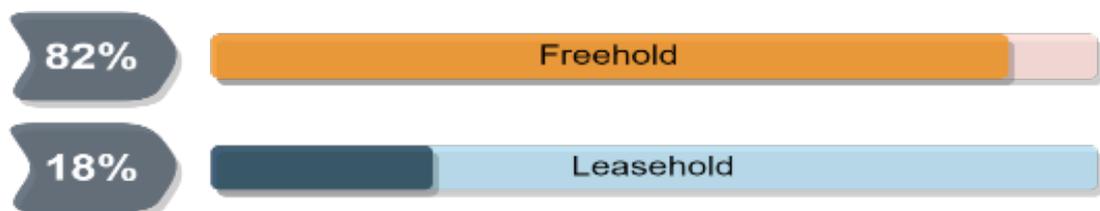
freehold land is the Peri-urban and rural areas of the municipality, while leasehold is found in Ol'Kalou Township and market centres most of which is not registered and ownership documents are allotment letters issued by the county.

As most of the land is registered under freehold tenure, there is inadequate land to provide public facilities and an irregular distribution of public facilities. As the population increases, there is need for more public land to support the increased demand.

6.3: Land Use

Agriculture accounts for 72% of total land use, with the remaining land uses accounting for less than 5%. Residential and commercial land make up 3.3% and 3.5% of the total. The total amount of land under conservation is 1.6%, which is less than the national requirement of 10%. However, the majority of rural residents' practise agroforestry, which contributes to an improved canopy cover of 6%. Mixed-use land use at 1.9% under commercial-cum-residential use is found in commercial nodes. Public utilities have the least share, at 1.4% of land use. The table below shows the existing land uses in the municipality.

Chart 6-1: Land Tenure in the municipality



Source: Urban Lines Consultants Ltd, 2022

Table 6-1: Existing Land Use Coverage

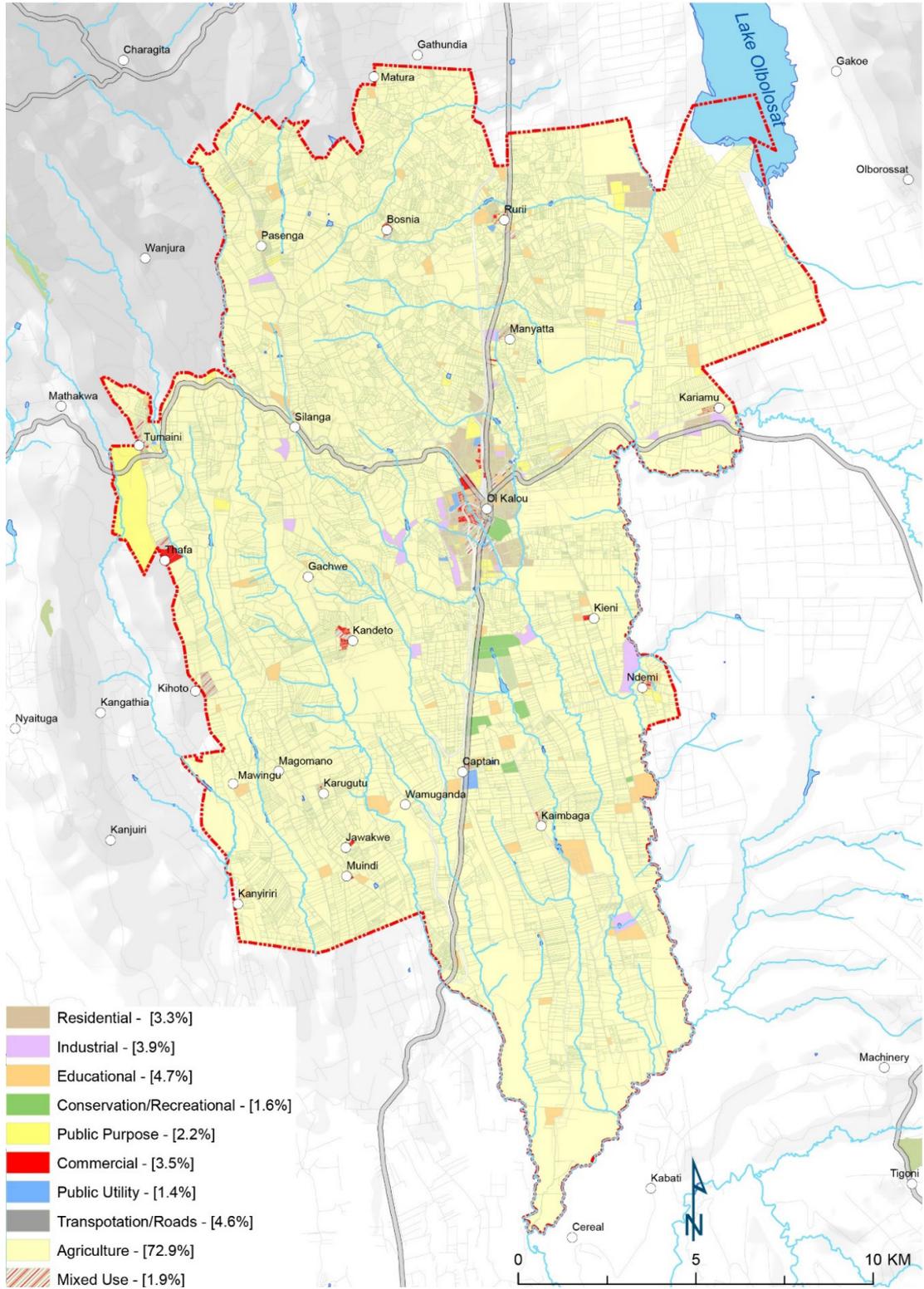
Land use Code	Land use	Existing Land use Coverage
0	Residential	3.3%
1	Industrial	3.9%
2	Educational	4.7%
3	Conservation/ Recreational	1.6%
4	Public Purpose	2.2%
5	Commercial	3.5%
6	Public Utility	1.4%
7	Transportation	4.6%
9	Agriculture	72.9%
10	Mixed-Use	1.9%

Source: ULS Field Survey and Cadastral outlay from Survey of Kenya County Lands Department

Currently, 72% of the land within the municipality is under agricultural use. This is because the municipality mainly covers rural areas. However, as the town grows, there is a need for sound land use planning for other

urban functions and supporting infrastructure without negatively affecting the agricultural sector in the area. Section 17.1 presents land use for the next ten years.

Map 6-1: Existing Land Use Map



Data sources: Field Survey - 2022, Cadastral Outlay – Survey of Kenya, Lands Dep. - CGN

6.4: Land Administration and Management

Accessibility to land and land services is a key factor in economic production. The concept of land administration and management entails one that provides accurate documentation of users that guarantees land rights, promotes security of tenure security, guides land transactions, allows land dispute resolution, and fiscal management of land.

The land administration process has undergone reforms in the past decade since the promulgation of the Constitution of Kenya 2010, and the adoption of the National Land Policy, 2009 and the Land Act, 2012, all aimed at repairing the fractured and uncoordinated system in the country. The land administration process is multi-disciplinary. The land administration process in the country is multi-disciplinary comprising of professionals and experts from different fields, including physical planners, surveyors, land valuers, land administrators, lawyers, architects, and engineers hence need for coordination and reforms to streamline operation of land use and management.

At the national level, the Constitution (Article 67) and National Land Policy (Section 231) provides for the establishment of the National Land Commission to manage public land on behalf of the national and county governments through, equitable and sustainable land administration and management functions.

At the county level, land administration is undertaken by agencies/institutions from both the National and the County governments.

The National Land Commission decentralized its services through establishment of County Coordination Offices in Nyandarua County as per Sections 4(2) and 16(5) of the NLC Act, 2012 (amended 2016). These decentralized units serve as the face of the Commission at the county especially with the abolishment of the County Land Management Boards (CLMB) as a result of the repealing of section 18 of the NLC Act in 2016. In the management of urban land, the NLC County Coordination office, is mandated to:

- Enhance secure storage, access and retrieval of land records.
- Ensure access and use of land for socio-economic development.
- Capacity building to enhance efficiency and transparency in service delivery of counties.
- Participate in development control activities.
- Develop and implement of Revenue Generation Mechanisms.

The County's Department of Lands, Housing and Physical Planning is also charged with processing and approving development applications, delineation of land for development to public institutions and individuals. Other functions are processing of ownership documents such as titles/grants for both public and community, setting apart land for public use, generation and collation of revenue, documentation of public land and maintenance of land records and updating attributes on files and cards.

The list below presents the list of the actors at national and county level mandated to manage the issues of land in the country.

Table 6-2: Key Actors in Land Administration and Management

Government	Key Actors	Role
National Government	National Land Commission	<p>Amongst other functions of the National Land Commission, the primary roles are:</p> <ul style="list-style-type: none"> • Manage public land on behalf of National and County Governments • Monitor and have oversight responsibilities over land use planning in the country • Alienate public land.
	Director-General of Physical Planning	<ul style="list-style-type: none"> • According to the Physical and Land Use Planning Act 2019, the Director has the following functions: • Advise government on strategic physical and land use planning matters; • Formulate policies, guidelines and standards; and • Capacity building and technical support on county planning staff.
	Director of Survey	<ul style="list-style-type: none"> • Establish and maintain a national geodetic control network to facilitate other surveys and research; • Produce and maintain plans of property boundaries in support of land registration; • Produce and continuously update national topographical basic maps; • Maintain national and international boundaries; and • Prepare and publish the National Atlas of Kenya, as documentation of National Heritage and promotion of Nation's identity.
	Director of Land Administration	<p>Functions of the office include the following:</p> <ul style="list-style-type: none"> • Establish and manage land control boards; • Process and approve development applications e.g., issuance of consents to charge, lease or transfer; • Process ownership documents such as titles/grants for both public and community; • Setting apart land for public use; custody and maintenance of land records • Document public land and preservation of fragile ecosystems e.g., wetlands and water catchment areas for purposes of conservation.
	Principal Land Registrar/Chief Land Registrar	<ul style="list-style-type: none"> • Registers land titles, and leases.
	Land Control Board	<ul style="list-style-type: none"> • Issue consent to carry out transactions such as sale, subdivision, transfer of agricultural land (freehold land) based on ownership and other family-related matters; • Approve transactions such as sale, transfer or mortgage of shares in private companies or cooperative societies that own agricultural land.

County Government	County Executive Committee Member of Lands and Physical Planning	<ul style="list-style-type: none"> • Promoting the integration of county physical and land use planning functions and sectoral planning levels. • Formulation and implementation of policy and strategies on land use management
	County Director of Land Use and Physical Planning	<ol style="list-style-type: none"> a) Advising the county government on physical and Land use planning matters that impact the county; b) Formulating county physical and land use Planning policies, guidelines and standards; c) Preparation of county physical and land use Development plans; d) Preparation of local physical and land use Development plans; e) Participating in the preparation of inter-county Physical and land use development plans; f) Undertaking, research on matters relating to Physical, and land use development planning at The county level; g) Recommending to the county government the establishment of planning units when necessary; h) Maintaining land information system to guide physical and land use planning; i) Communicate decisions of the county government development applications; and (j) issuance of development permission and other development control instruments under this act with the approval of the county executive committee member;
	County Director of Survey	<ul style="list-style-type: none"> • Carry out surveys on public land; • Develop a Geographic Information System and Land Information System database for spatial data management; • Provide efficient land and property management for effective county land documentation and land taxation.
	Registered Physical Planners	<ul style="list-style-type: none"> • Development applications to the county; and Advise County on innovations in the land and planning sector.
	Land Surveyors	<ul style="list-style-type: none"> • Boundary confirmation; Beaconing of approved subdivision and amalgamation scheme; Amendment of RIM; and • Preparation of deed plans

Source: Urban Lines Consultants Ltd, 2022

Drawing from the above discussion, the information on land administration and management has been simplified using illustration and shown in Figure 6-1

6.5: Land Challenges in Ol’Kalou

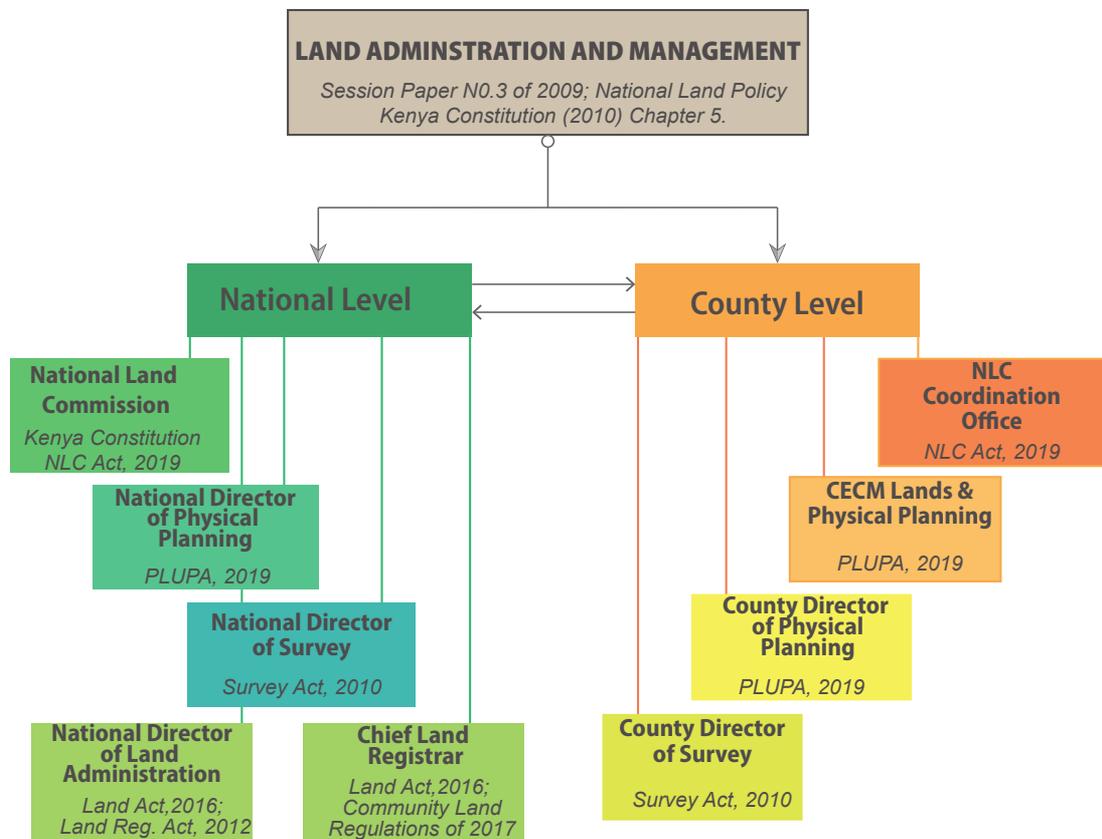
Ol’Kalou Municipality faces two major land challenges; irregular allocation of public land and inconsistent development plans. These challenges are a great impediment to surveying and titling and significantly contribute to land use conflicts, poor development control, and a shortage of public land for the development of public facilities. The Ol’Kalou Land Audit Report 2021 found that out of the 4366 plots within the township, 400 had disputed ownership, while 1526 had encroached on land reserved for public utilities. The ownership documents presented

were mainly letters of allotment and in some cases, forged title deeds.

Furthermore, the preparation of multiple Part Development Plans has resulted in double allocation of land to different owners, abuse of office by government officials, and lack of an up-to-date plan. Consequently, development in the municipality has slowed down as well as the approval of development applications as it is difficult to ascertain authentic ownership. This has also led to revenue loss and inadequate provision of public facilities in the county.

This Plan recommends **securing public land by developing an inventory, and in liaison with NLC and the Ministry of Lands register all public land and operationalize repossession of any grabbed public land.**

Figure 6-1: Land Administration and Management



Source: Urban Lines Consultants Ltd, 2022

6.6: Land Availability and Suitability

The map below presents the land availability and suitability in Ol'Kalou. As shown below, 66.4% of the planning area is considered suitable for development. This is mainly on the eastern side of the planning area which has a relatively gentle slope. The remaining 33.6% of the planning area is unsuitable for development as it is mainly located on the hilly areas on the western side of the municipality. The topography of the western area discourages urban development as it is quite costly to develop linear infrastructure on steep slopes. Furthermore, areas such as Kariamu, Kieni, Ndemi and around Lake Ol'bolosat are prone to flooding and therefore require much deliberation before undertaking any development.

Plate 6-1 below also captures some of the cliff that are visible on your way to Mawingu.

6.7: Land Subdivision Patterns

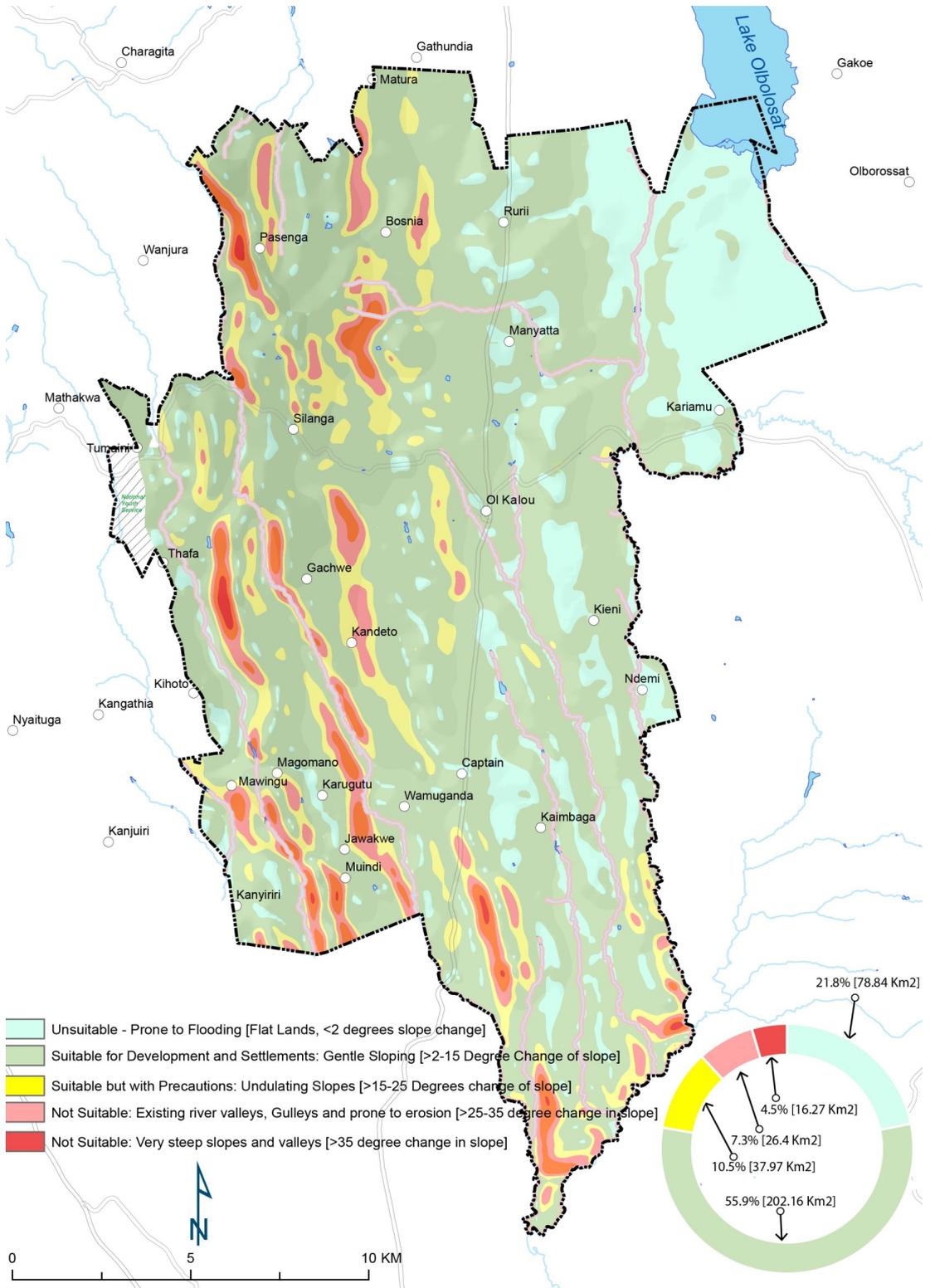
The municipality has both fixed and general surveyed boundaries. The town centres commonly have fixed boundaries as land has been subdivided into smaller 1/8-acre plots mainly for residential and commercial uses. On the other hand, rural areas within the municipality commonly have general boundaries as people own large tracts of land mainly for agricultural use. However, the survey revealed that general boundary parcels are prone to boundary disputes as the boundaries are not accurate.

Plate 6-1: Cliffs at Mawingu area

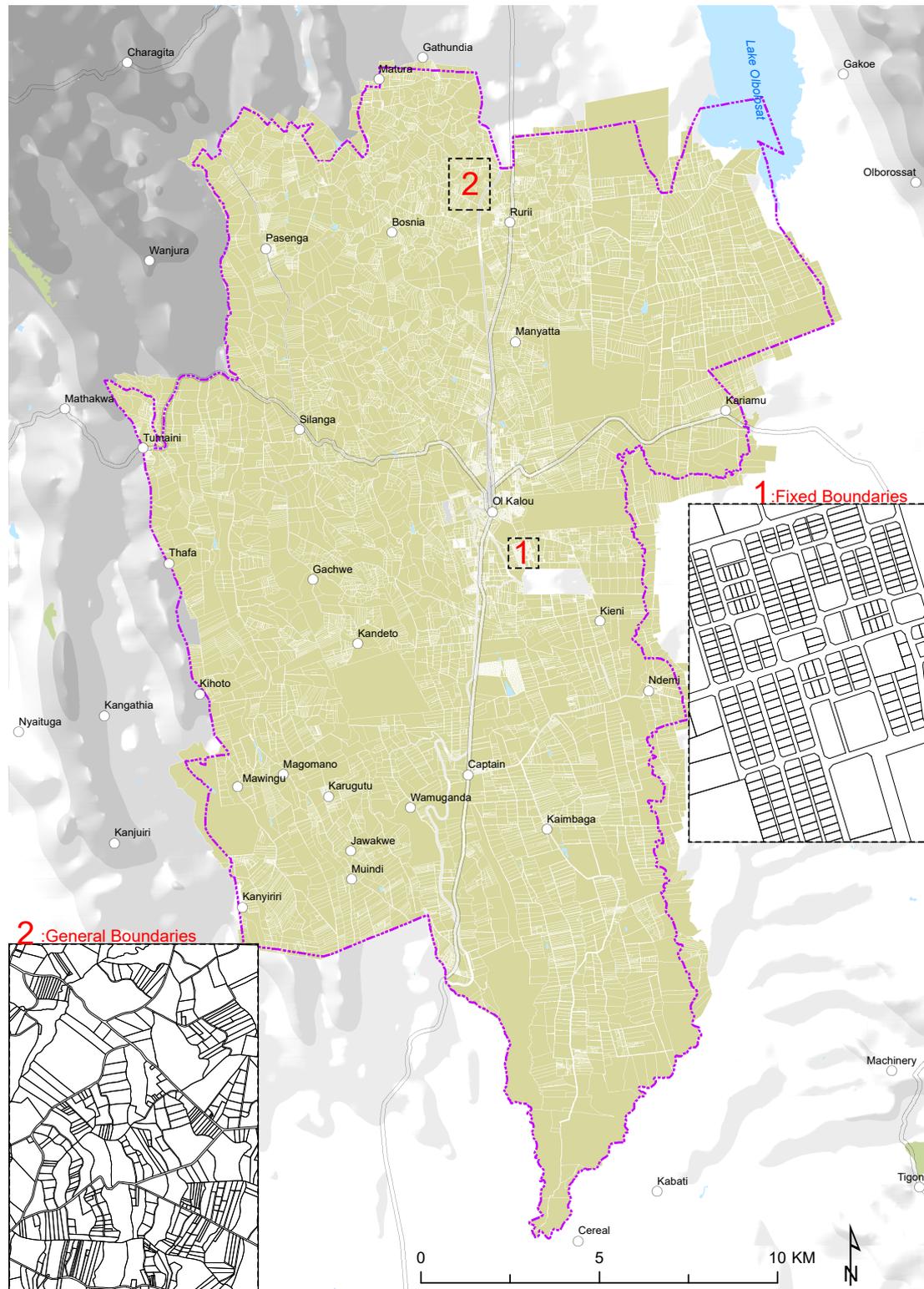


Source: Urban Lines Consultants Ltd, 2022

Map 6-2: Land suitability analysis Map



Map 6-3: Land Subdivision Patterns



6.8: Land Value and Markets

Land value in Ol'Kalou has gradually increased as a result of urbanization. The high rate of migration to the municipality has led to increased provision of social amenities and infrastructural development. However, it has put more pressure on the existing amenities and infrastructure and increased demand for land, employment opportunities, and social problems. The high demand for land has resulted in uncontrolled developments, unplanned land subdivisions, and unauthorized change of use from agricultural land use to residential and commercial. Currently, the price of an acre of land ranges from 1.0 million to 1.5 million.

6.9: Key Planning Issues

Sub-Sector	Planning Issues	Opportunity
Land Administration and Management	<ul style="list-style-type: none"> • Analogue land processing systems causing delays and loss of documents and revenue • Lack of an integrated Land Information Management Systems (LIMS) leading to duplication and uncoordinated land management • Outdated and low coverage of the existing valuation roll leading to loss of revenue and malpractices. • Inadequate human resource capacity to effectively handle land management and administration; • Weak link between land control board and development control. • Double allocation and grabbing of public land; 400 plots with disputed ownership and 1526 encroaching on public land. • Uncoordinated planning activities within the municipality due to informal subdivisions and land allocations. • Lack of an up-to-date physical and land use development plan • Non-implementation of the existing development plan • Land use conflict between farming/ food security and real estate. 	<ul style="list-style-type: none"> • Digitization of land administration and management processes • Adoption of electronic systems for development application systems, land registration and valuation • Existence of planning as a tool to guide and promote development





CHAPTER

7



ANALYSIS OF URBAN AREAS

7.1: Overview

This chapter discusses in detail the linkages between urban centres within Ol'Kalou Municipality and their environment in an attempt to understand how people perceive and experience space. This includes factors such as urban functions; aesthetics; spatial elements such as urban form and the network of streets; and social elements.

7.2: Urbanization in Ol'Kalou Municipality

7.2.1: Determinants of Urbanization

Provision of quality physical and social infrastructural facilities such as roads, health facilities and markets play an important role in the urbanization of Ol'Kalou Municipality. This is evidenced by the linear pattern of settlements along the three major roads of Gilgil-Nyahururu Road, Gilgil-Nakuru Road and Ol'Kalou-Kariamu Road and the clustering of human settlements around facilities such as JM Kariuki County Referral Hospital and the open-air markets in the various urban centres.

While infrastructural provision abets urban growth, one cannot wish away the effects of climate and weather on population growth. The favourable weather conditions coupled up with the well-drained and fertile soils for agriculture encourage Ol'Kalou's population growth and its density.

The advent of devolution and decentralization of services and functions under the Constitution of Kenya, 2010 played an important economic role for enabling urbanisation through delivery of basic services like water, solid waste collection, education, healthcare and transport.

7.2.2: Urban – Rural Linkages

Ol'Kalou has one axis and two segments defining its urban-rural linkages. The prominence of the axis is defined in the Gilgil-Nyahururu Road that defines two east-west divisions. The western division has Tumaini and Rurii urban centres that connect with Ol'Kalou Town as their common urban centre through Ol'Kalou-Nakuru Road and the main axis respectively. The eastern division is emerging from its rural agricultural zone that includes Kariamu, Captain and Ndemi Centres.

7.3: Urban Form and Morphology

Ol'Kalou Municipality is defined by a primary North-South spine, which is Gilgil-Nyahururu Road with two major lateral roads, Ol'Kalou-Nakuru Road and Ol'Kalou-Njambini Road leading to Tumaini and Kariamu Centres on either side. The urban growth in the Municipality is defined by 4 urban nodes; Ol'Kalou, Tumaini, Rurii and Captain. The growth of these urban centres has concentrated within their centre's residential development. The overall settlement pattern is linear following these roads with Ol'Kalou CBD being the major activity centre. The distribution of settlements may, on the overall, be described as poly-nucleated development that clusters population and economic activities around the urban centres which is punctuated only by the high intensity urban area at Ol'Kalou CBD. Most of these urban nodes are sprouting lacking a character of formal planning with undefined functions and lacking most of the urban services as shown in the figure below especially Tumaini, Rurii and Captain. In addition, these urban centres have undefined urban growth limits which leads to unsustainable urban growth.

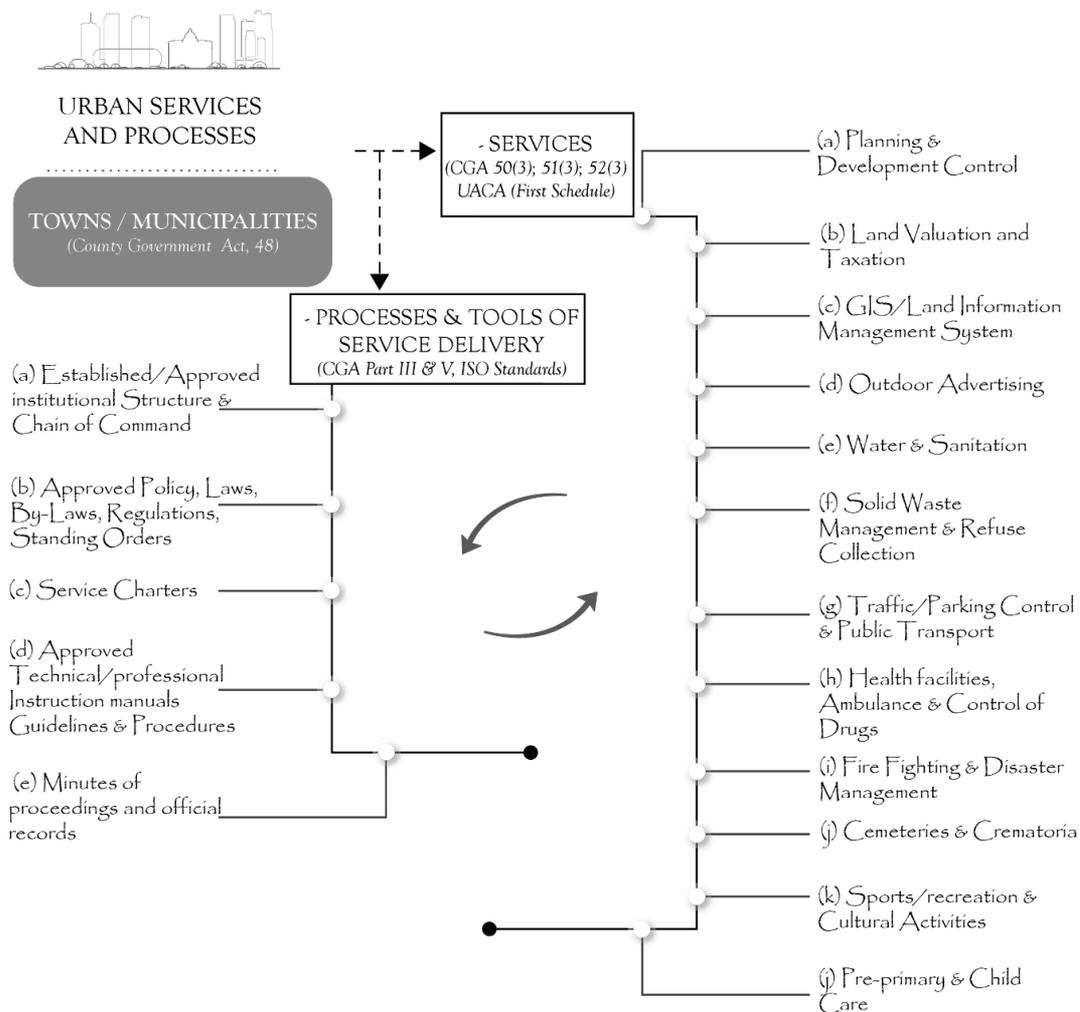
7.4: Urban Services and Processes

The delivery of urban services within the municipality is poor and further compounded by out-dated physical development plans which were prepared in the late 1990's and early 2000's and have not been revised since then to cope with urban growth. In some cases, such as in Tumaini Centre, urban growth has occurred outside the planned area

leading to haphazard growth of unplanned and informal settlements.

It is therefore imperative to manage urban growth through preparation of a strategic urban development plan that seek to addresses the disparity in the provision of basic urban services through the legally mandated organs and tools of delivery.

Figure 7-1: Urban Services and Processes



Source: Urban Lines Consultants Ltd, 2022

7.5: Profile of Municipality's Urban Centres

7.5.1: Ol'Kalou CBD

The planning area's CBD is Ol'Kalou Town. Its structure can be defined by its road configuration as its growth can be seen to originate from the primary node linking C77 and C69. The main factors that have contributed to the current pattern of development within the Ol'Kalou CBD include: paths, land ownership, natural features such as rivers, man-made features such as Ol'Kalou Quarry and physiographic factors such as topography.

Function: Ol'Kalou town is Nyandarua County's headquarters serving both as an administrative and commercial centre.

Nodes: Node elements can be categorized into three with the area harbouring civic, commercial and transportation nodes. The civic node encompasses the area housing the assistant county commissioner's office and police station with the commercial node being the Ol'Kalou Market which is characterized by extensions of informal stalls. The transportation node is located at the Ol'Kalou Bus Station which is engulfed within temporary commercial stall structure.

Landmarks: The town lacks dominant urban features and focal points that would serve as external reference points to orient public space users.

Paths: The CBD is well served by roads with C69 and C77 serving as public transport routes. These roads serve as inter and intra access routes to and from various centres such as Gilgil, Nakuru and Nyahururu and to the urban centres within Ol'Kalou. There also exists a metre gauge railway that is currently undergoing rehabilitation. These paths

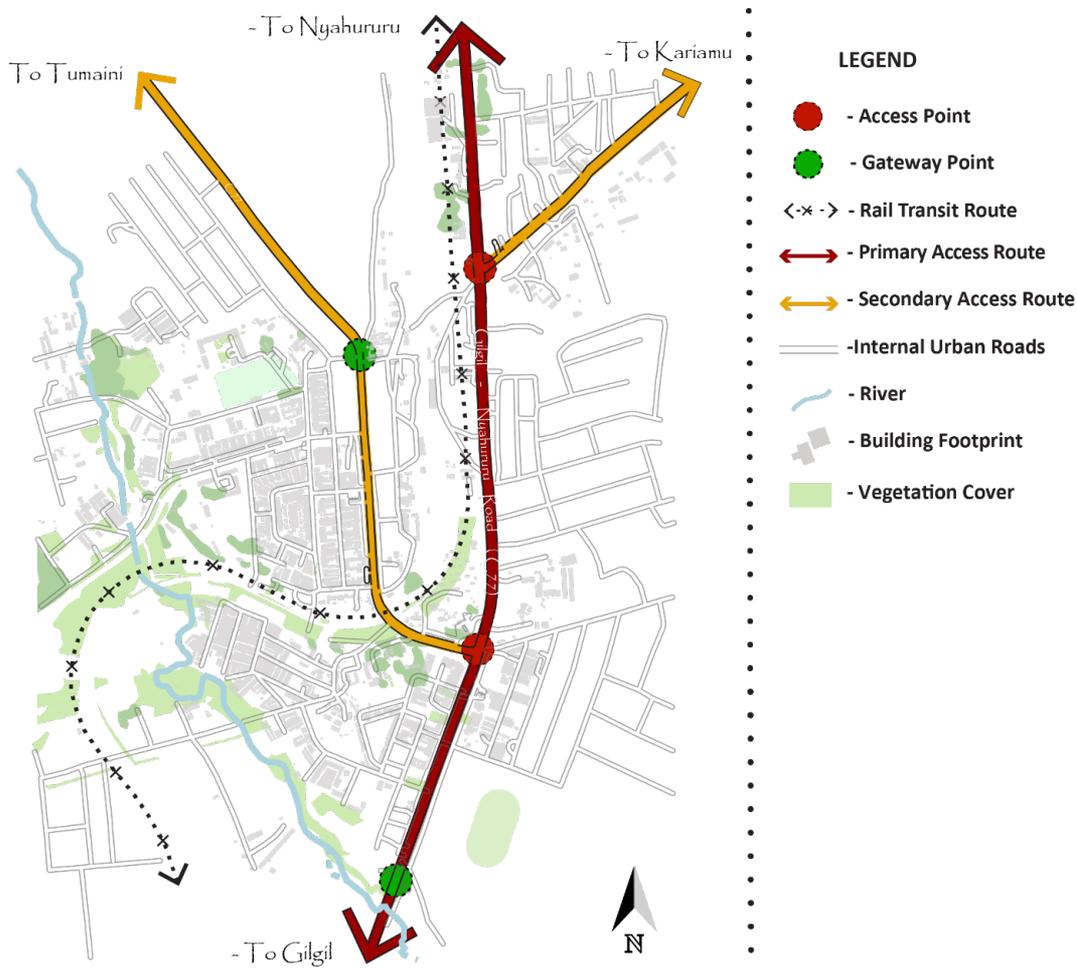
have contributed to the clustered pattern of development evidenced in the CBD as shown in the map below.

Streetscape: The streetscape within the CBD is disorganised due to the imbalanced allocation of space between different transportation modes leading to lack of a variety of non-mobility activities including on-street parking.

Urban Form: The colonial railway line, railway housing and railway land played an important role in structuring Ol'Kalou Town. Most buildings in the CBD are mixed-use with commercial at the lower storey and residential at the upper storeys with buildings ranging from 1 to 6 storeys. A concentration of small, neighbourhood type low-rise commercial buildings are found along the C69 and in scattered locations around the town. There is no common architectural motif including building facade treatment observed in the buildings.

Neighbourhood Character and Potential of Urban Growth: The immediate surroundings of Ol'Kalou CBD depict both planned and ad-hoc sprawling development of the rural hinterland where most of the agricultural and quarrying activities are practised. The immediate south of the CBD is largely undeveloped with single dwelling units sparsely distributed. Civic institutions such as the Nyandarua County Assembly, Ol'Kalou Law Courts, and county government offices are also situated to the south of Ol'Kalou CBD with a green space-urban transition zone of undeveloped land linking the civic zone to the CBD. The County government headquarters administrative offices as well as county assembly is being developed in this zone. Mining activities are practised to the west of the CBD along the hilly terrain facing the town which is in stark contrast to the east of the CBD which is predominantly residential with a relatively

Map 7-1: Access and Circulation Routes in OI'Kalou CBD



Source: Urban Lines Consultants Ltd, 2022

gentle terrain. The main land use to the North of the CBD is agricultural with low-density residential of row housing typology dotting the landscape heading towards JM Kariuki County Referral Hospital. Growth of the CBD towards the South is limited by the Gilgil-Nyahururu-Nanyuki Railway Line and reserve which restricts continual development between either side of the river.

Visual appeal: Most of the traders within the town dispose of their refuse by burning and dumping on the road reserves or along the drainage channels due to lack of solid waste disposal facilities. In addition, there is spill-over of the trading activities onto the road reserves creating disorderliness in the arrangement of display of items making the town appear un-sightful and creating an unpleasant visual effect. This can also be said of the views created by the OI'Kalou quarry from the western edge of the CBD.

Plate 7-1: Poor Solid Waste Disposal along C69**Plate 7-2: Spill-over of trading activities**

Source: Field Survey, Urban Lines Consultants Ltd, 2022

Public Spaces: The recreational facilities within the town are inadequate with Ol'Kalou Arboretum and the stadium being the only public recreational spaces.

Other main challenges affecting the functionality of the town centre include; inadequate streetlighting, inadequate hospitality and sanitation facilities.

The centre is among those selected for action area planning and the proposed interventions are elaborated in section 17.4.1.

7.5.2: Rurii Centre:

Rurii urban centre is defined by the Gilgil-Nyahururu highway, where its growth seems to originate in a linear pattern and haphazard clusters of settlements in the immediate rural hinterlands.

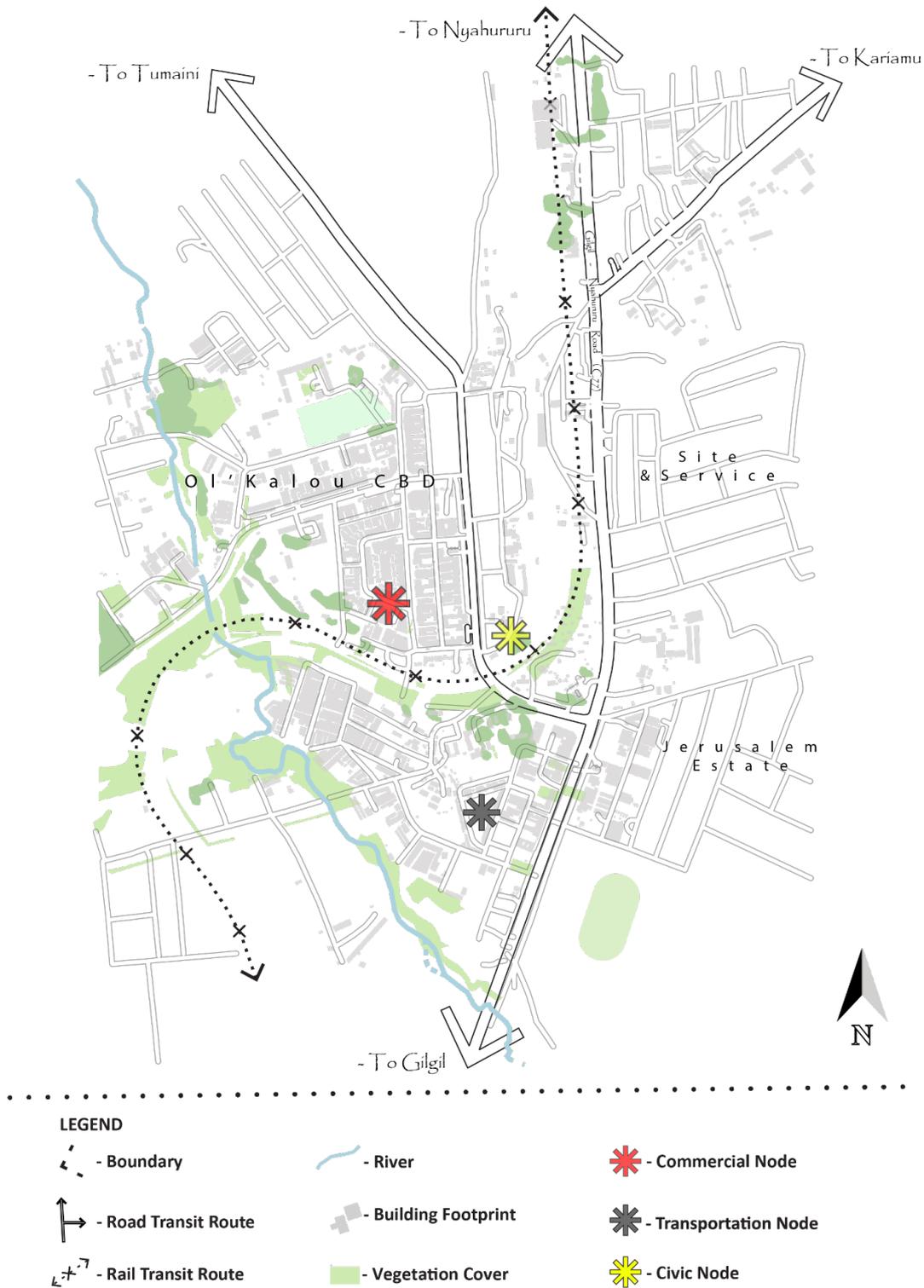
Its structure can also be defined by its network of local roads, along which developments are concentrated.

Function: The centre serves as a commercial centre, characterized by dukawallas, a closed and open-air market, and informal businesses which are spilling over to the road reserves.

Urban Form: There is a mix of building types within Rurii comprising of both permanent and temporary residential and commercial developments. There is minimal observance on building lines and setbacks by a majority of developments in the centre which entail one-storied developments and row housing made of stone and wood. The materials used for the building facades are either dilapidated or visually unpleasing, which affects the aesthetic value of the area.

Streetscape: The streetscape lacks a definitive division between motorized and non-motorized road users. The roads are narrow, lacking non-motorized transport facilities and designated bus stops/terminus, which affects the safety and convenience of road users. The streetscape in Rurii also comprises of open drainage, which has been polluted by solid waste disposal and vehicular parking on road reserves.

Map 7-2: Spatial Features in OI'Kalou CBD



Source: Urban Lines Consultants Ltd, 2022

Plate 7-3: Encroachment on the road reserve

Source: Urban Lines Consultants Ltd, 2022

Plate 7-4: Building typologies in Rurii

Paths: Rurii is underserved by roads and transport infrastructure with only one major road (Gilgil-Nyahururu Road) serving as the only public transport route. There also exists a metre gauge railway to the west of the centre that is currently undergoing rehabilitation and one that would benefit if repurposed into a commuter rail line with rail transit stops and thereby being an incentive towards urban growth.

In summary, major challenges include: poor roads, a lack of NMT infrastructure, a lack of floodlights/streetlights, a lack of solid waste management, poor drainage, a lack of sewer, a lack of a solid waste management system, and a lack of a cemetery and recreational facility. The layout of the centre is as illustrated below.

The centre is among those selected for action area planning and the proposed interventions are elaborated in section 17.5.6.

7.5.3: Kariamu Centre:

Kariamu urban centre is defined by the junction between Ol'Kalou-Njambini Road C69/77, and two unnamed roads, where the growth of the centre adopts a linear unplanned growth pattern.

Function: The centre lacks a distinguishable function albeit the presence of commercial developments in the form of *dukawallas*, informal businesses (*juakali* and *vibandas*) row houses and a few residential apartments.

Figure 7-2: Cadastral Layout of Rurii



Figure 7-3: Cadastral Layout of Kariamuu



Streetscape: The roads within the centre are narrow and have poor surface conditions which have a negative influence on walkability within the centre and lack the necessary NMT infrastructure including a public transport terminus making pedestrian movement in the area a challenge. Encroachment on road reserves is predominant as trading activities are spilled over through informal businesses and vehicular parking. Kariamu lacks proper drainage systems, evidenced by sewer flowing on the roads and solid-waste filled open drainages.

Roads: Kariamu is well served by roads with one major road (Ol'Kalou-Rironi Road) serving as a public transport route and two secondary roads (Kariamu-Kaka Road and the northern road from Kariamu to Gichungo). There also exists an elaborate internal network of roads serving the developments.

Urban Form: Buildings are generally of one storey. The predominant building typologies in Kariamu are one-storied commercial developments, row-housing units, and mixed-use developments of up to five storeys. The architectural standards in terms of building materials and facades vary within Kariamu, which makes the aesthetics of the area unappealing. Due to its unplanned growth

pattern, there is minimal enforcement and compliance to building lines, standards, and setbacks. Kariamu also lacks designated open spaces.

In summary, the major challenges facing the centre include;

- Lack of a proper modern market
- Inadequate physical infrastructure; street-lighting and floodlights, storm water drainage as the area is prone to flooding.
- Inadequate social facilities; social hall, educational facilities, cemetery, recreational facility(playground)
- High level of unemployment especially among the youths leading to drug abuse and crime.
- Lack of livestock holding ground in the market centre
- Inadequate personnel, equipment and services at Gichungo dispensary.
- Lack of bus park and inadequate boda-boda sheds
- Expensive monthly standing charges for water (Ksh. 500 per month)
- Inadequate power connection.
- The police station is in poor state
- Water pollution in Malewa river as households and flower farms channel effluent into the river.

Plate 7-5: Building Typologies in Kariamu



Source: Urban Lines Consultants Ltd, 2022

Plate 7-6: Road surfaces and encroachments



The centre is among those selected for action area planning and the proposed interventions are elaborated in section 17.4.3

7.5.4: Captain Centre:

Captain Centre is located at the junction of Gilgil-Nyahururu road (C77) and D389 where the pattern of development is clustered around the market area. The commercial structures are placed in a manner depicting contestation to be as close as possible along the roads. Notably, most of the structures are of *dukawalla* typology with a commercial frontage and residential rear as observed in most of the commercial centres across the Municipality.

Function: The centre serves as a commercial and trading centre, characterized by *dukawallas* with an open-air market and business activities ranging from retail services, drug stores, pharmacies and private health clinics.

Paths: The paths are narrow and of poor surface conditions which is further exacerbated by over-spilling of trading activities onto the road reserves and some even above the drainage channels. There is however, an indication of earlier planning attempts evidenced by the grid pattern of road network.

Figure 7-4: Cadastral Layout of Captain



Plate 7-7: Typical backstreet in Captain Center



Plate 7-8: Encroachment on the road reserve



Plate 7-9: Shacks and dilapidated structures



Source; Field Survey, Urban Lines Consultants Ltd, 2022=

Urban Form: There is minimal observance of building lines by a majority of developments in the centre which range from 1 to 2 storeys. The facades of majority of the structures are dilapidated while the facades and retail storefronts fronting the main roads are dull and do not attract economic vitality. In addition, the design of the buildings that line the edges of major infrastructural developments such as Gilgil-Nyahururu Road and Captain-Ndemi Road encourages frontages and activity towards the highway and away from the established market which would warrant construction of a local road to serve those developments. The case for good urban planning and design should therefore be made to reinforce the sense of place and ensure buildings front the activity centres.

The architectural motif observed in the buildings lacks pedestrian detailing, transparency, appropriate signage and is of poor material and finishing in contravention of the standards put forward in the existing Building Code⁶.

In addition, and from a broader perspective, there is an adjacent parcel to the south of Captain Centre for a proposed university. Upon completion, the establishment of the proposed university will have a significant impact on the urban form of Captain. A few potential impacts would arise from the following:

- Population increase
- Increased housing demand
- Economic development
- Increased traffic
- New infrastructural development

In summary, the centre faces the following challenges that affect their functionality.

- Lack of streetlights imposing insecurity in the area

- Inadequate secondary schools
- Poorly maintained ablution block
- Approval processes taking long

The centre is among those selected for action area planning and the proposed interventions are elaborated in section 17.4.2

7.5.5: Tumaini Centre:

Tumaini Centre is at the western border of the municipality whose development pattern is dictated by the Ol'Kalou-Nakuru Road (C69) and Tumaini-Gilgil Road. The overall settlement pattern is linear following these roads and with more concentration of developments and activities observed at the nodal junction of these two roads where the concentration of commercial activities intensifies.

Paths and Streetscape: The road surface conditions are good with wide drainage channels and adequate street lighting especially along Gilgil-Tumaini Road.

Function: The centre serves as a commercial centre with residential developments punctuating the agricultural farmlands.

Urban Form: The building typology is characterized by row housing and *dukawallas* with business activities ranging from retail services; drug stores and pharmacies; private health clinics; garages, auto repair, *Jua Kali* and filling pumping stations.

The centre is among those selected for action area planning and the proposed interventions are elaborated in section 17.4.4.

⁶ Republic of Kenya, 1968. The Building Code

Plate 7-10: Tumaini Centre, photo taken along Olkalou – Dundori road



Source; Field Survey, Urban Lines Consultants Ltd, 2022

7.6: Urban Functions and Assets

The urban profile checklist was subjected to the major urban centres in the municipality

and the results are as tabulated below. The shaded boxes indicate availability/presence of the facility or services while unshaded indicates lack of the same.

AVAILABLE SERVICES & FACILITIES	COMMERCIAL NODES					
	OL'KALOU TOWN	TUMAINI MARKET CENTRE	CAPTAIN MARKET CENTRE	RURIE MARKET CENTRE	KARIAMU MARKET CENTRE	NDEMI MARKET CENTRE
Administrative Function						
Commerce and Trade Function						
Tourism Function						
Residential Function						
Education Hub Function						
Build up Approx. Area						
Evidence of Earlier Planning Attempts						
Storey's buildings (+ 3 Floors)						
Public Hospital/Health Centre (5Km radius)						
Private Health Clinics						
Drug Stores and Pharmacies						
Retail Services						
Whole Sellers & Distribution Stores						
Warehouse & Go downs						
Super markets						
Piped Water Supply						
Dump site/Solid waste management area						
Pit latrines						
Sewerage System						
Septic Tanks						
Police Station						
Police Post						
AP Camp						
National Government offices						
County Government offices						
Post Office						
Paved Streets						
Paved Main Road						
Banks						
Banking Agents						

AVAILABLE SERVICES & FACILITIES	COMMERCIAL NODES					
	OL'KALOU TOWN	TUMAINI MARKET CENTRE	CAPTAIN MARKET CENTRE	RURIE MARKET CENTRE	KARIAMU MARKET CENTRE	NDEMI MARKET CENTRE
Mobile Money Transfer (M-pesa, Airtel Money etc.)						
Printing Press						
Cyber Cafés						
Bus terminus						
Petrol Stations						
Filling Pump Stations						
Retail and Fresh Produce Markets						
Market Days						
Hardware Stores						
Cereals Stores						
Universities/ Colleges						
Polytechnics						
Garages, Auto repair and Jua Kali						
Night Clubs						
Public Parks						
Animal Auction/Sale Yard						
Social Hall						
Special Schools						
Dental Clinics						
Stadium/ Public Playing fields						
Taxi Transport						
Boda-boda transport						
Designated Boda-boda Sheds						
Designated Parking Spaces						
Secondary Schools						
Primary & Nursery Schools						
Kindergarten & ECD'S						
Water Kiosks within the centre						
Guest Houses and Hotel Facilities						
Industries/ Factories						
Cemeteries and Crematoria						

AVAILABLE SERVICES & FACILITIES	COMMERCIAL NODES					
	OL'KALOU TOWN	TUMAINI MARKET CENTRE	CAPTAIN MARKET CENTRE	RURIE MARKET CENTRE	KARIAMU MARKET CENTRE	NDEMI MARKET CENTRE
Solid waste management						
Refuse Collection						
Planning and development control						
Street lighting						
Outdoor advertising						
Public transport						
Flood fight						
Sawmill						
Agro vet						
Religious Facility						
Library						
Drainage						
Ambulance services						
Firefighting & disaster management						
Abattoirs						
Airstrip						
Museum/cultural centres						
Theatre						

NB:

#Shaded denotes Availability of Services & Facilities

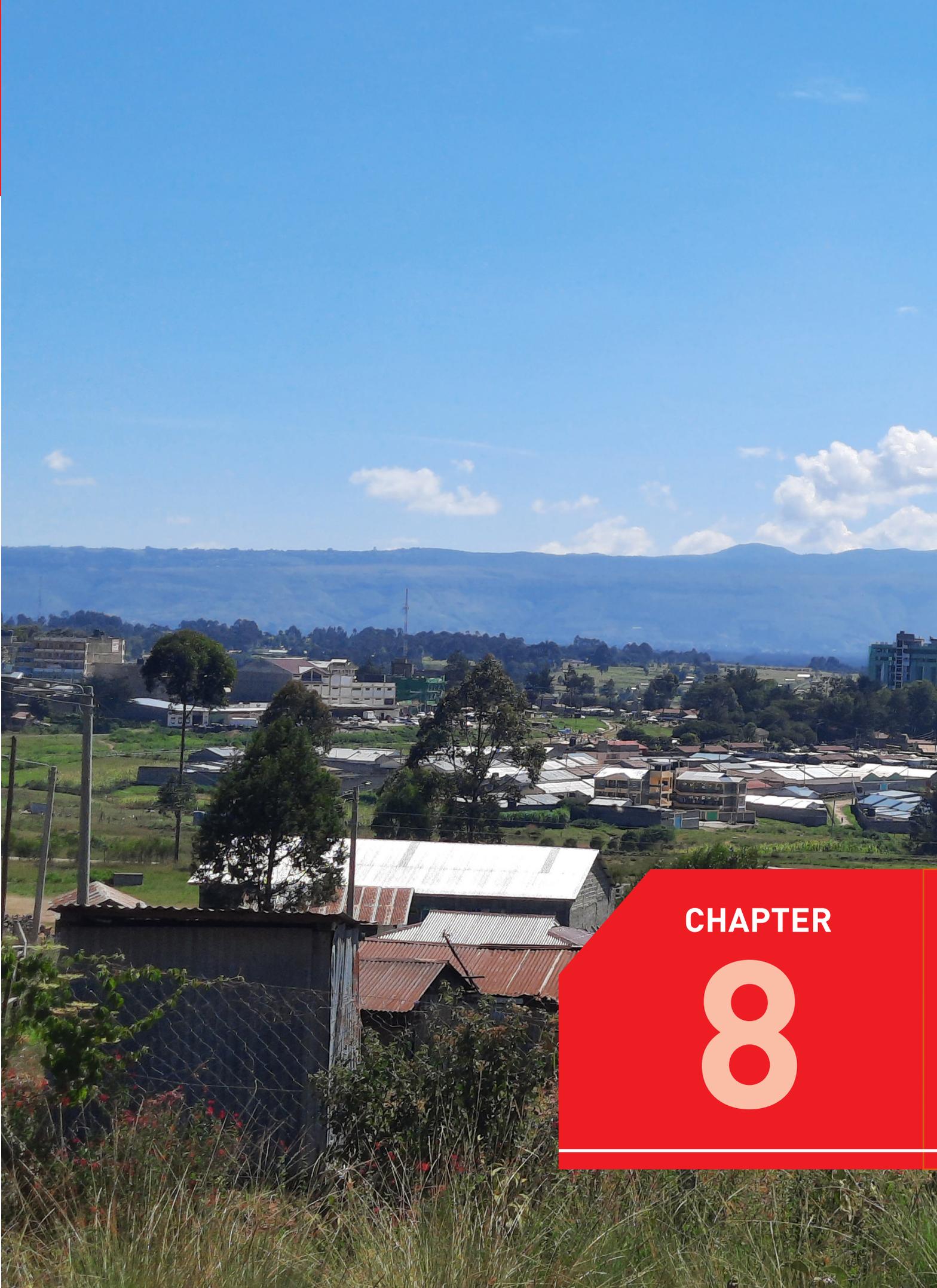
#Un-shaded area denotes lack of services & Facilities

Source: Urban Lines Consultants Ltd, Field survey-2022

7.7: Summary of Emerging Urban Issues

Sub Sector	Planning issues	Opportunities
Urban services and functions	<ul style="list-style-type: none"> • Poor solid waste management and refuse collection • Inadequate parking spaces • Lack of proper integration of public transport with the market centres and activity nodes • Poor market typology and density which affect their vitality 	<ul style="list-style-type: none"> • Existing laws such as UACA and ratified policies such as SDGs on the threshold of urban services. • Existence of a municipal administration with delegated functions
Urban form and morphology	<ul style="list-style-type: none"> • Settlement development tends to occur along the corridor especially in Tumaini, Ol'Kalou and Captain. • Urban sprawl due to lack of an up-to-date plan, cohesive integrated policy, weak coordination between different agencies in charge of land and administration and infrastructure agencies like KeNHA, KURA and KeRRA among others. 	<ul style="list-style-type: none"> • Existence of planning and land laws and regulations • Use of intergovernmental and agencies forum to share and coordinate county programs. • Existence of concepts and best practises such as Transit-Oriented Development (ToD), Smart cities among others to guide development in transport corridors.
Streetscape	<ul style="list-style-type: none"> • Vehicle-oriented (auto-centric) roads and streets • Unexploited walkability potential • Poor building façade treatment and lack of a common architectural motif 	<ul style="list-style-type: none"> • Adoption of transport models like NMT, park and ride • Pedestrian friendly designed roads and streets • Existence of innovative building designs
Open spaces	<ul style="list-style-type: none"> • Underutilized open spaces • Lack of defined urban landscapes and public street furniture 	<ul style="list-style-type: none"> • Integrate open spaces by creative urban design to promote urbanism/culture where people can socialize and recreate. • Availability of land that can provide open spaces in future
Development Control	<ul style="list-style-type: none"> • Minimal observance of building lines • Land use and transport conflicts along transport corridors 	<ul style="list-style-type: none"> • Existence of planning regulation and guidelines • Mainstreaming transportation planning into physical planning





CHAPTER

8



HOUSING AND HUMAN SETTLEMENTS

8.1: Overview

Housing is considered a crucial pillar in realizing Kenya's long-term development goals⁷. The goal to achieving adequate and affordable housing has been so elusive. The Kenyan landscape is characterized by tremendous growth over the last few years, buoyed by the burgeoning population, expanding middle class, rapid urbanization, and heavy investment in infrastructure.

However, despite slow economic growth and the shortage of available land, the rate of urbanization has continued to accelerate nationally and regionally. Furthermore, as only a small percentage of individuals can afford to own a home, the larger percentage rely on rental housing. According to the 2019 population census, 21% of those living in the urban areas in Kenya own their homes, while 78% rent their housing units⁸ (KNBS, 2019).

The low-income households form the bulk majority of the Kenyan population, about 53% by the end of 2020, and the situation is no different in Ol'Kalou Municipality. Despite the annual demand for housing units in Kenya accumulating to excess of a quarter million annually, the government has only been able to supply just about 40,000 units annually which has contributed to the growing housing problem in the country⁹. This has led to the government designating affordable housing as a key government policy geared towards addressing the problem through the Big 4 Agenda- Affordable Housing Pillar.

This chapter therefore discusses in detail the housing situation in the Municipality particularly the housing typologies, condition of the shelters, amenities within the shelter and access to such shelters in terms of affordability, so as to inform housing delivery interventions.

8.2: Patterns and Trends of Human Settlements

The municipality is characterized by a dense CBD/urban core, immediate Sub-urban zone with both planned and ad-hoc sprawling development as well as an immediate rural hinterland where most of the agricultural and quarrying activities are practised. This type of patterns is seen to be replicated across all the commercial nodes within the Municipality.

8.3: Housing Typologies

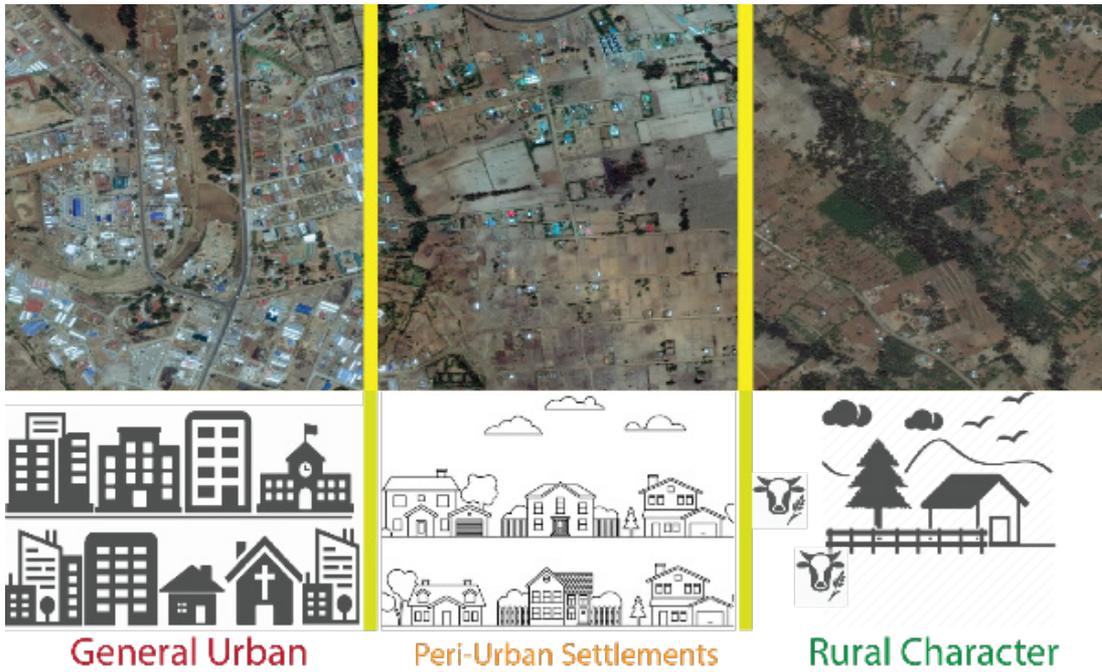
Housing typologies in the municipality vary depending on a number of factors among them location and ownership. Buildings, which account for only 7%, are mostly found within the major centres, such as Ol'Kalou and Kariamu, and are mainly rental. Bungalow and row houses on the other hand take the lions share accounting for 31% and 22% respectively. These are mostly scattered across the municipality with most being occupied by owners. Other typologies include mud houses, corrugated iron sheets and wood houses mainly in the Peri-urban and rural areas of the municipality. Figure 82 illustrates these typologies and their share in the municipality.

⁷ Republic of Kenya, 2007. Kenya Vision 2030.

⁸ Kenya National Bureau of Statistics, 2019. 2019 Kenya Population and Housing Census. Volume IV: Distribution of Population by Socio-Economic Characteristics.

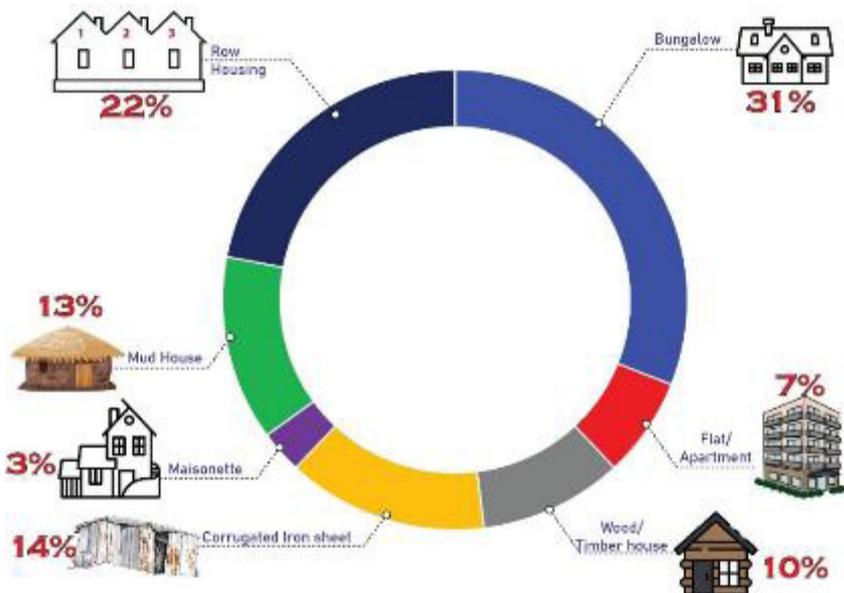
⁹ Kieti, R. M. (2015). Urban housing affordability in Kenya: a case study of the mortgage housing sector in Nairobi. Doctoral dissertation, University of Nairobi.

Figure 8-1: Type of settlement patterns across the municipality



Source: Urban Lines Consultants Ltd, 2022

Figure 8-2: Housing Typologies



Source: Urban Lines Consultants Ltd, 2022

Plate 8-1: Housing Typologies in the municipality



Source: Urban Lines Consultants Ltd, 2022

8.4: Building Materials

According to the findings of the 2019 Kenya Population and Housing Census in Nyandarua central sub-county from which the municipality hails from found that 39.8% have earthen floors, while 59.5% use concrete. For walling, 32.6% use stone while 14.6% use iron sheets.

This was affirmed during the field survey findings. The main building materials include; concrete (57%) for floor, stone (57%) for wall and corrugated iron sheets (99%) for roofing as indicated in the chart below. The findings are higher since the municipality is largely urbanized hence presumption of more purchasing power compared to the whole sub-county and the materials are readily available

in the municipality. The figure below shows the main building materials in the municipality.

8.5: Housing Demand and Supply

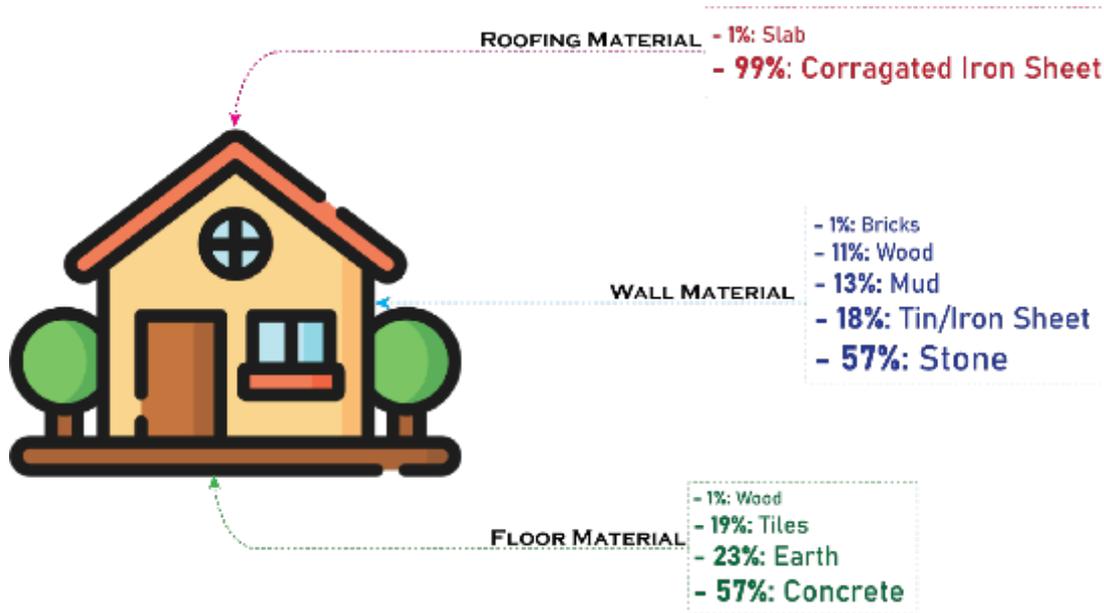
As at 2019, Ol'Kalou municipality had a total of 23,089 households from the then estimated population of 78,502 with an average household size of 3.5 for Nyandarua County¹⁰. Out of these households, only 63.15% own the land they reside in. The rest live in rented spaces¹¹.

The demand for housing in the municipality is influenced by increased population as a result of devolution and immigration. As is the norm in Kenya, private individuals are the main providers of housing due to minimal

¹⁰ 2019 Kenya Housing and Population Census Vol. 1

¹¹ Field Survey – April 2022

Figure 8-3: Building Materials



Source: Field Survey, 2022

Figure 8-4: Housing Dynamics in the Municipality



Source: 2019 KPHC

investment in the sector by government agencies.

8.6: Housing Stock and Projections

The population projections undertaken reveal that Ol'Kalou Municipality is a fast-growing urban area. With a mean household size of 3.5,

the projected housing stock would be a total of approximately 33,148. This translates to about 7,000 additional households by the end of the plan period. These expected dynamics catalysed by the expected population rise would significantly impact on the spatial framework of the Municipality.

Table 8-1: Current Supply and Projected Demand for Housing

Item	2019	2032
Projected population	78,502	112,703
No. of households	23,089	33,148

In line with this reality, the County Government has set aside 5.416 hectare of land towards affordable housing in which it is seeking partnerships with National Housing Corporation and National Government to develop. Also, it has invited mortgage and financial institutions to facilitate realization of affordable housing especially in the municipality.

However, the County should also embark on carrying out regular Housing Surveys to assess the housing needs according to the social and low-income housing cadres. This will entail an assessment of socio-economic household characteristics that relate to effective demand such as household income, disposable income, interest rates on mortgages, tenure security status, etc. The information will help determine the demand for housing of various types, prices, rents and affordability. The data will feed into the economic model for the Affordable Housing Programme and assist in decision-making. This strategy will involve expanding the housing stock within the Municipality, by improving the quality of existing housing as well as providing options for both rental and home ownership.

8.7: Informal Settlements

The general settlement of Ol'Kalou is characterized by a strong node of activity. Ol'Kalou town which is located west of Aberdare ranges, is connected by road to Gilgil, Nyahururu and Nakuru. Most of the settlements in the Municipality depict informal characteristics such as inadequate basic physical and social infrastructure services. Insecurity of tenure especially in urban towns (Slaughter area, Silanga, Captain, Tumaini), inhibits proper planned development, and utility service provision such as water, sewerage, roads and storm water drainage.

The minor urban growth centres (Tumaini, Rurii and Captain) define the secondary settlement in Ol'Kalou. These mainly have linear growth pattern that capitalized on existing infrastructure especially roads. Most of these centres are expanding laterally forming a high-density residential neighbourhood in the area. The residential settlement in Tumaini, Captain and Rurii observes a grid pattern of development. Note the *dukawallas* serves as residential houses with single rooms built behind the shops. Most of these provide housing to the workers in the nearby large farms, flower/horticulture farms and quarry workers.

The number of major informal settlements identified during the data collection situational analysis were majority built of mud wall and roofed with corrugated iron sheets.

8.8: Key Planning Issues

Sub-sector	Planning issue	Opportunity
Informal settlements	<ul style="list-style-type: none"> • Mushrooming of informal settlements without basic social and physical infrastructural services. • Lack of security of tenure especially within the urban and trading centres • High level of unemployment hence high rate of crime and violence within the settlements. • The structures within the settlements are prone to disasters such as fire outbreaks 	<ul style="list-style-type: none"> • Existence of slum upgrading programmes that can be used to upgrade the settlements
Affordable Housing	<ul style="list-style-type: none"> • Social dynamics such as accessibility and equity, social amenities, security, health and comfort, housing quality • Economic dynamics such as rate of unemployment, housing prices, rental costs, interest rates on mortgages, construction costs, maintenance costs • Environmental dynamics such as energy efficient buildings, proper waste management and disposal systems 	<ul style="list-style-type: none"> • Participatory affordable and sustainable housing delivery programmes • Objective(supply-side) and subjective(demand-side) housing subsidy programs • Public infrastructure such as roads, water supply and treatment, sewerage, public green spaces improvement to bolster access and spur investment in housing.



CHAPTER

09



PHYSICAL INFRASTRUCTURE & UTILITIES

9.1: Overview

This chapter analyses the availability and adequacy of the physical infrastructure in the municipality. It covers infrastructure used in road mobility, the transmission of water, and infrastructure used to handle/manage waste and storm water.

9.2: Transportation

9.2.1: Regional Connectivity

Ol'Kalou municipality is well connected to other major areas by the Gilgil-Nyahururu road and Ol'Kalou – Engineer Road which runs through the planning area. The roads connect with other major roads which links the municipality with counties of Nairobi, Nakuru, Kiambu, Nyeri and Laikipia. Map 9-1 below shows the connectivity of municipality with other regions. This means that the municipality has the potential to grow with these roads being a key driver to economic development.

9.2.2: Inter-connectivity and Intra-connectivity

Within the municipality, there are other lower hierarchy roads which have recently been improved to bitumen standard while others to weather roads. These roads help in serving the people living in the hinterland of the planning area. These roads are listed in table below.

The main mode of transport is via road, with the main means being walking, vehicles, and boda boda. When moving from town to town, travellers prefer to use public 14-seater matatus or private vehicles. For last-mile connectivity in hard-to-reach areas, travellers use paratransit means like boda bodas, bicycles, or walking.

The map below shows the driveability map for the municipality. At an average speed of 50 km/h, it is possible to drive through the municipality in 15 minutes, mainly using the major roads. In contrast, it will take 30 minutes to drive inwards away from the main roads

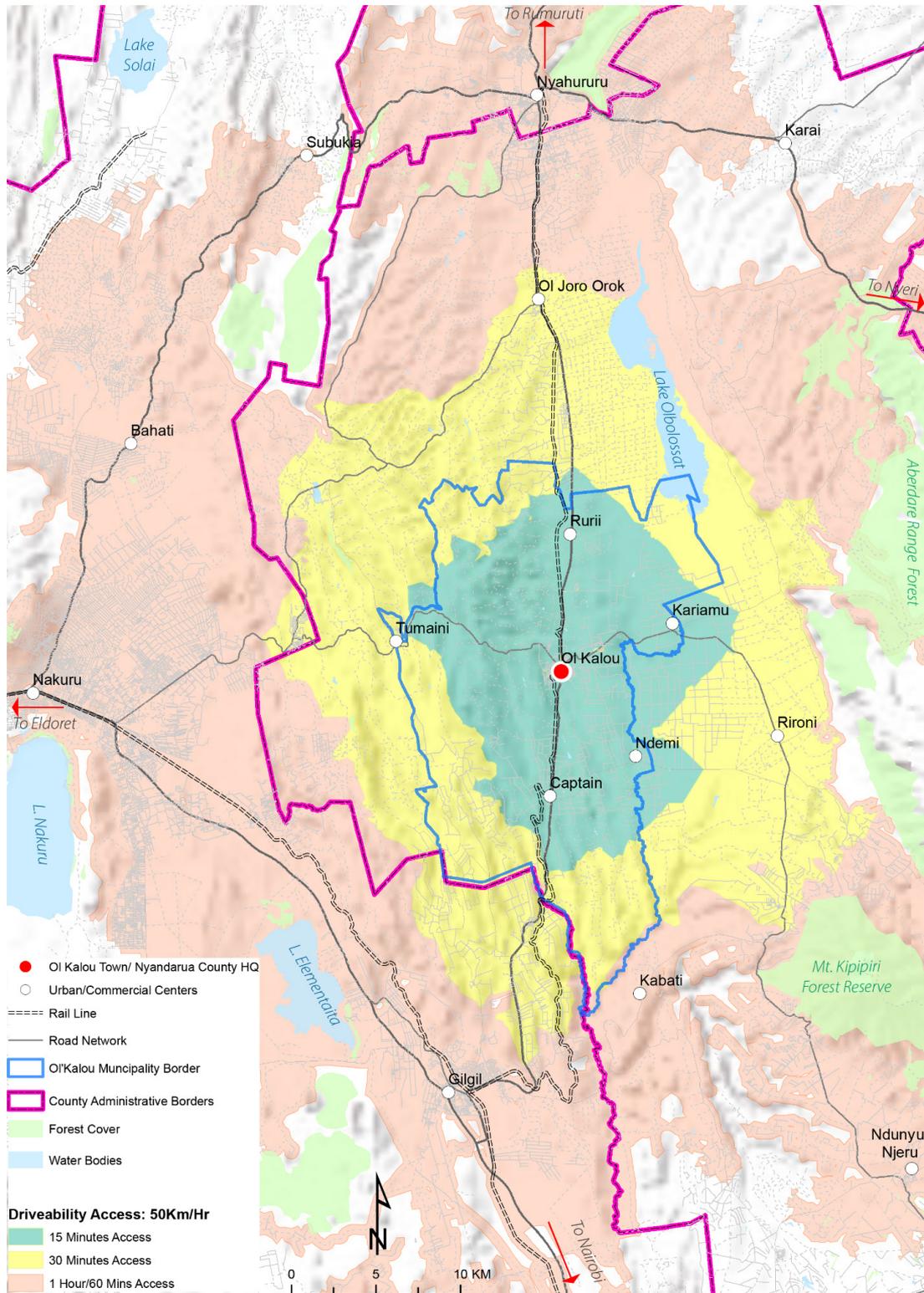
Road Name	Standard
Gilgil – Nyahururu Road	Bitumen
Captain – Ndemi Road	Bitumen
Ol'Kalou – Njambini Road	Bitumen
Ol'Kalou – Nakuru Road	Bitumen
Oleriondo – Mawingu Road	Murram

Plate 9-1: Oleriondo-Mawingu Road



Source: Urban Lines Consultants Ltd, 2022

Map 9-1: Driveability access and connectivity



Source: Urban Lines Consultants Ltd, 2022

such as Rironi, Mawingu, Kabati, and parts of Tumaini due to the poor state of the feeder roads.

9.2.3: Modal Split

Mobility is a vital function within an area as it facilitates the movement of people and goods within a reasonable amount of time and with ease. As per the field survey, walking (52.9%) and the use of boda boda (36.8%) make up the most common modes of transport, mainly because of their flexibility and last-mile connectivity within hard-to-reach areas. Other modes used in the municipality include PSV matatus and private vehicles for trips to other centres and out-of-town trips. Notably, there is low use of bicycles, 4%, which is most likely explained by the undulating terrain in some areas and the rugged road surfaces of the feeder and internal roads. The railway line is still not active, but there were ongoing repairs

and renovations to the line at the time of the study. The figure below shows the modal split within the municipality.

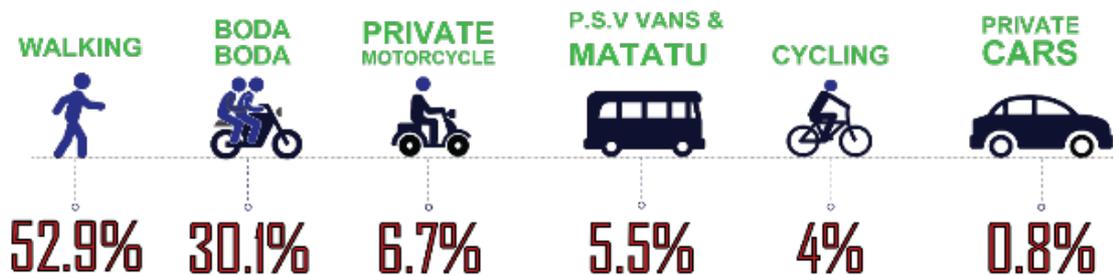
9.2.4: Railway Transport

The meter-gauge railway also runs through the municipality, and although it is not functional currently, plans to rehabilitate it for commercial use are ongoing, as seen during the field survey. This will help in opening up the municipality and its environs more since the cost of transportation of people's farm produce to other areas like Nairobi will be reduced significantly.

9.2.5: Non-Motorised Transport (NMT)

NMT facilities within the planning area are inadequate as shown in the image below. the municipality has put effort and there is on-going works of providing more sidewalks within the town.

Figure 9-2: Modal Split within Olkalou Municipality



Source: Field Survey, 2022

Plate 9-3: On-going rehabilitation works on the MGR



Source: Field Survey, Urban Lines Consultants Ltd, 2022

Plate 9-4: NMT facilities along some roads within the town



Source: Field Survey, Urban Lines Consultants Ltd, 2022

Plate 9-5: Improved road without NMT provision



Source: Field Survey, 2022

The town also lacks defined crossing points which puts pedestrians at risk when crossing some of the busy roads.

9.2.6. Transportation Facilities

Public Transport

There is one main bus terminus in Ol'Kalou town. This is the main origin or destination for

journeys along the major routes. Due to lack of termini in other centres, public vehicles load and offload passengers on the road shoulders as shown in the plate 9-6 below.

Information obtained from the Matatu Saccos coordinator reveal that there are 5 main Matatu Saccos namely; TKN, Tulaga, Satima, Kiwanga and Mataara. The matatus belonging to these Saccos have spaces designated for

Plate 9-6: Ol'Kalou bus terminus



Source: Field Survey, 2022

Plate 9-7: Matatus parking and picking passengers along the road in Tumaini



Source: Field Survey, 2022

each Sacco. At any given moment, there are approximately 60 Matatus at the stage.

Lorry Transport

The Trucks predominantly provide essential services of transporting construction materials such as sand, metals, iron sheets, stones among others to the town. There are approximately 100 vehicles that offer transportation service the service of transport. By transporting these materials, the truck drivers not only earn a living but also generate income for the municipality through payment of cess. The payment of cess per trip varies by type of vehicle as follows;

Despite offering a critical service, the over 100 trucks do not have a designated parking

space. The trucks are parked along the road shoulders specifically along Ol'Kalou-Nakuru Road, Ol'Kalou-Gilgil Road and Ol'Kalou-Nyahururu Road..

Boda-boda

Boda Boda riders provide transport services mostly within the municipality although they can move beyond the municipality. The number have increased but without a designated picking and dropping points. The boda boda riders park haphazardly; along the streets, pavements, next to the shops and inside the terminus. This brings disorder within the town which ends up risking the lives of other road users and those who work in the municipality. The plan needs to designate parking and picking spaces for the boda boda

Table 9-1: Cess Payments on Transport of Building Material

Vehicle Type	Amount of cess paid per trip
Lorry – 2-3 axles	Ksh. 600-1,200
Canter – 2 axles	Ksh. 450
Pickup	Ksh. 300

Source: Field Survey, Urban Lines Consultants Ltd, 2022

riders. In addition, mandatory and enforced training for the riders would curb the disorder caused by the boda boda riders.

9.3: Water

The municipality falls within the Central Rift Valley Water Works Development Agency (CRVWDA), with OLWASCO being the major water supplier within the municipality with a coverage of approximately 35 km. The company has two major water sources, which are rivers with an intake of 1,700m³/day and boreholes with an approximate extraction of 600-700m³/day. These sources provide almost half of the existing water demand which is 3,500m³/day. The current total water demand is approximately 8,500m³/day. The company has connected 2,949 households, 70 institutions, and 381 commercial water outlets.

As such, there are still a sizable sample of households (18,903) that lack piped water connection who depend on other water sources. Some of the residents are forced to travel long distances (even more than a kilometre) to access water. To cushion this, the county in collaboration with the Ministry of Water and Sanitation & Irrigation has embarked on a programme of drilling boreholes and increasing storage facilities in different parts within the municipality like Rurii with the support of agencies like Water Sector Trust Fund (WSTF).

With an average urban household size of 4.0 each urban household is estimated to consume an average of 320 litres per day¹². Therefore, for a municipality with an estimated population of 112,703, the projected future demand translates to 32,311.04m³ per day. Table 9-2 below shows the average consumption rates within urban areas.



Table 9-2: Water Demand Consumption Rates (Litres/per person/per day)

Consumer	Urban Population		
	High Class Housing	Medium Class Housing	Low Class Housing
People with individual connections	250	150	75
People without connections	-	-	20

Source: MWI Design Manual for Water Supply in Kenya, 2005

¹² MWI Design Manual for Water Supply in Kenya, 2005

Plate 9-8: Evidence of Water Scarcity in Ol'Kalou Municipality (Mawingu, Ol'Kalou town)



Source: Urban Lines Consultants Ltd, 2022

9.4: Solid Waste Management

Ol'Kalou municipality being largely rural, 71% of the respondents' resort to burning to manage solid waste at home. Another 24% dump within the neighbourhood. Only 21% of the respondents rely on waste collection services by the county or private collectors mainly within the urban centres. The chart below shows the distribution in terms of waste disposals means.

According to the CIDP 2021, the solid waste management function in the Ol'Kalou Town and the market centre is managed by the County Public Health Department. This includes collection and street sweeping. In addition, there are seven (7) private small-scale collection firms who are licensed to collect garbage.

The municipality generates about 450 tonnes of waste per month. According to county records approximately 80% of the town is covered by waste collection services though the evidence during data collection shows the residential areas and the peri urban areas are not well served.

The collected waste is disposed at the temporary open dumping site at Mahinga in town. Due to poor management, the site poses environmental risks to the residents in the area and also the environment. Only a small percentage of biodegradable waste generated is recycled.

To enhance waste management services, the municipality recently purchased 4 waste receptacles which were distributed to the market areas and plans are in place purchase suitable land and relocate the dumping site.

However, for effective solid waste management, the municipality needs an integrated solid waste management system which promote waste reduction, recycling and reuses to reduce the amount of waste collected whilst protecting the environment and promoting resource recovery.

9.5: Liquid Waste Management

Despite Ol'Kalou town having a sewer line, the connections to it are still low with only 2,000 (approx.) households connected to the 17km sewer network. From the field survey, only 3% of the respondents were connected to the sewer line in the entire municipality and the 3% were only in the CBD and its environs.

The rest rely on pit latrines and septic tanks. OLWASCO is currently carrying out a project of constructing a sewer plant which will have a capacity of 3,300m³/day. The other challenge that affects the liquid waste management is unreliable water supply.

9.6: Storm Water Drainage

Proper storm water drainage channels are concentrated mainly along the main roads. During the survey, there were ongoing works on the storm water drainage along Gilgil-Nyahururu road.

Beyond the main roads, proper storm water drainage channels are almost non-existent. In many residential areas where the channels are not defined, storm water is forced to create natural channels during heavy rains. These become gullies contributing to soil erosion overtime. This is evident in Kariamu, Rurii among others.

Plate 9-9: Waste Management Status in the municipality



Source: Urban Lines Consultants Ltd, 2022

Plate 9-10: Liquid Waste Disposal



Plastics, grey water discharged on the open drains at rear of residential buildings at Huruma Estate, Ol'Kalou



Outlet discharge of grey water to open storm water drains from the residential properties

Source: Urban Lines Consultants Ltd, 2022

Plate 9-11: Status of Storm Water Drainage



Captain



Rurii



Kariamu



Tumaini

Source: Urban Lines Consultants Ltd, 2022

Plate 9-12: On-going construction of storm water drainage along Ol’Kalou – Nyandarua Road



Source: Urban Lines Consultants Ltd, 2022

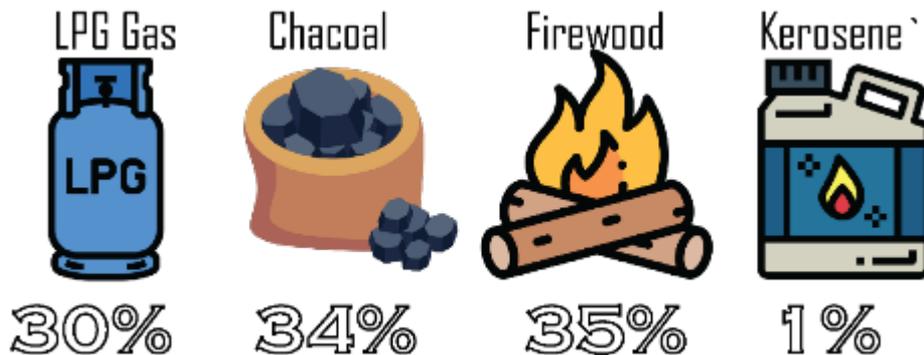
Where provided for, the facilities are not well managed. In Captain and Ol’Kalou town, the storm water channels are clogged with litter leading to blockages during heavy rains.

9.7: Energy

According to the field survey, from a sample of 464 households, the source of energy for cooking within the planning area is firewood accounting for (35%), charcoal (34%) and LPG (30%). A small percentage of the residents (1%) use kerosene for the same purpose. The planning area largely characterised by rural traits, energy from biomass mainly wood fuel is the most dominant as shown in the figure below represented by firewood and charcoal. A large sample size of the residents (77%) uses electricity for lighting. This can be attributed

to implementation of Kenyan government last mile connection project in the past 5-8 years. The municipality has benefited greatly from the project with 77% of respondents having access to electricity. A comparatively spatial analysis as shown in Map 9-2, indicate 75.75% of structures within the municipality are in a range of less than 500m from electricity power lines while 31.18% are within a distance of 100m. The remaining 23% of households are not connected to electricity. The aforementioned statistics do not have a significant difference from what was established through spatial analysis which identified that 24.25% of the structures were more than 500m from the power lines. Additionally, from the household survey, 79% and 21% rely on solar and paraffin respectively for lighting.

Figure 9-1: Source of energy for cooking



Source: Field Survey 2022

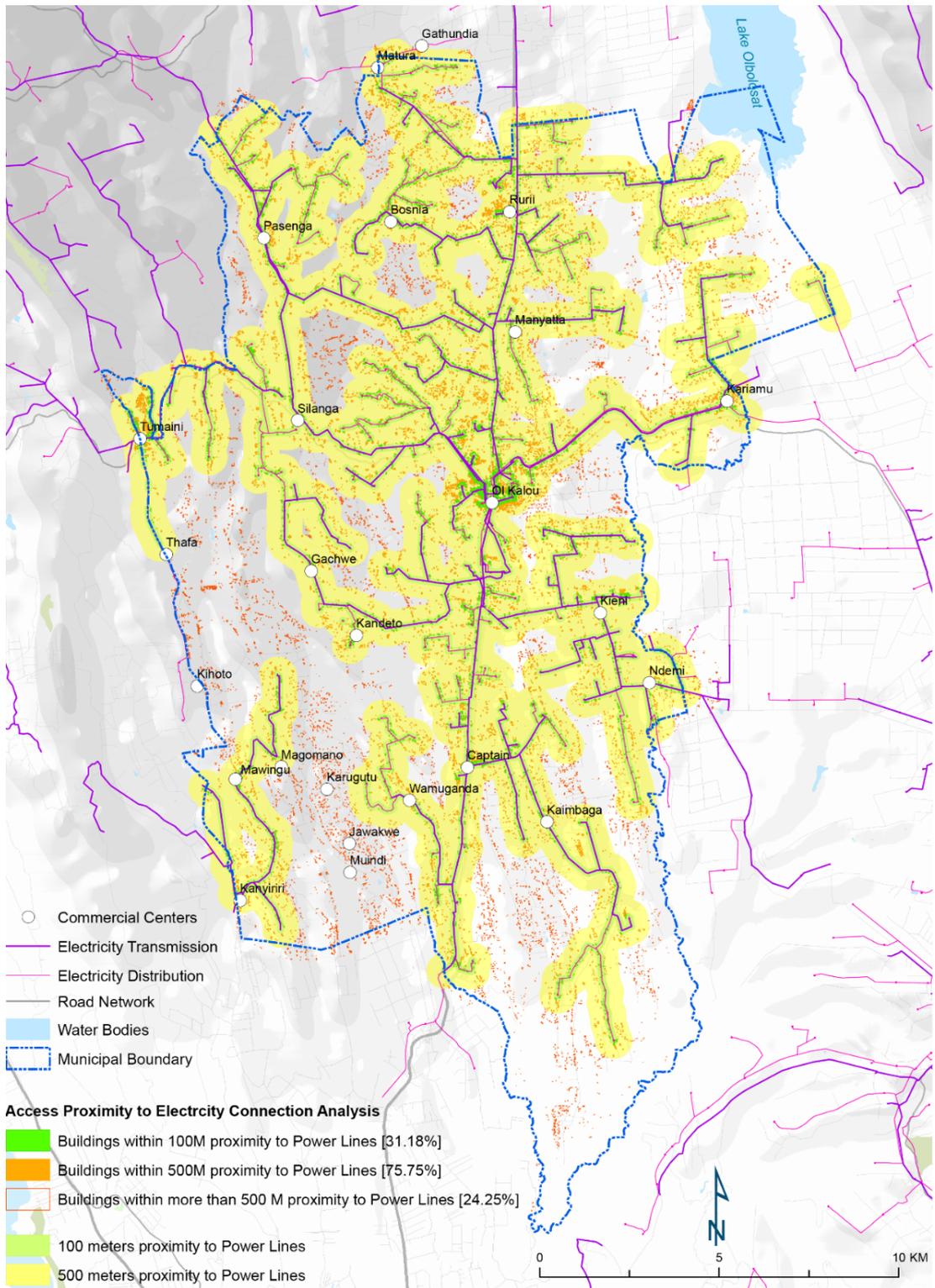
9.8: Information, Communication and Technology

Ol'Kalou Municipality is well served by ICT infrastructures such as mobile phone service providers including, Safaricom, Airtel and Telkom. This has increased access to services like mobile money transfer, e-commerce, e-banking and internet services. This has created business and employment opportunities in cybercafés, Mpesa shops and other related services. Other ICT infrastructure in the Municipality include;

Postal service: Kenya Postal Service has a functioning Post Office in Ol'Kalou Town. However, the facility is facing stiff competition from other means of communication such as mobile phones, internet, and courier services. The private courier services include G4S, Wells Fargo, Nuclear Sacco and 4NTE transport services.

There is a *Huduma Centre* located next to county headquarters that provide government services to the residents. In Ol'Kalou Town, fibre optic cable network is available leading to improved business activities, communication and information sharing.

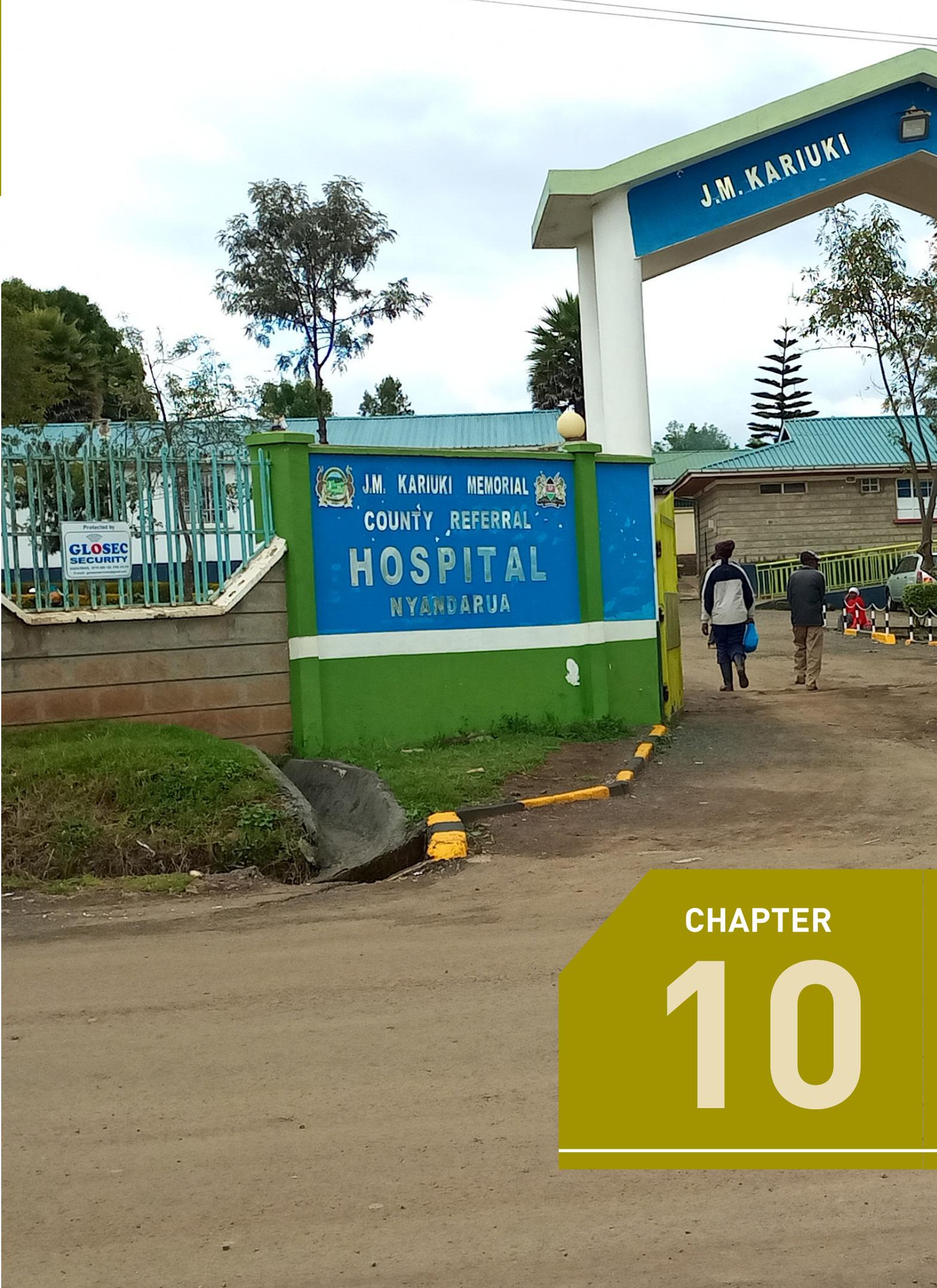
Map 9-2: Electricity distribution and access



Source: Urban Lines Consultants Ltd, 2022

9.9: Key Planning Issues

Sector	Planning Issues	Opportunities
Transport	<ul style="list-style-type: none"> • Inadequate NMT facilities along major streets • Lack of a designated lorry park • Inadequate bus termini in the town and market centres • Inadequate parking spaces leading to on-street parking 	<ul style="list-style-type: none"> • Scaling up and replication of the ongoing urban programmes such as KUSP to cover the entire urban areas • Existence of project financing through Public Private Partnership (PPP) options
Water	<ul style="list-style-type: none"> • Inadequate water production and coverage for domestic use and agricultural activities • Water shortage during dry seasons. • High water tariffs and vendor cost • Lack of zonal storage tanks that are well located • Vandalized piping network 	<ul style="list-style-type: none"> • Tap into national government and donor programmes for funding • Existence of water harvesting and conservation technologies. • Adopt best practices on community-based water supply and management such as decentralized water management systems
Solid waste management	<ul style="list-style-type: none"> • Waste dumping in open spaces and road reserves due to behaviour and lack of designated collection sites at the local level • Lack of modern solid waste disposal sites 	<ul style="list-style-type: none"> • Adoption of 3Rs; (Reduce, Reuse and Recycle) • Adoption of best practices on waste to energy, wealth creation, fertilizer among other uses
Liquid Waste management	<ul style="list-style-type: none"> • Low connections to the sewer line within the planning area • Aged pipe network 	<ul style="list-style-type: none"> • Existing sewer in the area. Therefore, the need to upscale connections • Favourable topography to allow natural flow of sewer line • Increased support and good will by the Central Rift Valley Water Works Development Agency
Storm Water Drainage	<ul style="list-style-type: none"> • Most roads lack storm water drainages • Lack of maintenance leading to logging 	<ul style="list-style-type: none"> • Most roads in the municipality have enough reserve to allow development of these channels.
Energy	<ul style="list-style-type: none"> • Almost 23% of households are not connected to electricity • High cost of energy (LPG gas, fuel) 	



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CHAPTER

10



SOCIAL INFRASTRUCTURE

10.1: Overview

This chapter discusses not only the social infrastructure in the Ol'Kalou Municipality, i.e., education, health, and other social facilities but also assesses their adequacy current and future demand vis a viz projected demand.

10.2 Education Facilities

10.2.1: Current Provision

Access to affordable, accessible, and high-quality education can play a significant role in the development of children and positively influence school-readiness, future educational attainment, economic participation, and health. Universal, high-quality education and care not only benefit the whole population but can also particularly benefit children from the most disadvantaged backgrounds.

Ol'Kalou Municipality is served with all categories of educational facilities from Early Childhood Development Education (ECDE) facilities to tertiary institutions. The table below shows different level of education in the municipality.

There are 46 ECDEs in Ol'Kalou Municipality. The ECDEs are fairly distributed across the municipality. Most ECDEs are hosted in primary schools, however, there are also standalone facilities. There are 49 public primary schools including 1 special school, Ol'Kalou School for the Disabled Primary.

In addition, there are 20 number of secondary schools in Ol'Kalou municipality but are not evenly distributed.

There is only one tertiary institution in Ol'Kalou municipality; Kenya Medical Training College (KMTTC). There are three polytechnics located in Ol'Kalou, Rurii and Kahoro. By extension, Nyandarua Technical and Vocational College which was recently elevated to a National Polytechnic is only 18km from the boundary of the planning area also serves the municipality. Nyandarua University College has also been proposed and land set aside at Captain Market centre.

10.2.2: Capacity of Existing Learning institutions

The table below shows the pupil-teacher ratio for various schools within the planning area. According to the Ministry of Education in Kenya, the recommended pupil-teacher ratio stands at 50:1 for public primary schools. From the table below, most schools are within the recommended ratios. It is notable that the enrolment rates in most of the schools is low due to preference for private schools and the sparse populations within some of the settlements where these schools are located. The table below shows the existing capacity in the primary schools as at 2021 within the municipality.

Table 10-1: Number of Educational Institutions

	Pre-School (ECDE)	Primary	Secondary	Youth Polytechnics	Tertiary Colleges	Adult Education	Universities
Number of Facilities	46	49	20	2	3	0	0

Source: Urban Lines Consultants Ltd, 2022

Table 10-2: Capacity for existing ECD schools in O'Kalou Municipality

	Name	Location		No. of Pupils	No. of teachers	Teacher Pupil Ratio	Parent School	Ownership	Land Size (Acres)	
		Ward	Village							
1.	Mumbi	Kaimbaga	Mathathi	62	3	21	Attached	Public	22	
2.	Mihuti		Mihuti	31	2	16	Attached	Public	28.66	
3.	Kieni		Kieni	53	2	27	Attached	Public	19.7	
4.	Kiganjo		Kiganjo	54	2	27	Attached	Public	13	
5.	Bahati		Bahati	33	2	17	Attached	Public		
6.	Mahua-Ini		Rumathi	28	2	14	Standalone	Public	0.75	
7.	Kaimbaga		Kaimbaga	36	1	36	Attached	Public	1	
8.	Gichungo		Gichungo	82	2	41	Attached	Public	22	
9.	Simba			113	4	28	Attached	Public	1	
10.	Captain		Captain	64	1	64	Attached	Public	8	
11.	JM Kariuki		Gichungo	86	2	43	Attached	Public	2	
12.	Huruma		Huruma	150	3	50	Attached	Public	1	
13.	Gatarwa	Karau	Gatawa	56	2	28	Attached	Public	2.47	
14.	Highland		Minyore	35	2	18	Attached	Public	54.3	
15.	Kirimaini		Kirima	39	2	20	Attached	Public	3	
16.	Gachwe		Munyeki	60	2	30	Attached	Public	2	
17.	Muiriri		Muiriri	40	2	20	Attached	Public	8.9	
18.	O'Kalou Special		Kware	100	3	33	Attached	Faith Based	4	
19.	Muiriri		Muiriri	44	2	22	Attached	Public	8.9	
20.	St. Joseph		Township	131	3	44	Attached	Public	12	
21.	Munyeki		Munyeki	55	2	28	Attached	Public	6.79	
22.	Kanyiriri		Kanyiriri				Attached	Public	39.5	
23.	Migaa		Kanyiriri				Attached	Public	5	
24.	South Wales			70	5	14	Attached	Private	2.5	
25.	Central		Mawingu	42	1	42	Attached	Private	2	
26.	Mundi		Mundi	45	2	23	Attached	Public	26	
27.	Mawingu		Mawingu	49	2	25	Attached	Public	30	
28.	Githunguri		Rurii	Githunguri	70	2	35	Attached	Public	6
29.	Huhoini			Huhoini	54	2	27	Attached	Public	4
30.	Kahonge			Kahonge	55	2	28	Attached	Public	3
31.	Wangatabuthi	Kianduba		43	2	22	Attached	Public	3.43	
32.	Rurii	Rurii		84	4	21	Attached	Public	5	
33.	Silanga	Silanga		48	2	24	Standalone	Public	1	
34.	Keriko	Silanga		45	2	23	Standalone	Public	0.75	
35.	Mukindu	Mukindu		27	1	27	Attached	Public		
36.	Umoja	Umoja		44	2	22	Attached	Public	3	
37.	Malan	Malan		64	2	32	Attached	Public	3	
38.	Hospital	Jua Kali		54	2	27	Attached	Public	8.9	
39.	Mugathika	Mugathika		55	2	28	Attached	Public	12.3	
40.	Kianduba	Bahati		38	2	19	Attached	Public	5	
41.	Passenga	Passenga		150	2	75	Attached	Public	1	
42.	Manyatta	Manyatta		25	1	25	Attached	Public	16.48	
43.	Nyakio Nursery	Manyatta		33	1	33	Standalone	Public		
44.	Gathima	Gathima		55	2	28	Attached	Public	2	
45.	St. Thomas	Gikumbo		28	2	14	Attached	Public	2	
46.	Mugumo	Mugumo	30	1	30	Attached	Public	0.5		

Source: Nyandarua Central Sub-County Director of Education, 2020

Table 10-3: Primary Schools In the Municipality

	Name	Location		No. of Pupils	No. of teachers	Teacher Pupil Ratio	Ownership	Land Size (Acres)
		Ward	Village					
1.	Mumbi	Kaimbaga	Mathathi	320	11	29	Public	22
2.	Mihuti		Mihuti	303	11	28	Public	28.66
3.	Kieni		Kieni	187	8	23	Public	19.7
4.	Kiganjo		Kiganjo	327	11	30	Public	13
5.	Bahati		Bahati	174	9	19	Public	27
6.	Kandutura		Kaimbaga	332	9	37	Public	18
7.	Kamande		Mathathi	329	9	37	Public	23
8.	Rumathi		Rumathi	161	9	18	Public	32
9.	Gichungo		Gichungo	502	16	31	Public	22
10.	Simba		Oleriondo	307	12	26	Public	22
11.	Captain		Captain	428	12	36	Public	8
12.	Kaimbaga		Kaimbaga	116	9	13	Public	
13.	JM Kariuki		Mwireri	302	9	34	Public	2
14.	Huruma		Huruma	631	19	33	Public	1
15.	St. Peter ACK		Township	411	21	20	Private (FBO)	
16.	Gatarwa	Karau	Gatarwa				Public	2.47
17.	Kirimaini		Kirima	170	8	21	Public	3
18.	Gachwe		Munyeki	299	9	33	Public	2
19.	Muiri		Muiri	262	9	29	Public	8.9
20.	Kagaa		Kagaa	257	9	29	Public	42
21.	Ol'Kalou Special		Kware	306	11	28	Faith Based	4
22.	Munyeki		Munyeki	163	9	18	Public	6.79
23.	Mawingo		Mawingu	305	10	31	Public	30
24.	Kianda		Munyeki	212	9	24	Public	7.4
25.	Karugutu		Karugutu	382	8	48	Public	59.05
26.	Ol'Kalou		Township	702	21	33	Public	17
27.	St. Joseph		Township	533	16	33	Public	12
28.	Mundi		Mundi	302	8	38	Public	26
29.	Kanyiriri		Kanyiriri	408	11	37	Public	39.5
30.	Highland		Minyore	115	8	14	Public	54.3
31.	South Wales		Township	110	13	8	Private	2.5
32.	Central Corner		Mawingu	61	6	10	Private	2
33.	Ol'Kalou school for the disabled						Faith Based	

34.	Githunguri	Rurii	Githunguri	336	10	34	Public	6
35.	Huhoini		Huhoini	418	13	32	Public	4
36.	Kahonge		Kahonge	178	9	20	Public	3
37.	Wangatabuthi		Kianduba	266	8	33	Public	3.43
38.	Rurii		Rurii	659	20	33	Public	5
39.	Silanga		Silanga	212	9	24	Public	1
40.	Mukindu		Mukindu	137	9	15	Public	
41.	Umoja		Umoja	243	10	24	Public	3
42.	Malan		Malan	234	8	29	Public	3
43.	Hospital		Jua Kali	265	9	29	Public	8.9
44.	Mugathika		Mugathika	241	9	27	Public	12.3
45.	Kianduba		Bahati	153	8	19	Public	5
46.	Passenga		Passenga	450	13	35	Public	17
47.	Manyatta		Manyatta	150	8	19	Public	16.48
48.	Gathima		Gathima	246	9	27	Public	2
49.	St. Thomas		Gikumbo	228	10	23	Public	2
50.	Mugumo		Mugumo	275	10	28	Public	1.5

Source: Nyandarua Central Sub-County Director of Education, 2020

On the other hand, the Ministry of Education recommends 45:1 student-teacher ratio for public secondary schools. From the table

below, all the schools have achieved this due to low enrolment of students in the schools.

Table 10-4: Capacity for existing Secondary schools in Ol'Kalou Municipality

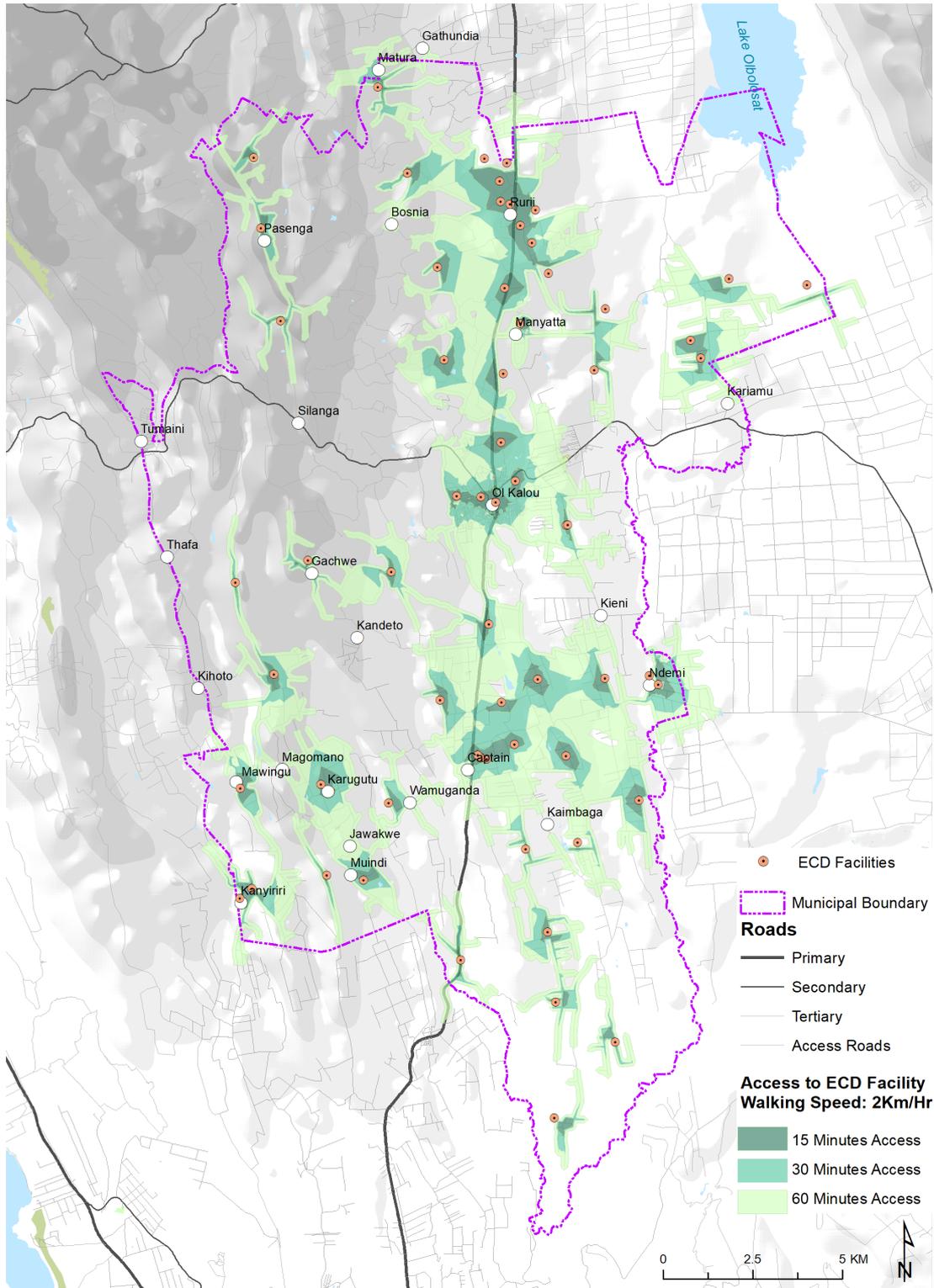
	Name	Location		No. of Pupils	No. of teachers	Teacher Student Ratio	Ownership	Land Size (Acres)	
		Ward	Village						
1.	Mihuti	Kaimbaga	Mihuti	482	17	28	Public	28.65	
2.	Kieni		Kieni	196	16	12	Public	19	
3.	Huruma		Huruma	360	14	26	Public	4	
4.	Simba Senior		Simba	129	6	22	Public	7	
5.	Gichungo		Gichungo	356	11	32	Public	21	
6.	Kaimbaga		Kaimbaga	176	8	22	Public	20	
7.	Kamande		Kamande	156	9	17	Public	14	
8.	Kalou		Ol'Kalou	437	21	21	Public	17	
9.	Salient Sec	Karau	Captain	623	26	24	Public	50	
10.	Kahia		Kagaa	155	6	26	Public	15	
11.	Gatawa		Gatarwa	106	7	15	Public	26	
12.	Mawingu		Mawingu	240	5	48	Public	40	
13.	Munyeki		Munyeki	326	14	23	Public	10	
14.	Millennium		Township	61	6	10	Public	7	
15.	Rurii Sec		Rurii	Rurii	267	17	16	Public	16.5
16.	Mwihoti			Rurii	307	14	22	Public	10
17.	Githunguri	Githunguri		220	9	24	Public	0.75	
18.	Nyandarua High	Rurii		828	34	24	Public	49	
19.	Manyatta	Manyatta		314	12	26	Public	15	
20.	Silanga	Silanga		258	12	22	Public	10	

Source: Nyandarua Central Sub-County Director of Education, 2020

The maps below depict a network analysis of existing educational facilities, such as ECDE, primary schools, secondary schools, and tertiary institutions, using existing roads. With an average walking speed of 2km/hr, areas with good roads can be easily accessed in 15 minutes. Those with partially good roads take 30 minutes to cover the same distance at a

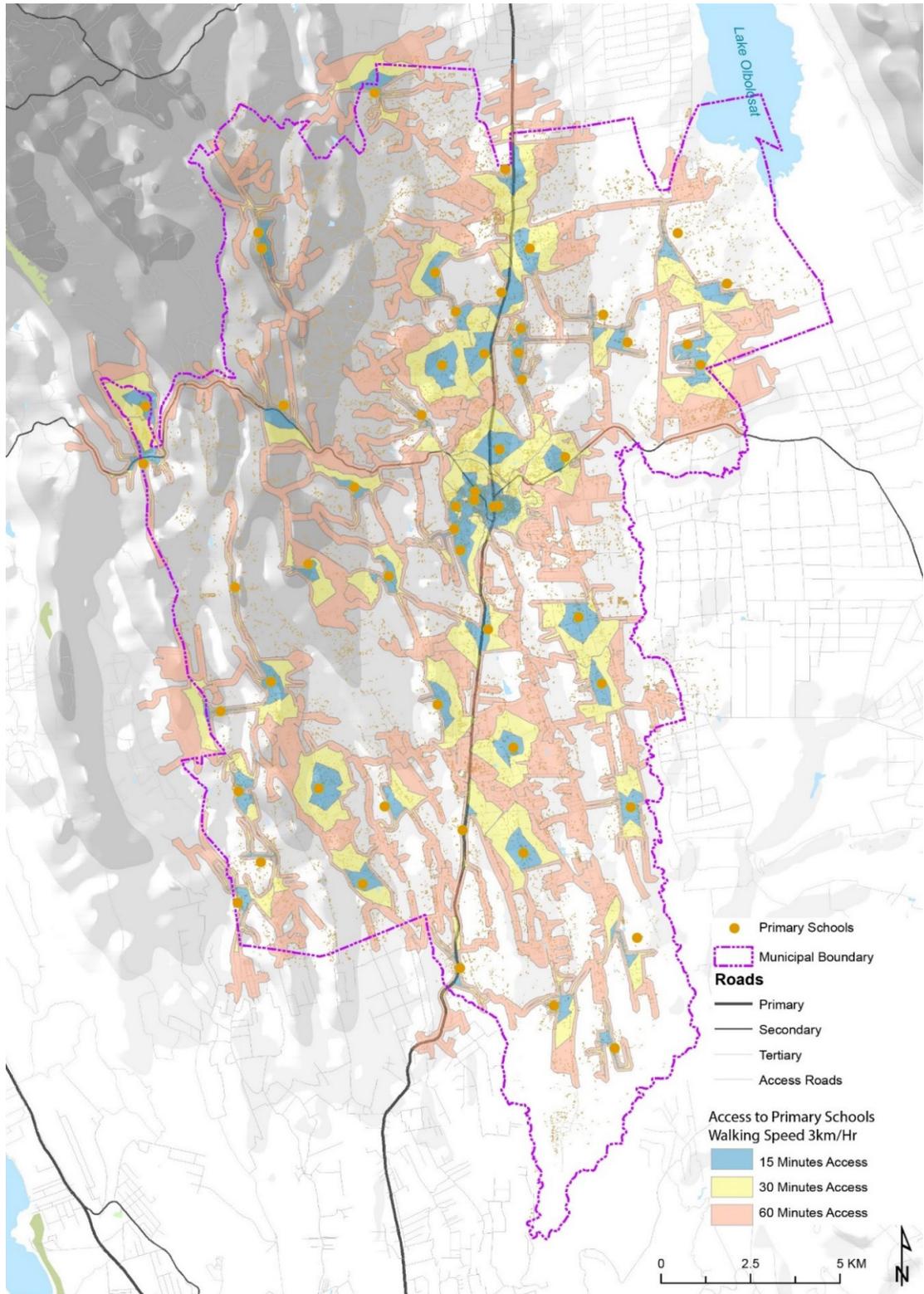
speed of 2 kilometres per hour while areas with poor roads it can take up to an hour to get to school at the same speed and distance. Gaps for ECDE Kieni exist in areas such as Northern Kaimbaga, areas around Lake Ol'bolosat, Silanga, Thafa, and Kandeto.

Map 10-1: Location and Access Analysis to ECD Schools



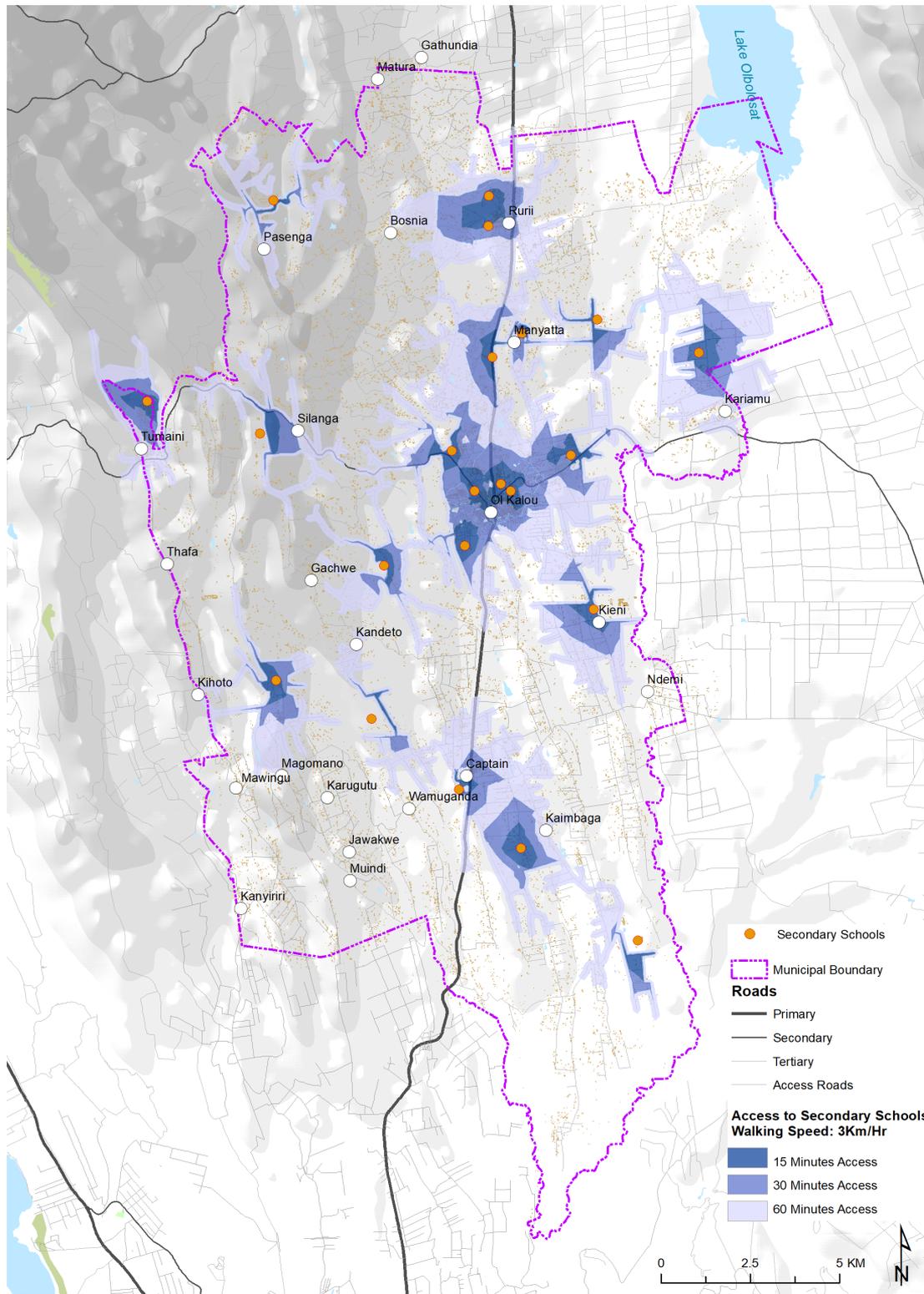
Source: Nyandarua Central Sub-County Director of Education, 2020

Map 10-2: Location and Access Analysis to Primary School



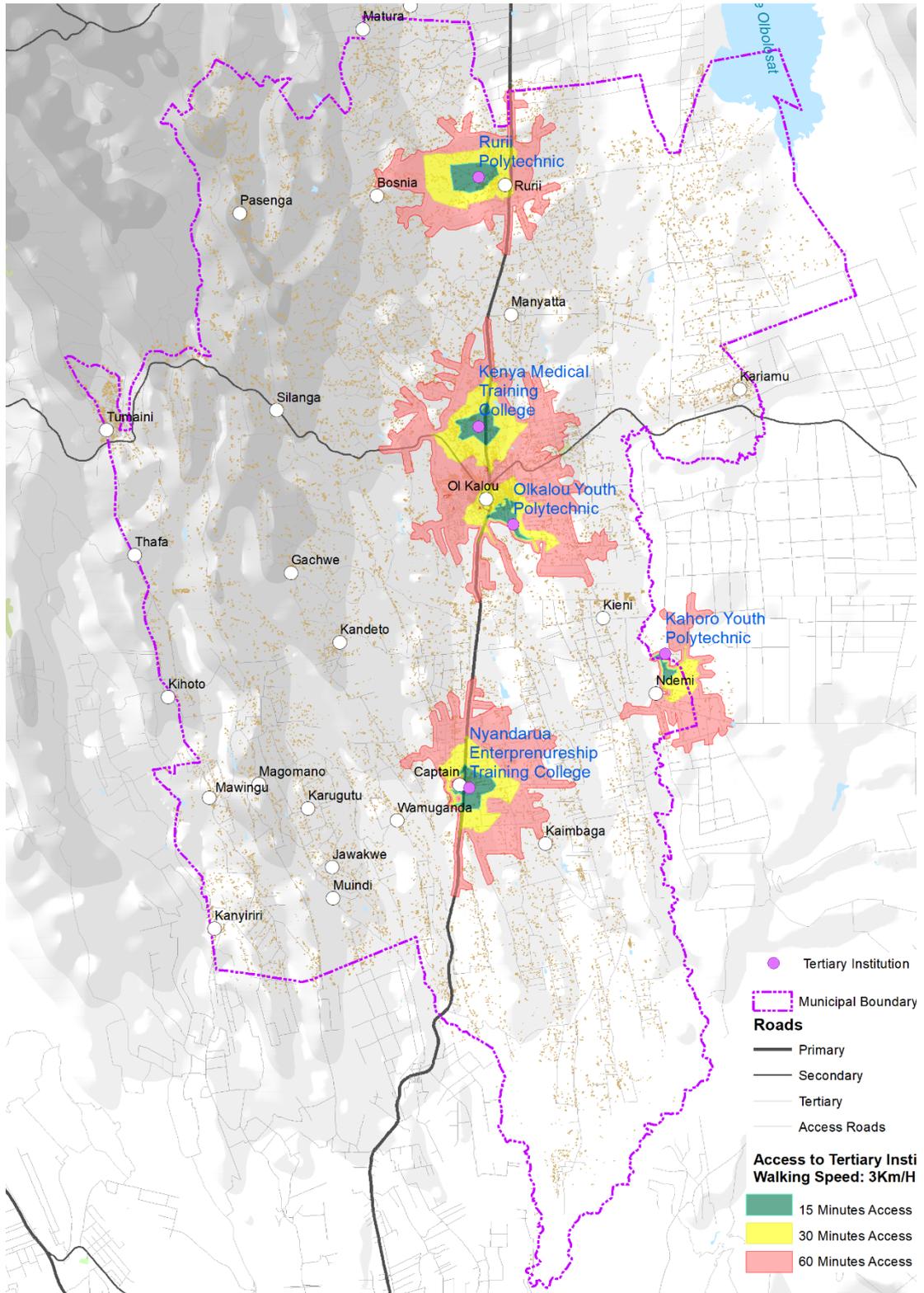
Source: Nyandarua Central Sub-County Director of Education, 2020

Map 10-3: Location and Access Analysis to Secondary schools



Source: Nyandarua Central Sub-County Director of Education, 2020

Map 10-4: Location and Access Analysis to Tertiary Institutions



Source: Nyandarua Central Sub-County Director of Education, 2020

Table 10-5: Projections

Educational Facility	2023		2028		2032	
	78,502		95,970		112,703	
Class	Current provision	Deficit	Projected Demand	Deficit	Projected Demand	Deficit
ECDE	43	20	77	34	94	43
Primary	45	20	80	35	94	45
Secondary	20	9	36	16	42	20
Tertiary	16			16		16

10.2.3: Projected Demand of Education Facilities

As the population is projected to increase, so is the demand for provision of educational services. The Physical Planning Handbook 2007 prescribes the population standards for provision of the education facilities.

ECDEs: The municipality currently has a deficit of 20 ECDEs. The deficit is projected to increase to 43 facilities by the end of the plan period. The handbook recommends an ECDE facility with a maximum capacity of 120 children for a catchment population of 1:1250. With some ECDE facilities in the planning area covering greater distances than the ideal distance of 250–300 m, there is a demonstrated need for more equitable distribution to serve underserved areas while seeking to meet the demand.

Primary Schools: Currently, there are 14,108 students in primary school facilities for 453 teachers, resulting in a student-to-teacher ratio of 31:1 versus the Ministry of Education’s recommended 50:1 ratio. While this may indicate adequate provision, it may also indicate under-enrolment by potential students or pupils. There is a current deficit of 20 facilities based on the

handbook recommendation of a single-stream facility with a capacity of 320 pupils for a catchment population of 1:1200. If no new facilities are built during the plan period, the deficit is expected to total 45 facilities. The recommended walking distance is 500 metres.

Secondary schools: Currently, there are 5,997 students and 294 teachers in 20 secondary schools, translating to a 20:1 student-teacher ratio, which albeit within the Ministry of Education’s recommended 45:1 student-teacher ratio, could point to under-enrolment by the students. The handbook recommends a secondary school with a capacity of 160 students for a catchment population of 2700. Currently, there is a deficit of nine schools. This is projected to increase to 20 facilities by the end of the plan period.

Tertiary: While there is a polytechnic in each ward, there is a need for equitable distribution of these facilities hence the need for more facilities to achieve this. Furthermore, there is a demand and need for the construction of the proposed university at Captain, not only to impart skills but also to trigger and spur the much-anticipated development.

To improve access to the educational institutions, other interventions include construction of more classrooms, offering bus services to the children, improving the road conditions and opening up of some new roads to ease accessibility and providing transport. The table10-5 in previous page shows the projected future demand for educational facilities.

10.3: Health Facilities

Health infrastructure is fundamental to the attainment of a healthy population. A reliable healthcare system is built on the principle of affordability and accessibility. Within the municipality, health services are offered in three tiers namely: community, primary health care facilities i.e., dispensaries and

health centres and hospitals. In total, Ol'Kalou Municipality has 2 Hospitals, 2 Health centre and 14 dispensaries. There are other 4 additional facilities either under construction or proposed. They include; Mashujaa Complex and; Kiganjo, Kagaa and Kieni Dispensaries. Apart from these government health facilities, there are 12 private and faith-based health facilities that also offer health services.

Health being a devolved function, the County Government is in charge of the public facilities. It is mainly involved in provision of land and construction of health facilities, provision of utility services such as water, electricity and waste collection services.

Below is the list of dispensaries, hospitals and health centres in the municipality

Table 10-6: Health facilities and their classification

	Name	Ward	Size (Acres)	Category	No. Doctors	No. Nurses	No. Clinical Officers	No. of Pharmacists	Bed Capacity	Ownership
1.	Captain Disp.	Kaimbaga	2.5	2	0	2	0	0	1	Publ.
2.	Gichungo Disp.		4.9	2	0	1	0	0	1	Publ.
3.	Kaimbaga Disp.		21	2	0	2	1	0	1	Publ.
4.	Bliss Medical									Publ.
5.	Kanjuiiri Disp.	Kanjuiiri Ridge	1.8	2	0	2	0	0	2	Publ.
6.	New Mawingu Health Centre		21	2	0	3	0	0	4	Publ.
7.	Ngorika Health Centre		12.35	3	0	9	1	1	8	Publ.
8.	Shalom Disp.		1	2	0	2	0	0	1	Publ.
9.	New Tumaini Health Centre	Karau	8	3	0	4	1	1	7	Publ.
10.	Tumaini NYS Disp.		0.5	2	0	1	0	0	0	Publ.
11.	Kahuho Disp.									Publ.
12.	Fr. Baldo Catholic Disp.									Priv.
13.	Beyond Zero Nyandarua	Rurii	Mobile clinic	2	0	2	0	0	0	Publ.
14.	JM Kariuki County Hospital (Ol'Kalou)		17.2	4	18	102	22	8	200	Publ.
15.	Matura Disp.		1.75	2	0	1	0	0	1	Publ.
16.	Mukindu Disp.		6	2	0	1	0	0	4	Publ.
17.	Passenga Disp.		3	2	0	1	0	0	0	Publ.
18.	Rurii Disp.		5.8	2	0	2	0	0	1	Publ.
19.	Pine Hospital								Priv.	
20.	Ndemi Health Centre	Wanjohi								Publ.

The health seeking behaviour within the municipality is commendable. This is however, limited by distance seeing that most of the people travel more than 5km to access a health facility. The major ailments within the municipality for under 5 (five) year olds include; upper and lower respiratory tract infections, diarrhoea, tonsillitis and pneumonia. Others include ear and eye infections. On the other hand, major ailments for the above 5 (five) years include upper and lower tract respiratory infections, arthritis, joint pains, dental disorders, sexually transmitted

infections, diarrhoea, pneumonia and skin diseases.

Besides distance to facilities, other challenges faced by the residents include;

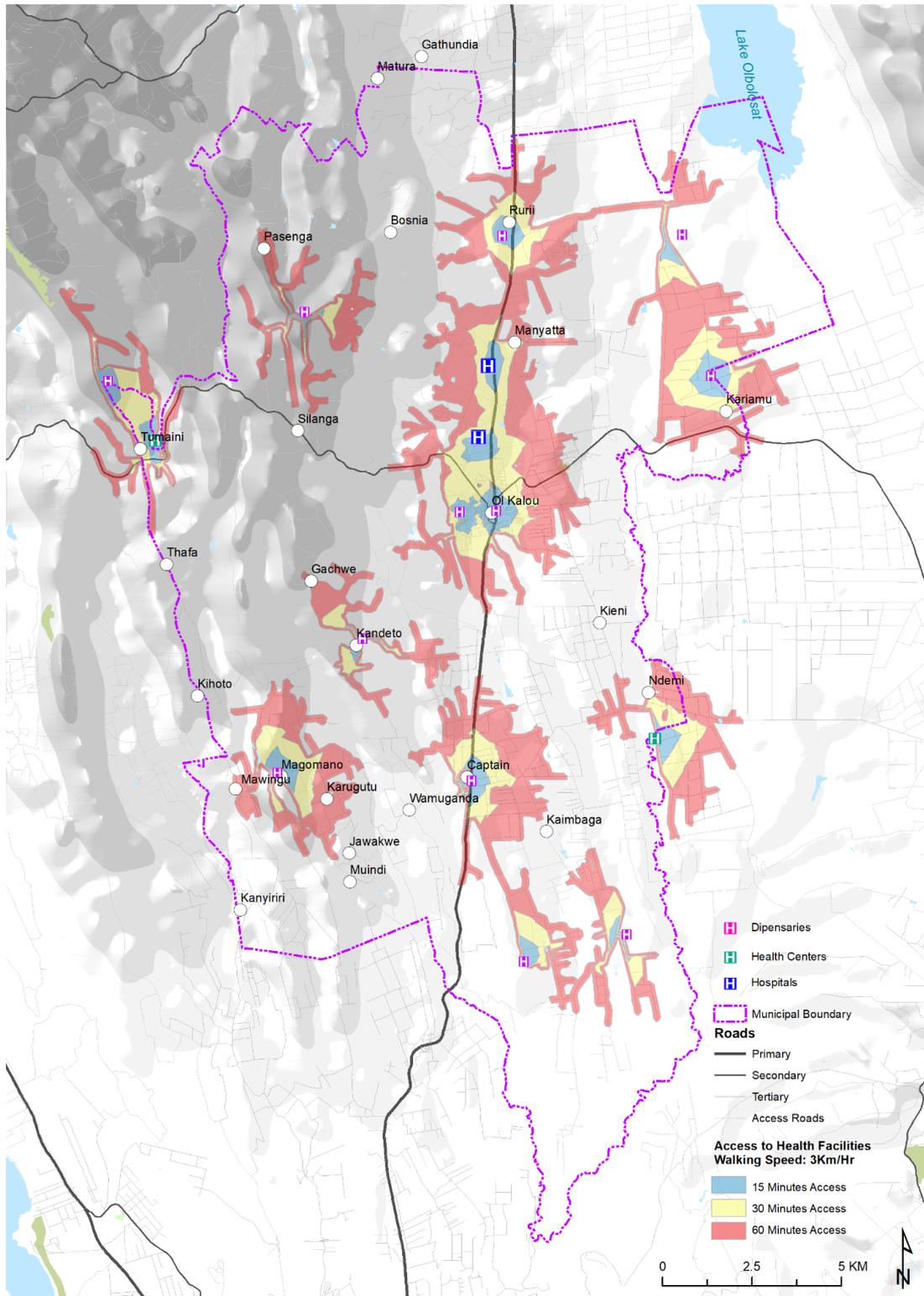
- Inadequate drugs
- Long queues at JM Kariuki Hospital due to overreliance on this facility and insufficient facilities in the hospitals, dispensaries and health centres.
- Not affordable
- Poor roads that connect to the health facilities.

On the other hand, the service providers within these facilities face the following challenges;

- Lack of rehabilitation centres in the county.
 - Staff shortage and inadequate competencies in critical areas of service delivery.
 - Inadequate specialized service providers e.g., ENT, ophthalmology, psychiatry, dental, oncology, surgical etc.
 - Insufficient funding for procurement of health products.
 - Inefficiencies in the procurement logistics occasioning stock outs.
- Lack of cold storage
 - Water borne diseases.
 - Surge in motorcycle accidents

The map below depicts the location of health-care facilities within the municipality. It only takes 15 minutes to walk to the health facility where there are good roads. It takes 30 minutes when the roads are partially good, and 1 hour when the roads are poor, posing a challenge when there is a medical emergency.

Map 10-5: Health Facility Access Map



Source: Urban Lines Consultants Ltd, 2022

10.3.1: Projected Demand of Health Facilities

Rurii Ward, with a projected population of 38,941 by the end of plan period, will require level 3 facility within proximity. On the other hand, Kaimbaga ward has a population of 26,070 people and currently has 6 dispensaries that should each serve a catchment population of 5000 people. Since the projected population for 2032 is 37,428 people, an upgrade to level 3 with a catchment population of 10,000 people is required.

Karau Ward has one health centre and a population of 22,070 people. With a projected population of 31,683 in ten years, a level 3 facility will be required. There is also need to upgrade the facilities within Tumaini and Ndemi to serve the resident populations within the centre.

The above facilities will support the Pine and JM Kariuki Hospitals. The tables below shows the projections.

Ward	Facilities	No Of Facilities (2023)	Required Facilities	Deficit/Oversupply	Projection 2032
Rurii	Hospitals	1	1	1	2
	Health Centre	0	3	-3	4
	Dispensaries	5	6	-1	8
Kaimbaga	Hospitals	-	-	-	2
	Health Centre	-	-	-	4
	Dispensaries	6	6	0	8
Karau	Hospitals	-	-	-	2
	Health Centre	1	2	-1	4
	Dispensaries	3	5	-2	7
	County Referral Hospital	1	1	0	1
Ndemi	Hospitals	-	-	-	-
	Health Centre	1	1	-	1
	Dispensary	-	-	-	-

Facilities	Year	2023	2028	2032
	Population	78502	95970	112703
County Referral		1	1	1
Hospitals		1	4	4
Health Centre		2	10	12
Dispensaries		14	20	24

10.4: Other Social Infrastructure

10.4.1: Religious facilities

Religion holds significant influence in the municipality, as evidenced by the several prominent denominations and religious institutions. These include the Presbyterian Church of East Africa (PCEA), the Catholic Church, the Africa Inland Church (AIC), and the Anglican Church, as well as numerous other churches and a mosque, underscoring the diverse religious landscape.

The number of Christian denominations and adherents continues to grow. This calls for more land and services, including parking space, water and sewerage, security, and regulation of the church facilities in the planning area. The establishment of religious facilities should be such that it allows for future expansion. A minimum of 0.1 hectares' space provision is adequate..

10.4.2: Court

There is one law court within the municipality. Residents feel the court is reliable and reduces

travel time as before its construction, they would seek services at the Nyahururu and Engineer law courts.

10.4.3: Police post

The municipality has three police stations: Ol'Kalou Police Station, which serves the municipality; Passenga Police Station, which serves the western side; and Gichungo Police Station, which serves Kariamu. These are supported by police posts in the satellite centres, i.e., Captain, Ndem, and Rurii, and patrol bases in Kanyiri and Passenga.

Despite the existence of these security apparatuses, Ol'Kalou town experiences cases of insecurity in Muthaiga, Huruma, Kiganjo, and Mackenzie estates, with the major criminal activities reported being assault, defilement, break-ins, drug abuse, and obtaining money by false pretenses, among others. As the population and investments increase, security becomes a factor that needs to be tackled..

Plate 10-1: Ol'Kalou Law Court



Source: Field Survey 2022

Table 10-7: Police Stations, Category and No. of Officers

No.	Name	Category	No. of police Officers
1.	Ol'Kalou Police Station	Police Station	70
2.	Gichungo		10
3.	Passenga		9
4.	Captain	Police Post	5
5.	Rurii		5
6.	Kanyariri		5
7.	Mawingu		4
8.	Kieni		5
9.	Kaimbaga		5
10.	Kandutura		6
11.	Ndemi		5

Source: Nyandarua County Police, 2022

10.4.4: Library

The municipality has only one library. The facility albeit small promotes information literacy among the residents through provision of relevant reference and research materials for knowledge, information, and leisure. The facility is however in a poor condition with a dilapidated structure and minimal space that does not meet the planning standard of 0.4 Ha. There is therefore need for additional libraries in the municipality and also in primary and secondary schools..

10.4.5: Fire station

The municipality has one fire station. At the time of the study, residents felt the service provision was unreliable due to capacity. The survey also revealed that fire was the main disaster within the planning area as alluded to by 60% of the respondents. Going forward, there is need to adequately provide these emergency services to save lives and property. The photo below shows an image of a recent burnt house near Kiriamu.

Plate 10-2: Burnt House in Kiriamu

Source: ULS Field Survey, 2022

10.4.6: Cemeteries and Crematoria

There are three cemeteries within the municipality: one in Tumaini Market Centre and two in Ol’Kalou town. One of the town’s cemeteries had just been put into service at the time of the survey, and beautification efforts, including landscaping, building a perimeter wall, building a sanitary facility shed, and other improvements, were well underway.

The new cemetery will hold 3,500 graves when fully operational.

Still, the two active cemeteries will be insufficient to cover the entire municipality, necessitating the need for cemetery spaces in other towns such as Rurii, Kariamu, and Captain.

10.5: Key Planning Issues

Sub-sector	Planning issues	Opportunities
Education Facilities	<ul style="list-style-type: none"> • Low enrolment numbers in primary and secondary schools. • Poor access roads to educational facilities that are located away from the main roads. • In areas such as Mawingu, pupils walk for long distances to attend school • Inadequate facilities in schools • Inadequate ECDE Teachers 	<ul style="list-style-type: none"> • Availability of land to build more schools in underserved areas
Health Facilities	<ul style="list-style-type: none"> • Inadequate drugs • Long queues at the public health facilities • Poor accessibility • Inadequate health facilities and equipment 	<ul style="list-style-type: none"> • New government programmes such as Beyond Zero, which can be rolled out in hard-to-reach areas



CHAPTER

11



ECONOMIC ANALYSIS



11.1 Overview

Ol'Kalou municipality holds potential to be the main economic driver for the county and agricultural hub in the region. The Municipality is well endowed with rich soils ideal and good weather suitable for crops farming and livestock rearing. The county besides possessing notable natural resources such as forests, lakes among others; receives adequate rainfall and as a result, is among the leading 'food basket' counties in the country. Drawing from past studies, over 85% of Nyandarua's economy is footed on agricultural related economic activities. This is the highest percentage in comparison with the rest 46 counties in the Country as indicated in Figure 11-1 below.

The centrality of Ol'Kalou municipality compared to high population regions and towns such as Nakuru, Naivasha, Nyahururu and other cities like Nairobi, Eldoret, Kisumu and Kakamega presents an opportunity to market its animal and fresh farm produce. Additionally, proximal to Nairobi, a quality that affords it a significant market for its agricultural produce as well the JKIA for freight of its export produce to nations of the world. While agriculture remains predominant, other sectors such as trade and commerce, industry, mining and tourism have also played a role in the economy of the municipality and the county at large.

This chapter is an assemblage of economic activities within the municipality. It will examine the current production trends with an

intention of arresting all possible opportunities of upscaling to higher levels that would guarantee improved value, job creation and wealth generation to the Ol'Kalou Municipality and its population. Figure 11-1 below shows the county's main economic activities with agriculture as the mainstay of Nyandarua County.

11.2: Agriculture - Livestock Rearing

Livestock farming is a popular farming enterprise that adds to significant employment opportunities and wealth creation in the County of Nyandarua and also in the Ol'Kalou Municipality. The sector is characterized by dairy, beef, sheep/goat, pig, poultry and fish farming.

For dairy farmers, the main breed reared is Friesian. Others are Ayrshire, Guernsey, Jersey, and cross-breeds.

11.2.1: Dairy cattle

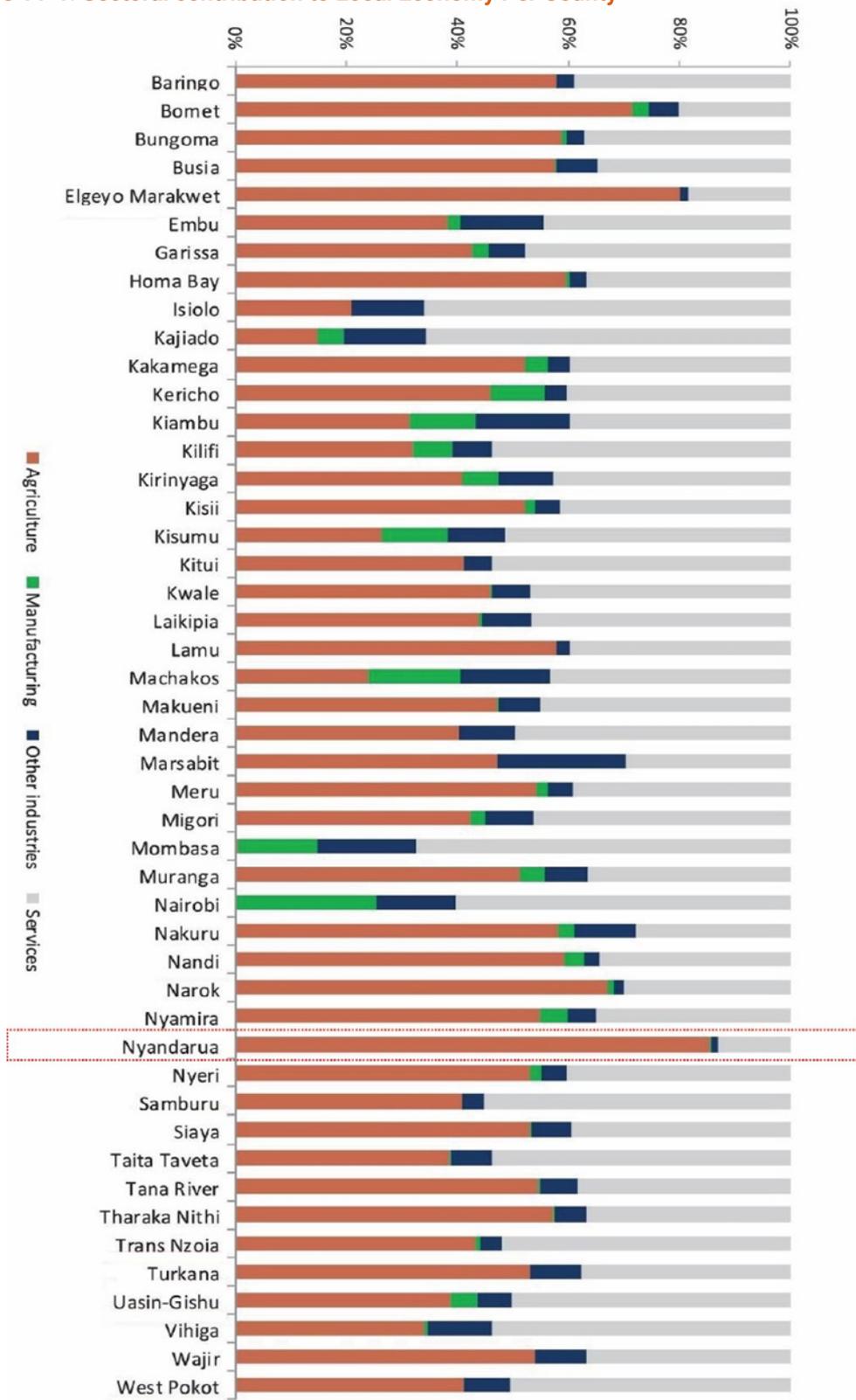
Dairy farming thrives when farmers keep good cow breeds and observe excellent management practices; quality feeds supplied in right quantities, adequate water, hygiene for diseases control, artificial insemination and hygiene, Cooling and processing. The exotic cows kept for milk include the Friesian (Holstein), Ayrshire, Guernsey and Jersey. The table below shows the performance of dairy sub-sector in Ol'Kalou in terms population of dairy cow, milk production and income generated in 2020-2021.

Table 11-1: Dairy Cattle Population & Production

Year	Milk cow population	Milk output (litres)	Milk value (Kshs)
2020	61,800	52,055,752	1,978,118,576
2021	62,400	51,623,235	2,064,929,400

Source: County Directorate of Livestock Production

Figure 11-1: Sectoral contribution to Local Economy Per County



Source: Developed using KNBS, 2019

11.2.2: Beef cattle

Beef farming is not a major enterprise in the Municipality. The breeds reared are indigenous and the bulls born out of the dairy cattle that are kept for milk purposes. It is usually done on a small scale by the majority of farmers and sold to local butchers. There are a total of 6 abattoirs in the Municipality that process approximately 30 animals daily. The cattle slaughtered in the municipality is sourced within the county and the municipality.

11.2.3: Sheep & Goats

The types of sheep/goats reared in the Municipality include wool sheep and dairy goats. They are reared on a small scale. Approximately 100 sheep and goats are slaughtered daily, about 90% coming outside the municipality.

11.2.4: Pig Farming

The pig farming industry in the municipality has witnessed remarkable growth and increasing popularity. As the availability of arable land diminishes, the emergence of pig farming as a viable alternative to traditional livestock-keeping practices such as beef, sheep, and goat farming becomes increasingly probable..

11.2.5: Poultry Farming

The breed of birds reared in the municipality is indigenous; providing households with eggs and meat. Poultry farming is kept for subsistence and is not commercially produced. Chicken farming mostly thrives in warmer climate and therefore does not thrive well in Ol'Kalou as the region mostly experiences cold weather.

Table 11-2: Beef Cattle Population & Production

Year	Beef Cattle Population	Beef Outputs (kgs)	Beef Value (Kshs)
2020	11,020	971,750	485,875,000
2021	11,100	995,250	547,387,500

Source: County Directorate of Livestock Production

Table 11-3: Sheep & Goats Population & Production

Year	Description of livestock	Sheep & Goats Population	Mutton & Chevon Output (kgs)	Mutton & chevon Value (Kshs)
2020	Sheep	79,940	366,340	183,170,000
	Goats	3,945	14,000	7,000,000
2021	Sheep	80,700	376,940	207,317,000
	Goats	4,030	101,000	55,550,000

Source: County Directorate of Livestock Production

Table 11-4: Pig Population & Production

Year	Pig Population	Pork/Bacon Outputs (kgs)	Pork/Bacon Value (Kshs)
2020	750	5,300	2,385,000
2021	1,200	5,580	2,511,000

Source: County Directorate of Livestock Production

Table 11-5: Poultry Population & Production

Year	Poultry Population	Poultry Meat Outputs (kgs)	Poultry Meat Value (Kshs)
2020	116,578	177,300	106,380,000
2021	144,273	181,580	108,948,000

Source: County Directorate of Livestock Production

Table 11-6: Beef Cattle Population & Production

Year	Fish Population	Fish Meat Outputs (kgs)	Fish Meat Value (Kshs)
2020	95	4,368	1,405,500
2021	100		

Source: County Directorate of Livestock Production

11.2.6: Fish Farming

Fish farming is the least developed form of farming in the municipality. The activity is carried out by a few farmers in fish ponds and is mostly used for subsistence rather than commercial use. However, more households are embracing fish as a delicacy and for its health benefits. It is therefore expected that the enterprise will attract more farmers in the future.

11.3: Agriculture – Crop Farming

Crop farming is still a significant economic driver in the municipality as 78% of the respondents reported engaging in small-scale agriculture both livestock keeping and crop farming. Eighty percent (80%) of them practise within the municipality, while 17% practise outside the municipality but within Nyandarua county. Only 3% practise it outside of the county.

Similar to other urban areas around agriculturally potent areas in the country, land fragmentation is an imminent threat to agriculture in the municipality. Key drivers of land fragmentation include rapid population growth, rising demand for land

for various urban uses, cultural practises like inheritance or attachment to land, and a lack of law prescribing a minimum land holding size¹³. Continued land fragmentation not only reduces the amount of land available for active agriculture, but it also happens indiscriminately on the most arable land.

Crop growing in the municipality is mainly for food or cash crops. The map below shows the agro-ecological zones within the municipality and the potential areas for different crops. The municipality falls broadly within the upper highland zone and low highland zones and specifically within the 5 sub-zones i.e., UH2, UH3, UH4, LH4 and LH5.

Upper highlands: Areas around Passenga, Tumaini, and Thafa fall within UH2 and are favourable for cabbage, peas, maize, forage, and barley. The area is also favourable for horticulture hence Highland Plants, a company which exports propagated seedlings to the United Kingdom, Holland, Belgium, and Germany has set up within this zone.

A significant portion of the municipality falls within the UH3 zone, which is favourable for maize, oats, carrots, kales, and barley. These

13 National Land Commission, 2021. Effects of Land Fragmentation on Land Use and Food Security

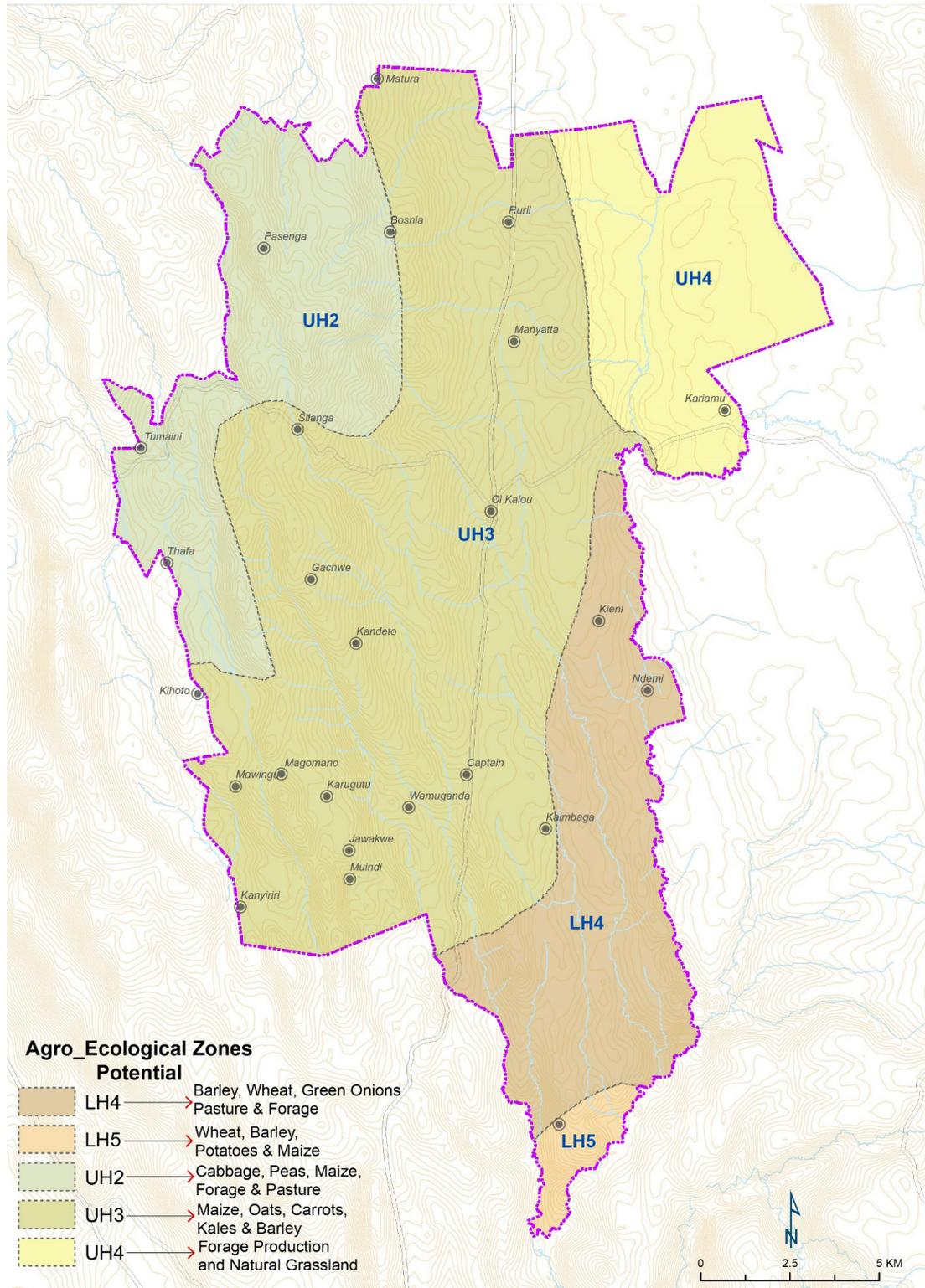
areas include Ol'Kalou, Mawingu, Captain, Kanyiri, Kihoto, Silanga, Gachwe, Kandeto, Muindi, Jawakwe, Manyatta, and Rurii.

Areas to the east of the planning area, i.e., areas around Lake Ol 'Bolosat and Kariamu, fall within the UH4 zone that is favourable for forage production and natural grassland, and due to the flat nature and favourable climate, the area is good for horticulture and green houses. Notable establishments include Golden Tulips, which mainly focuses on cut flowers.

Low highlands: Areas around Kaimbaga and Ndemi fall within lowland zone 4 and are suitable for barley, wheat, and green onions. On the other hand, to the south of the planning area, i.e., Zone LH5, is favourable for wheat, barley, potatoes, and maize.

The average households average cultivated land is approximately 0.5 to 2.0 ha normally cultivated in two overlapping seasons. However, with irrigation, the municipality has been able to produce beyond the above-mentioned food and cash crops.

Figure 11-2: Agricultural Productivity Potential Map based on Agro-Ecological Zones



The section below looks at the performance of crop farming in the municipality.

11.3.1: Irish Potatoes

Irish potato farming has huge potential. Nyandarua's weather and soils have a great comparative advantage over other regions in the republic. According to the County Department of Agriculture, the current 50 kg bag yield is 150–200 bags per acre, while the ideal productivity should be 300–350 bags. This means the average productivity is barely half its capacity. The market is markedly characterised by middlemen who greatly exploit farmers. There exists a big market for frozen potatoes, which average farmers are constrained to access due to the huge capital investment demands.

11.3.2: Cut Flower farming

This is another crop with great potential. In their current form, flower farms provide many jobs to the local populace, including stabilising the national economy through the earned foreign exchange. The County Department of Agriculture proudly describes it as farming, which “maps the county globally as a production site,” thus attracting investments from developmental partners for infrastructural investments in roads, communication, etc. Equally, it has also attracted significant attention from international human rights organisations on labour and production-related processes. Marketing for cut flowers is mainly done in the United Kingdom, the Netherlands, Belgium, and Germany.

11.3.3: Land Utilization

Land	Land Size (Ha)	Crops Farmed
Total Arable Land	5,000	
Commercial farming	3,200	Cut flowers, herbs and spices, runner beans, snow peas, vegetables, irish potatoes, maize, wheat, pyrethrum
Food Crops (Subsistence Farming)	1,800	Maize, beans, carrots, garden peas, irish potatoes, onions, cabbages, kales, spinach, tomatoes
Irrigation	80	Cut flowers, herbs and spices, runner beans, snow peas, vegetables.
Forestry & Quarrying	300	

Table 11-7: Farming locations, crops and the land coverage

Areas	Crops	Land coverage
Kieni, Kariamu	Cut flowers	75 Ha
Uhuru	Herbs and spices	20 Ha
Captain, Wangatabuthi	Runner beans	5 Ha
Rurii, Munyeki, Gachwe, Silanga, Wanjura	Vegetables – peas, spinach, cabbages	1300 Ha
Rurii, Munyeki, Gachwe, Silanga, Wanjura, Mugumo, Githunguri, Kianda	Irish potatoes	1100 Ha
Rurii, Munyeki, Gachwe, Silanga, Wanjura, Mugumo, Githunguri, Kianda, Mwereri	Maize, beans	1500 Ha
Kendawa, Rurii, Kaimbaga	Wheat	100 Ha
Munyeki, Rurii	Pyrethrum	10 Ha

Source: Department of Agriculture, Livestock and Fisheries

Plate 11-1: Crop farming in Ol’Kalou

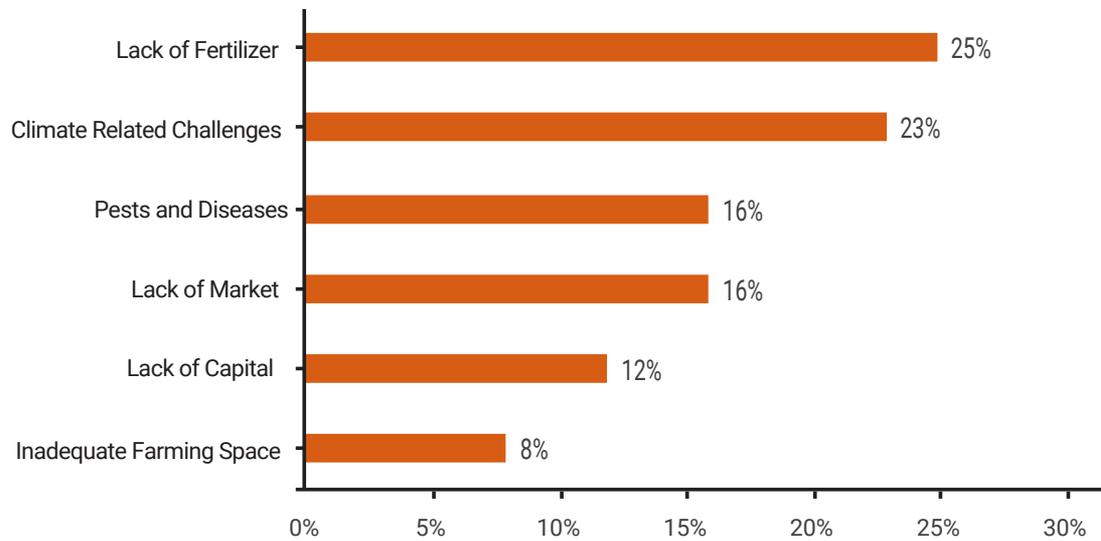


Source: Urban Lines Consultants Ltd, 2022

While the produce from the county is responsible for most of the county’s commodities traded with other counties, especially Nairobi City County, the farmers reported the following challenges which hinder

the realization of 100% national food security as stipulated in the Big 4 Agenda. The chart below shows the challenges prioritized in order of percentages.

Figure 11-3: Challenges Reported by Farmers in Ol’Kalou Municipality



Source: Urban Lines Consultants Ltd, 2022

As most of the farm produce produced are perishable (Golden Tulip farm and Puma spring), the farmers still have a challenge in storing their produce. Food storage ensures that perishable food items stay fresh for long and reduces wastage of such food items. The main food storage facilities in Ol'Kalou municipality include National Cereal and Produce Board (NCPB), Ol'Kalou Dairy Limited and the modern market.

11.4: Industrial Activities

Industries play a major role in economic development of an area as they provide employment opportunities, provide value addition for agricultural products and generate revenues to the government through license fees and cess. The main industrial activities in Ol'Kalou municipality include dairy processing, timber milling, water bottling and packaging in Rurii, cold storage for Irish potatoes, and jua kali industries (see discussion in 11.6). The table below shows categories of industrial activities and their location within

the municipality while map 11-1 captures their spatial distribution.

The Ministry of Industrialization, Trade and Enterprise Development in the country has also set up an industrial development centre in the municipality as part of the ministry's efforts to provide worksites for small and micro enterprises and; tools for the youth to pursue gainful employment. The Ministry has established other such facilities in a total of 188 constituencies in the country.

11.4.1: Mining Activities

Mining in the municipality is characterized by stone mining, ballast extraction and sand harvesting. In areas like Ndemi, quarrying is a key economic driver providing employment to miners; loaders and drivers who transport materials from the quarry sites. In addition, quarrying contributes to the total revenue of the County in form of cess.

Table 11-8: Industrial Activities in the Municipality

Industrial activity	Place
Potatoes cold storage	Ol'Kalou
Slaughter house	Ol'Kalou, Kariamu
Horticultural farms	Kieni, Kariamu, Tumaini
Milk Collection Centres/Cooling plants	Ol'Kalou, Manyatta, Passenga, Tumaini
Mines and quarries	Ndemi, Kariamu, Ol'Kalou, Kandeto,
Petrol stations	Ol'Kalou, Tumaini,
Factories	Highland plants Limited- Rurii Road material- Ol'Kalou Sewerage Company-Rurii Cabro paving plant-Kaimbaga Duo Duo Wood Industries- Karau

Plate 11-2: Industries in Ol'Kalou Municipality



Source: Filed survey, Urban Lines Consultants Ltd, 2022

Plate 11-3: Mining Activities in Ol'Kalou and Ndemu respectively.



Source: Urban Lines Consultants Ltd, 2022

Quarrying activities on the other hand have negative effects, key among them land degradation, noise pollution, landslides among others derelict.

11.4.2: Jua Kali Industry

The Jua kali sector is quite vibrant in the municipality. The main Jua kali types include fabrication (metal, wood, and apparel) and,

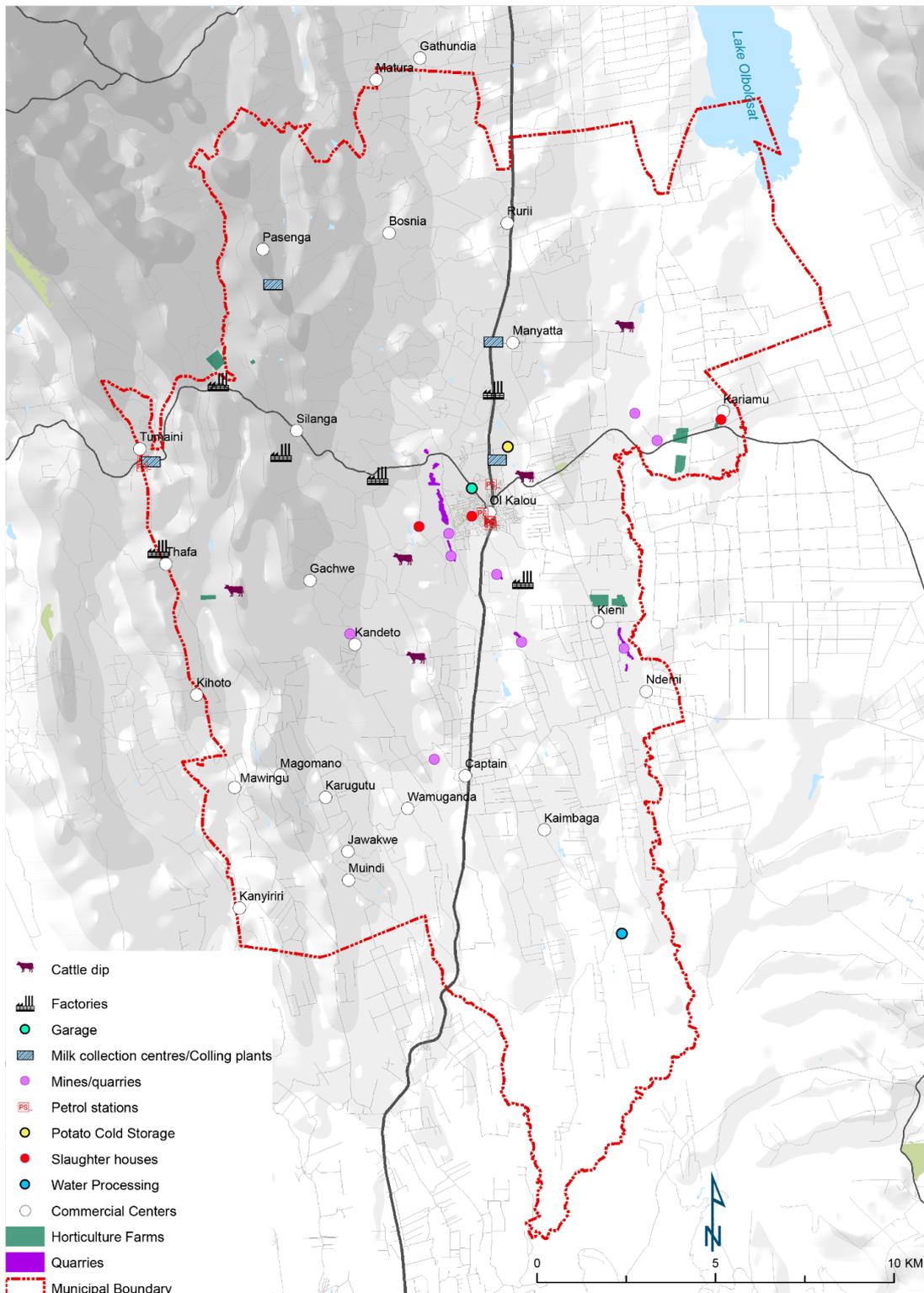
boda-boda garages cottage industry (beads, artefacts, interior decorations). Almost in all commercial centres within the planning area exists a juakali section that serves demand of its local population within a walkability walkable distance.

Plate 11-4: Metal works, Juakali artisan



Source: Urban Lines Consultants Ltd, 2022

Map 11-1: Location of existing industries



Source: Urban Lines Consultants Ltd, 2022

11.5: Trade and Commerce

Trade plays a pivotal role in the growth of an economy as it links sectors such as agriculture, manufacturing and service by availing channels via which both sellers and consumers exchange value. The National Trade Policy (2009)¹⁴, envisions to make Kenya an efficient domestic market and export led globally competitive economy for faster achievement of Vision 2030. The policy envisages that this will be achieved by its twin broad objectives of promoting expansion of Kenya's exports of goods and services; and the development of an efficient and competitive domestic market.

Promotion of domestic markets entail the need to provide modern market infrastructure, good roads, reliable energy as well as promotion of electronic commerce (e-commerce). Trade and Commerce is a

major player to the economic growth of an urban area through creation of formal and informal employment and generation of revenue to the government. It involves existing markets, wholesale and retail traders, financial institutions like banks, SACCOs and mobile money agents and other small-scale enterprises like hardware, agro-vets and pharmaceuticals. The distribution pattern of commercial activities within Ol'Kalou follows nucleated and linear growth patterns. There is a high concentration of commercial activities within the urban core, while the town takes a linear growth pattern along the major transport corridors such as the Gilgil-Nyahururu, Ol'Kalou -Njambini road, and Ol'Kalou -Dundori road.

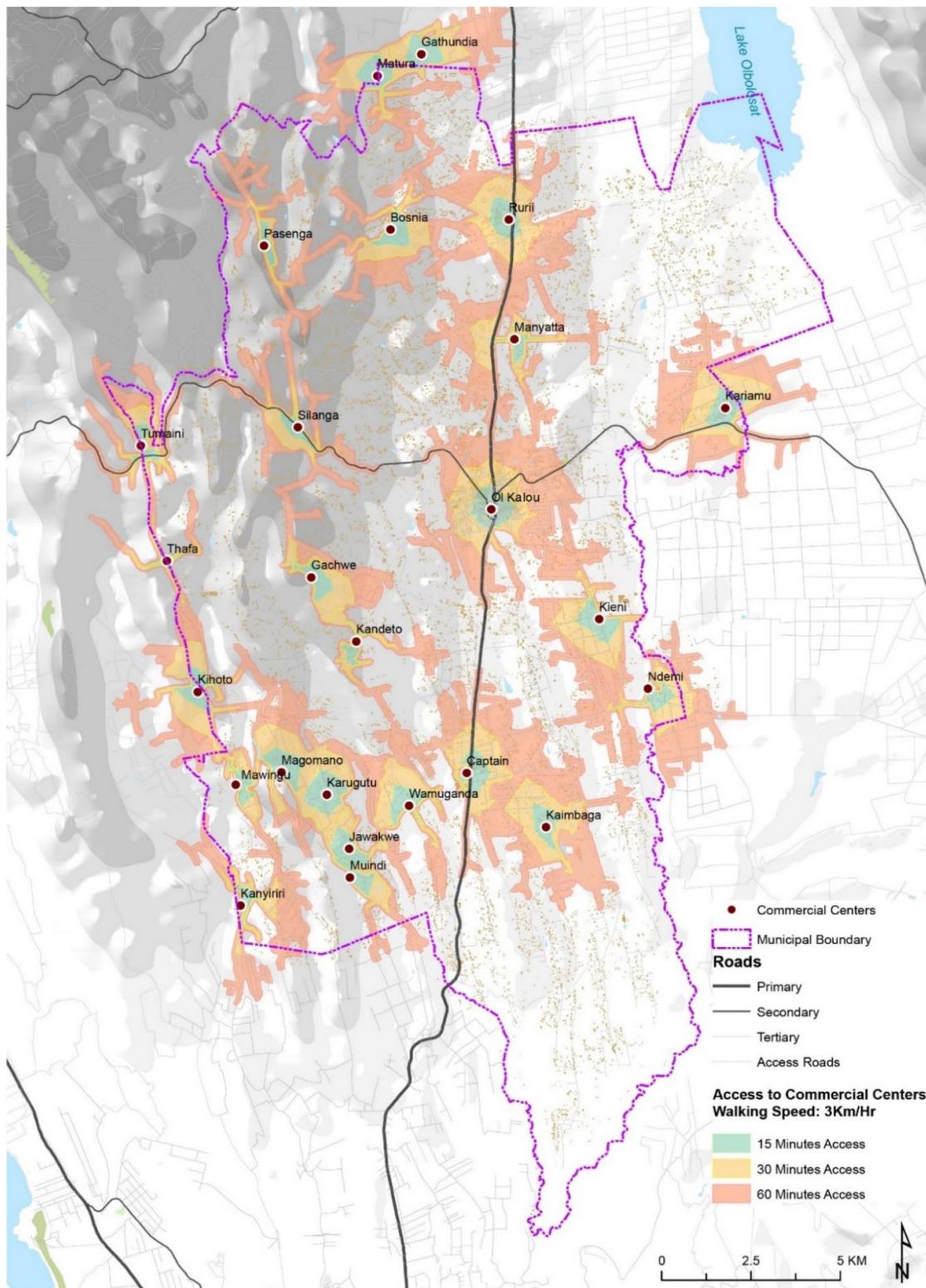
Plate 11-5: Gilgil-Nyahururu corridor, Ol'Kalou town section



Source: Urban Lines Consultants Ltd, 2022

¹⁴ Republic of Kenya, 2009. The National Trade Policy

Map 11-2: Access to commercial nodes/Centres



Source: Urban Lines Consultants Ltd, 2022

11.6: Markets

There are three formal markets in Ol'Kalou town which include; the existing municipal market, the market next to the bus park and the new modern market which are fully functional. Other markets in the municipality include; Rurii Market, Captain, Tumaini and Kariamu. Most of these markets are not fully functional. People tend to sell their products along the major roads. The municipal market scheduled market days (Wednesdays and Saturdays) where buyers and sellers congregate for trading on retail

basis. Major goods traded in these markets include potatoes, cabbages and tomatoes among other agricultural produce, second-hand clothes and household items. Further, there is an informal market fronting the Jamaa Supermarket. This market lies along the meter gauge railway reserve. The traders sell household items such as clothing, kitchen ware, beddings and agricultural produce. Additionally, there are a number of informal business areas such as along the street market opposite Equity Bank, around the bus park market, in-front of JM Kariuki hospitals and along Gilgil-Nyahururu highway.

Below is a summary of markets and their status in Ol'Kalou Municipality

Market	Status	Concerns
Ol'Kalou Modern Market	Complete	<ul style="list-style-type: none"> The need to finalize the works and have it opened for use by traders
The municipal old market	Functional	<ul style="list-style-type: none"> Congested Inadequate toilet facilities Traders' complaints of the high license fees Need for provision of municipal security at night
Ol'Kalou open-air market (outside Jamaa Supermarket)	Functional	<ul style="list-style-type: none"> Construction and expansion of the existing Ol'Kalou markets to accommodate the extra traders Policy for traders to only operate within designated area Law enforcement
Captain	Not-functional	<ul style="list-style-type: none"> Policy for traders to only operate within designated areas Law enforcement to ensure non-trading along the highway Address flooding during the rainy season Provide better toilet facilities
Rurii	Non-functional	<ul style="list-style-type: none"> Law enforcement to ensure non-trading along the highway Address flooding during the rainy season Provide better toilet facilities
Tumaini	Non-functional	<ul style="list-style-type: none"> Acquire a piece of land for the market within the town Provide toilet in the market
Kariamu	Non-functional	<ul style="list-style-type: none"> Need to widen the market access probably by acquiring adjacent plots for the access expansion Provide better toilet facility Provide shade

Plate 11-6: Modern market - Ol'Kalou town



Source: Field Survey, 2022

Plate 11-7: Unutilised market structure in Captain Market Centre



Source: Field Survey, 2022

Other functional markets are in Rurii, Ndemi and Kariamuu which operate on specific days of the week. Captain also has a market but it is not functional. It was also noted during the survey that activities in these markets have reduced with time leading to the markets dying slowly as it is the case of Captain market.

11.7: Wholesale and Retail Trading

Ol'Kalou has a few wholesale enterprises and several retailers with the major enterprises including Jamaa Supermarket and Bekin hardware. The residents also engage in other commercial activities like selling of timber and farm implements amongst others. These

Plate 118: Closed shops in Rurii Market Centre



Source: Urban Lines Consultants Ltd, 2022

commercial activities are concentrated mainly within the urban core and along major roads.

In the other satellite centres, trading is slowly going down which was evident with the high number of closed shops as shown in the images below taken in the different market centres.

rich network of ATM points and mobile money agents for the main telcos in Kenya including Safaricom and Airtel. Microfinance institutions include Faulu Kenya, Kenya Women Finance Trust (KWFT), Small and Micro Enterprise Programs (SMEP) and Savings and Credit Co-Operative Societies (SACCOs) which provide credits to the residents.

11.8: Banks and Financial Institutions

Ol’Kalou hosts a number of banking institutions including Equity Bank, Kenya Commercial Bank, Family Bank and Cooperative Bank. These are supported by a

11.9: Tourism and Hospitality

The hospitality industry in Ol’Kalou is mainly supported by the hotels, restaurants and the recreational areas. The notable hotels include Tango, Tranquil, Royal Gardens, Rushmore, Bullhead, Whitehouse, Holiday Premier,

Figure 11- 4: Households’ means of saving within the municipality



Source: Urban Lines Consultants Ltd, 2022

Macqooti and Express. These hotels offer meals, accommodation, conferencing and restaurant services.

In addition, the planning areas has tourism potential. Some of the opportunities include conference facilities, hotels and motels to serve County headquarters and transit travellers to other counties. There are also potentials of reclaiming derelict quarries

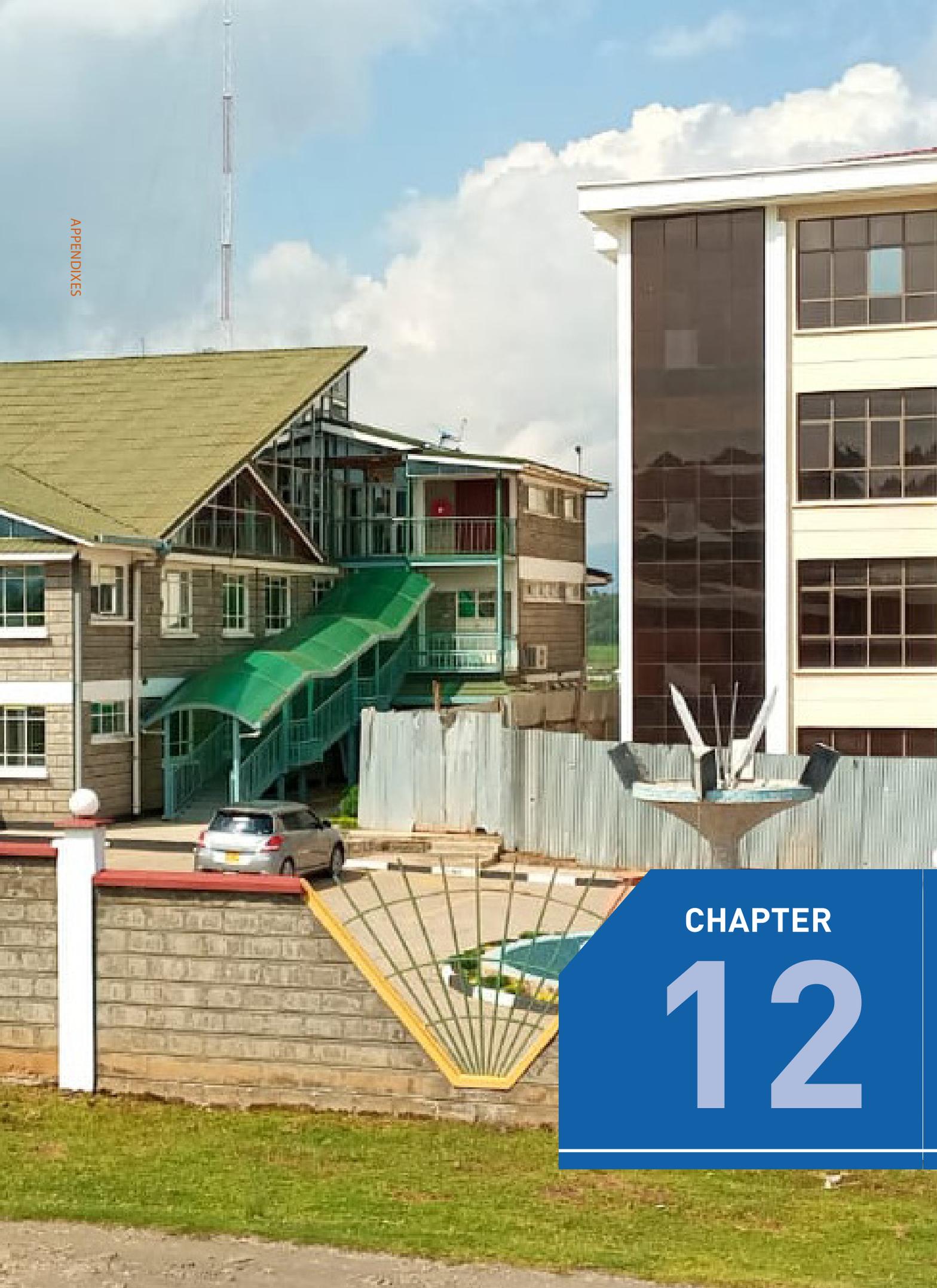
to nature parks and promoting agriculture tourism

Ol’Kalou Arboretum and Ol’Kalou stadium are the major recreational facilities within the county. There are two ungazetted forests within Ol’Kalou town which include the presidential Tree Park (opposite the county commissioner’s office) and Ol’Kalou, Malewa tree nursery.

11.10: Key Planning Issues.

Sub Sector	Planning issues	Opportunities
Livestock farming	<ul style="list-style-type: none"> • Disease prevalence adversely affecting quality and quantities of milk produced • High cost of artificial insemination (AI) services • Fluctuating prices of milk and eggs • High cost of feed concentrates and fodder forages • Unreliable supply of quality water for livestock during dry seasons • Lack of meat grading system and price-based quality meat market • Lack of a reliable and consistent market for farm products • Exploitation by the brokers and middlemen due to weak cooperatives which deny farmers bargaining power • Inadequate cold storage infrastructure for increased shelf life for animal products. • High cost of credit and inadequate options of financing • Low technical information due to inadequate extension services 	<ul style="list-style-type: none"> • Availability of veterinary services both private and public • Availability of smart livestock farming techniques • Exploit the high market potential for livestock products • Strengthening the cooperative movements • Explore the value addition technologies • Implement minimum guarantee return
Crop Farming	<ul style="list-style-type: none"> • Low yields due to lack of quality certified seeds • Low returns on the produce • Poor access roads increasing the cost of transportation and wastage during rainy seasons. • Declining soil fertility requiring high fertilizers application • Unpredictable rainfall patterns leading to low production • Overreliance on rain-fed agriculture. • High cost of buying inputs and lending of machinery • Inadequate market when there is produce glut leading to low prices and wastage. • Non-adoption of food storage and value addition technologies. • Use of prohibited chemicals that may lead to ban in local and export markets • Increased land subdivision and conversion into urban use adversely affecting land available for farming • Over-reliance on farming practices which are not suitable for weather and financial return e.g., growing of maize in cold areas. 	<ul style="list-style-type: none"> • Adoption of Integrated Pest Management (IPM) technologies • Existence of cold storage for potatoes. • Adoption of smart farming • Existence of water pan and rivers which can be for irrigation • Explore options on water harvesting • Agri-tourism • Existence of technologies on value addition need to be • Leverage on existing collaborations to train farmers on sustainable agricultural practices such as Kenya Climate Smart Agriculture Support Programme (KCSASP), One Acre Fund etc.

Industries	<ul style="list-style-type: none"> • Low rate of investment in this sector. • Inadequate designated industrial site • Inadequate credit options • Weak or no cottage industries 	<ul style="list-style-type: none"> • Existence of institutions supporting industrialization such as Industrial Development Centre • Existing policies on industrialization • Existing jua kali industry base • Locally available raw materials for example in agriculture • Available human capital both skilled and non-institution.
Trade	<ul style="list-style-type: none"> • High cost of business such as rates and tariffs • High cost of lending • High taxation leading to low demand • High influx of shops selling similar products (non-diversification) • Unregulated hawking and proliferation of kiosks in undesignated trading areas 	<ul style="list-style-type: none"> • Formations of trade associations • Existing financing institutions like banks, sacco among others • Existence of institutions i.e., public, private and non-state actors which offer training on business management • Existing public participation channels where people can share their views on the county finance bills and tax regimes
Designated Market areas	<ul style="list-style-type: none"> • Poor infrastructure such as access roads, lighting, drainage, water, solid and liquid waste and sanitation facilities • Encroachment of open market spaces in Rurii, Kariamu and Captain by construction of stalls • Unregulated hawking activities leading to sale of goods along the streets, roads adversely affecting the designated trading premises • Poor location and utilization of open-air markets for example in Captain and Oleriondo among others. • Inadequate cleaners 	<ul style="list-style-type: none"> • Existing laws defining the hierarchy and level of services in each designated market and town centres • Urban infrastructure upgrading programmes • Traders' associations to lobby for better services • Enforcement of land use planning standards • Citizen fora as defined in the laws such as UACA, CGA for active engagement • Community participation in environmental management. • Ongoing staffing process to prioritise labour force for the markets



CHAPTER

12



GOVERNANCE AND INSTITUTIONAL FRAMEWORK

12.1: Overview

The role of governance in planning cannot be overemphasised as it is an important cog during project implementation and financing. The growth seen in urban centres in Ol'Kalou and Kenya in general is the direct result of a shift in the balance between the urban and rural economies influenced by these institutional changes. This chapter therefore provides an in-depth analysis of the existing governance framework and; the relationships between the County Government of Nyandarua, National Government and the '*mwananchi*'.

12.2: National Government

Besides providing the overall guiding legislative framework upon which counties operates, the National Government also, supports the counties financially in order to implement different policies and major development programmes and projects.

Along with that, the national government through its agencies such as Kenya Railways, KURA, KeRRA have been involved in the transport infrastructural projects in the municipality.

The county is also among other 9 counties of the Central Region Economic Bloc (CEREB). The core purpose of this treaty being to leverage economies of scale in order to improve livelihoods through joint implementation of projects and programs. One such projects is the revival of the old railway line. Notably, CEREB contributes the largest share of the Country's economy at over 26% of the total National GDP based on the recent data from the Kenya National Bureau of Statistics (KNBS). The Municipality is also a beneficiary conditional grant program such Kenya Urban Support Program (KUSP)

and Kenya Informal Support Program KISIP through the National grant. KUSP funding has supported improvements in municipality notably in roads, construction of modern market, NMT, street and security lighting. The municipality will therefore continue to gain from this collaboration.

12.3: County Government

12.3.1: Executive Arm

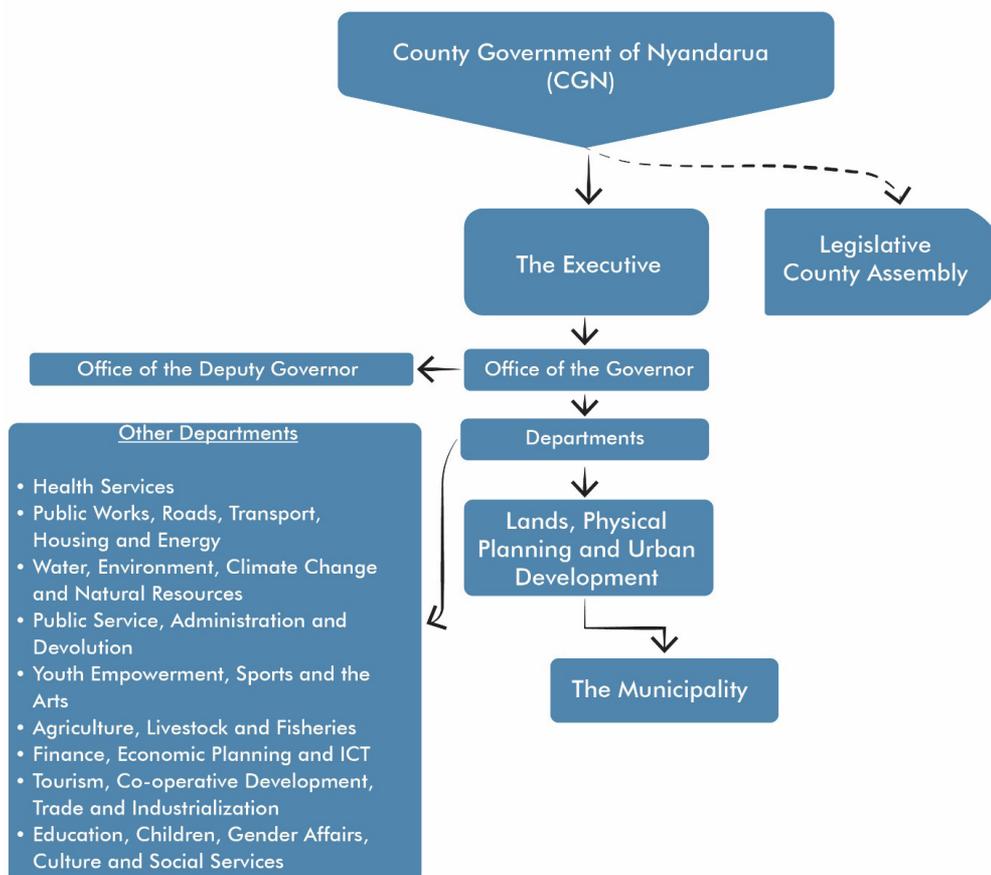
The executive arm as currently constituted comprises of office of Governor, Deputy Governor and various County Executive Committee Members (CECMs) who head ten (10) different departments. The figure below illustrates the county departments.

Under the County Governments Act, 2012 and the Urban Areas and Cities Act (No. 13 of 2011[Amendment] 2019), this executive branch of the County Government is assigned the responsibility of preparation of plans using a framework that integrates "economic, physical, social, environmental and spatial planning. Such plans include CIDP, CSP, and ISUDPs and will be the basis of all budgeting and spending in the county. This ISUDP is premised on this. It will be the regulatory framework for guiding and enabling development, basis for budgeting and spending activities, and shall be a basis for overall service delivery in the municipality. Service provision at the county is at municipality level, sub-county level and at ward level.

12.3.1.1: Sub-counties

The county has five (5) sub-counties namely Ol'Kalou, Kipipiri, Kinangop, Ol'Jororok and Ndaragwa. The municipality falls under Ol'Kalou and Kipipiri sub-counties. These sub-counties are managed by sub-county administrators who are assisted by respective ward administrators in each ward.

Figure 12-1: County Government Structure



Source: Urban Lines Consultants Ltd, 2022

12.3.1.2: Municipal Administration

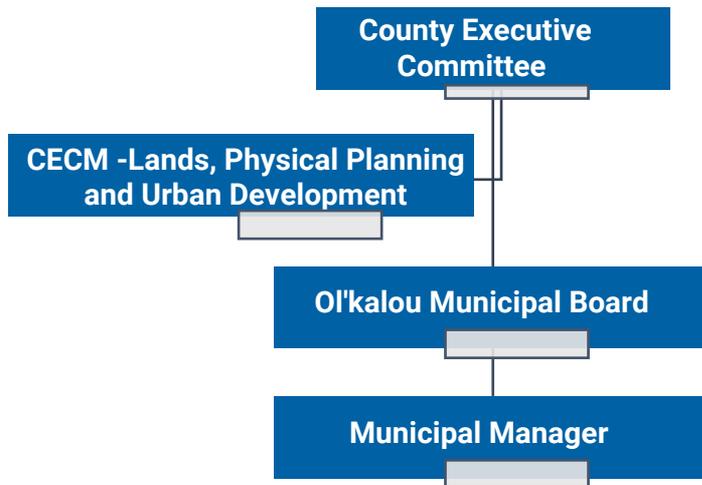
Ol’Kalou, Mairo Inya and Engineer municipalities are domiciled at the Department of Lands, Physical Planning and Urban Development. Each is administered by a Municipal Board. The decisions of the Board are implemented by a Municipal Manager who heads the administrative and technical side of the organ.

To enhance efficiency, the Board has established four committees tasked with oversight role of implementation of the municipal functions as per figure below. The committees do work hand in hand with the municipal departments to ensure smooth and timely execution of the departmental

functions.

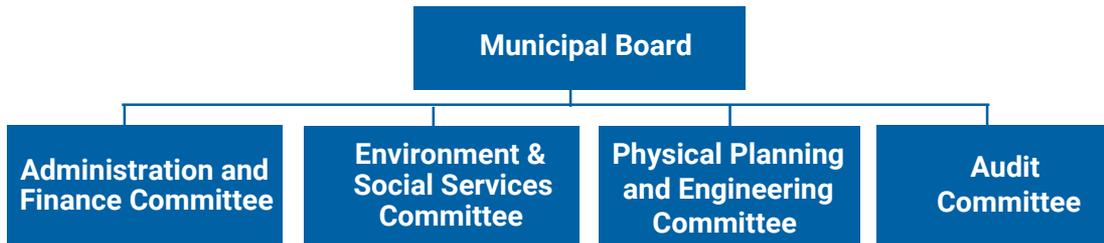
Through the intervention of the national government, donor funding from KUSP has been availed for key projects in the municipality such as paving of roads in residential estates, construction of parking lots, market upgrading and provision of streetlights. The donors have also committed to improvement of arboretum, construction of fire station among others in future. The municipality also completed the preparation of an Integrated Urban Development Plan (IDeP) for Ol’Kalou Municipality in 2021. while preparation of this Plan is also supported by this program.

Figure 12-2: Functional Structure between the Board & County Executive



Source: IDeP, 2021

Figure 12-3: Municipal Board Structure



Source: IDeP, 2021

Despite this success story, the municipality is still operating below its capacity seeing that the full functions of the municipality are yet to be handed over to the municipal board. Currently, the board is only implementing donor funded projects under KUSP. Understandably, it is still at its infancy stages having been established in 2019.

According to the IDeP (2021), section 12 (1) of the Urban Areas and Cities Act, the management of Ol'Kalou Municipality is vested in the County Government and administered on its behalf by a Municipal

Board constituted as per sections 13 and 14 of the Act. As per the Urban Areas and Cities 2013 and the Ol'Kalou Municipal Charter, the delegated functions to the municipality are:

- Municipal administration services
- Promotion, regulation and provision of refuse collection and solid waste management services.
- Promotion and provision of water and sanitation services and infrastructure (in areas within the Municipality not served by the water and sanitation provider)
- Maintenance of urban roads and associated infrastructure

- Maintenance of storm drainage and flood controls
- Maintenance of walkways and other non-motorized transport infrastructure
- Maintenance of recreational parks and green spaces
- Maintenance of street lighting
- Maintenance and regulation of traffic controls and parking facilities
- Maintenance of bus stands and taxi stands
- Regulation of outdoor advertising
- Maintenance and regulation of municipal markets and abattoirs
- Maintenance of fire stations, provision of firefighting services, emergency preparedness and disaster management
- Promotion and regulation of municipal sports and cultural activities
- Regulation and provision of animal control and welfare
- Enforcement of municipal plans and development controls
- Promoting infrastructural development and services within municipality.
- Any other functions as may be delegated by the County Government

It is important to note that this Plan covers the jurisdiction of Ol'Kalou municipality; therefore, the Municipal Board will play a key role in the Plan implementation in accordance with the UACA 2011. Also, the programmes and projects that will be proposed shall be a point of reference during the preparation of Investment Plans and budgets of future Annual Urban Investment Plan and Budgets. Therefore, there is need to properly institute the organ in order to realize the full benefits of this plan once completed. Chapter 13 below provided the situational analysis under municipal administration, finance and human resource.

12.4: The Municipal Sub-Committees

In line with Urban Areas and Cities Act, 2011 (amended in 2019), Ol'Kalou Municipality has created a six-department management structure headed by the Municipal Manager mandated with responsibility of implementing board decisions. The management structure and the functions are structured into six (6) departments summarised below:

1) *Administration Department*

- o Municipal administration services
- o Human resource management
- o Enforcement of municipal plans, bylaws and policies
- o Regulation of traffic control and parking
- o Develop and maintain data base and information systems
- o Performance management

2) *Finance Department*

- o Financial management and accounting
- o Budgeting
- o Revenue collection and revenue generation strategies

3) *Engineering Department*

- o Maintenance of urban roads
- o Storm water drains
- o Walkways and non-motorized transport
- o Street lights

4) *Urban Planning Department*

- o Development planning
- o Control land, land sub-division, land development and zoning
- o Development control
- o Development of schemes

5) *Social Services Department*

- o Regulation of outdoor advertising
- o Maintenance and regulation of municipal markets

- o Promotion and regulation of sports and cultural activities
- o Maintenance of bus stands and taxi stands

6) Environment and Health Committee Department

- o Solid waste collection and waste management
- o Provision of water and sanitation services
- o Recreational areas, parks and beautification
- o Regulation of animal control and welfare
- o Management of funeral parlours, cemeteries and crematorium

12.4.1: Legislative Arm – County Assembly

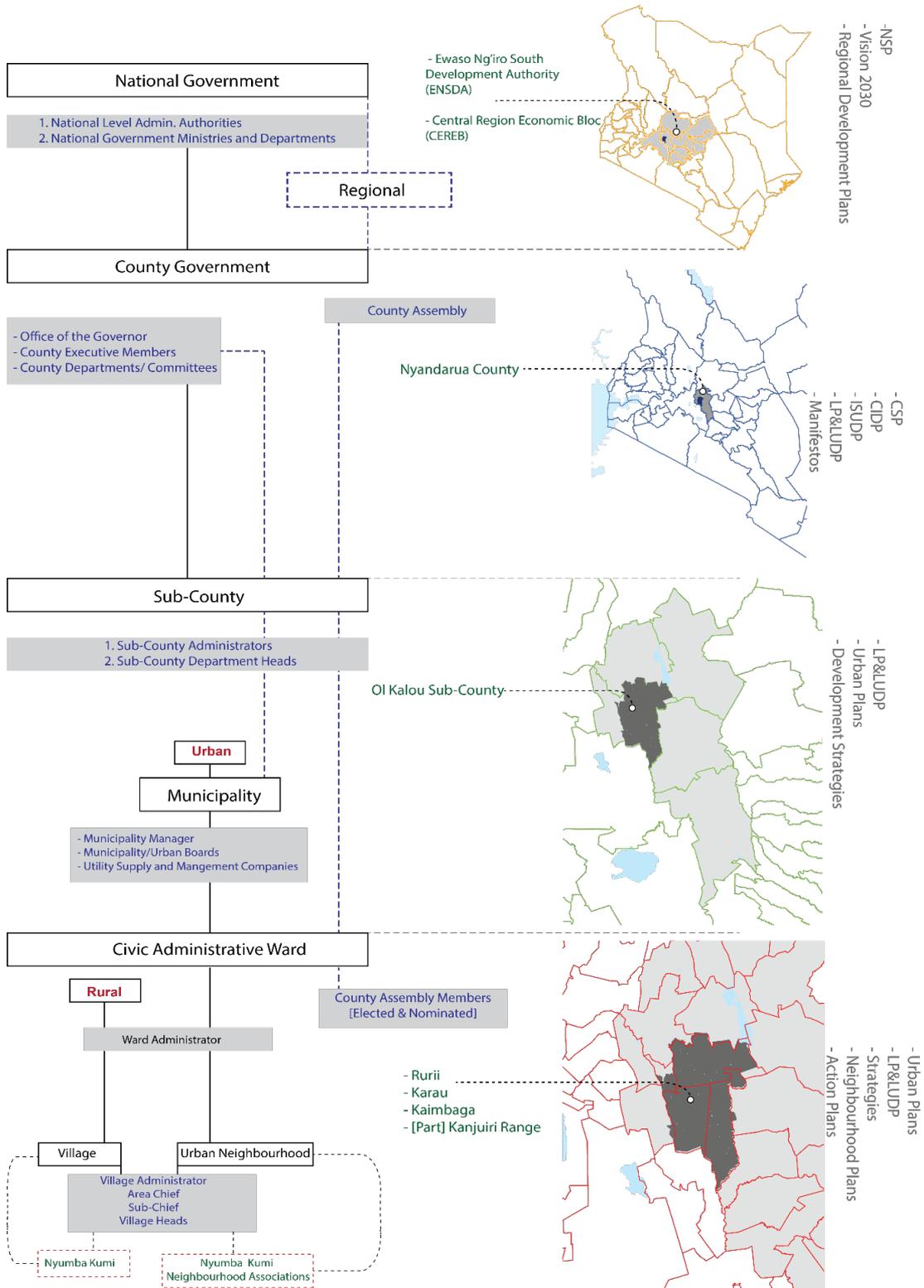
The County Assembly (CA) of Nyandarua besides acting as an oversight instrument

over the County Executive, it is involved in enacting laws and policies that affect the management and exploitation of the County's resources at the County level. The approval of development plans and budgetary allocation for the programmes and projects falls right at their doorstep. This will affect the distribution and development of County infrastructure and institutions.

12.5: Key Planning Issues

- Funds transfer delays from the National Government to county governments and to the municipalities leading to accumulated pending bills which may cause cash flow problems issues;
- Overlap of some of the National Government and County Government functions which lead to duplication of efforts and in turn waste in resources.

Figure 12-4: General governance system



Source: Urban Lines Consultants Ltd, 2022



CHAPTER

13



MUNICIPAL REVENUE AND HUMAN RESOURCE

13.1: Overview

This chapter provides the current municipal revenue streams and the human resource.

13.2: Municipal Revenue

Currently, the municipality does not collect revenue on its own. This role is yet to be delegated. The daily running's of the municipality are therefore funded by the county. The table below captures the revenue that has been collected within the jurisdiction of the municipality for the last four (4) years recorded from July 1, 2017 to May 30, 2021.

Others in this case include storage fees and hiring of halls and chairs.

13.3: Human Resource Requirement

The survey also included an assessment of the current municipal staff against the required/recommended. The table below captures the existing staff numbers against the required.

As per the above table, the municipality has only 9 staff against the required 76 translating to 11%. It was also noted during survey some of the workers are either seconded or are working as interns. On top of that, the current municipal manager is in an acting capacity. This has limited the full functionality of this organ and hinders the successful implementation of projects as human resource is a key catalyst for project success. There is therefore an imperative need to address the labour force for the municipality to successfully manage to discharge its mandate.

Table 13-1: Municipal Revenue

Revenue Streams	4 Yr. Total Revenue	% Of Total
Agricultural Cess	71,473,747	27%
Lands & Physical Planning	62,674,456	24%
Single Business Permit & related licenses	55,748,846	21%
Parking fees	18,008,839	7%
Veterinary (Artificial Insemination) fees	12,961,617	5%
Market Fees	11,396,067	4%
Project Management fees	11,118,431	4%
Public Health fees	8,247,623	3%
Advertising fees	5,865,464	2%
Others	6,175,107	2%
Total	263,670,196	100%

Source: County Government of Nyandarua, 2021

Table 13-2: Human Resource Requirements

S/NO	Position	Requirement	In-post	Variance	Job group
1.	Municipal Manager	1	1	0	Q
2.	Municipal Accountant	1	0	1	P
3.	Municipal Economist	1	0	1	N
4.	Physical planner	2	0	2	K
5.	GIS Officer	1	0	1	K
6.	Clerk of Works	2	0	2	K
7.	Municipal Environment Manager	1	0	1	N
8.	Enforcement Officer in Charge	1	0	1	K
9.	Enforcement Officers	10	0	10	H
10.	Administrative officer	1	0	1	K
11.	Procurement Officer	1	0	1	K
12.	Grounds Men	15	0	15	D
13.	Street Sweepers	15	20	8	D
14.	Accountants	2	1	1	K
15.	Secretaries	2	0	2	J
16.	Drivers	2	0	2	E
17.	Social Welfare officer	1	0	1	K
18.	Community Development officer	1	0	1	M
19.	Internal auditor	1	0	1	K
20.	Clerical Officers	3	0	3	H
21.	Project Manager	1	0	1	K
22.	Revenue Officer	1	0	1	K
23.	Revenue clerks	5	0	5	H
24.	Architect	1	0	1	K
25.	Civil Engineer	1	0	1	K
26.	Quantity Surveyor	1	0	1	K
27.	Public health officer	2	0	2	K
	Total	76	9	67	

Source: Ol'Kalou IDeP, 2021



CHAPTER

14



SYNTHESIS OF KEY PLANNING ISSUES AND OPPORTUNITIES

14.1: Overview.

This chapter presents a synthesis of the key planning issues and opportunities identified during the data collection and analysis phase. The synthesised data will inform the next plan preparation steps.

14.2: Summary of Emerging Issues

Ol'Kalou Municipality is experiencing emerging challenges within the context of different thematic sectors which are curtailing its growth and sustainable development. This Plan has identified the following areas affecting robust growth of the Municipality.

14.2.1 Planning Context

- **Location:** Ol'Kalou Municipality is located within Nyandarua County, serving as the County's headquarters. It is also strategically located within the CEREB region hence enjoying regional relations with nine other counties. By this virtue, the Municipality is an ideal location for investments due to ease in movement, rich natural resource assets and connectivity with key urban centres and counties.
- **Legal Framework:** There is an existing pool of legal and policy frameworks to enable the adoption and implementation of this Plan. These statutes promote institutional capacity, good governance, and citizen participation.

14.2.2 Physiography, Environment and Natural Resources

- **Topography, Geology, Soils, and Climate:** The Municipality is characterised by an undulating topography which is favourable for undertaking physical development, agriculture, and tourism activities. Ol'Kalou is also endowed with deep and fertile soils coupled with a favourable climate. This is an advantage to the agriculture sector of the

municipality and county.

- **Environment and Natural Resources:** The Municipality is well endowed with a network of rivers and Lake Ol'bolosat which increases the potential of water reliant activities like agriculture and ecotourism. The Municipality also has a significant coverage of forests, which aid in creating a favourable climate of the area. With the increasing urbanization within the planning area, these resources are facing the threat of over-exploitation, degradation and extinction thus prompt conservation measures need to be put in place.

14.2.3 Land and Land Use

The Municipality is increasingly witnessing high rates of conversion of agricultural lands to commercial and residential uses. A majority of these developments are manifesting in a ribbon pattern along road corridors such as the Gilgil-Nyahururu Highway. In turn, this has led to an increase in land prices which is encouraging the uncontrolled subdivisions and developments without due consideration to planning and development standards. There are also few open and public spaces for recreation and other services, that enhance quality of place. The lack of enforcement of planning standards is due to the absence and deficiency of land administration and management institutions within the municipality. To ensure coordinated, efficient and sustainable land use in the planning area, proper land management and administration should be established, coupled with stringent enforcement of the set planning and development standards.

14.2.4 Housing and Human settlements

The core urban area (Ol'Kalou Town) and the satellite market centres are witnessing proliferating informal settlements. Rapid population growth and urban development amid low investment in social infrastructure

has resulted in a state where most of the population is confined to sub-standard living. The informality manifests in unplanned growth and congestion as majority of the housing developments flout the required planning standards such as building lines, setbacks and frontages. The developments also fail to factor the carrying capacity of the supporting physical and social infrastructure; such as water, sanitation, sewer connection, good roads, open recreational spaces, schools and hospitals.

While 63.15% of the households in the municipality own the land they reside in as per the 2019 census, the rest live in rented spaces. This and with the projected population increase, calls for additional housing stock to not only meet the demand but provide decent and affordable spaces to live in. Decent rental housing remains a challenge, where it is emergent that there is a mismatch between the rental housing market prices and the quality of accommodation and facilities offered. Ol'Kalou is experiencing a housing supply deficit whereby people working in the municipality seek for accommodation from the neighbouring towns such as Nyahururu and Gilgil. As the municipality is still developing, there is great potential for investments in the housing sector through public-private partnerships.

14.2.5 Physical infrastructure

The Municipality has good regional connectivity attributed to the road and rail networks traversing the area, hence making it attractive for investments. However, the local roads in the planning area especially within Ol'Kalou town and the satellite market centres are deteriorating in quality and are facing encroachment from the informal businesses, hence creating conflict between motorized and non-motorized road users. There is a glaring low water connectivity with only less

than 15% of the households, businesses and institutions connected to the reticulation system.

Sewer connectivity within Ol'Kalou is also limited, resulting to residents relying on unsafe and unsanitary disposal methods. The residents of the area have been provided with solid waste disposal infrastructure by the Kenya Urban Support Program, however, the knowledge on waste segregation is still wanting among the residents. About 70% of the residents enjoy connection to the national electricity grid, but there is still low knowledge and adoption of green sources of energy like solar and biomass, which have great investment potential in the Municipality.

14.2.6 Social infrastructure

The Municipality has adequate coverage of education facilities and health institutions. The private sector investment in the foregoing facilities is significant, which is mostly market-driven. Thus, there is a need to provide and improve public facilities to ensure access to all, especially low-income households. It is notable that despite the presence of social facilities such as playgrounds and stadiums, their accessibility by a majority of the residents is limited.

14.2.7 Local Economic Analysis

The agriculture sector is facing the threat of declining due to the increasing pressure from urbanisation and the thriving real estate sector. Coupled with uncompetitive prices for farm produce and unpredictable weather conditions, more farmers are being discouraged from investing in the sector. There is need for shift to agro-industrialisation, climate-smart agriculture and sustainable urbanization practices. Other key emerging economic sectors that need attention include trade and commerce, and light industries mainly in 'jua kali' sub-sector.

14.2.8 Municipal Governance and Institutional Framework

The Municipality has a well-defined governance structure with an established and functional Municipal Board. Being a newly established municipality, human resource capacity is still deficient, thus there is need for the county government of Nyandarua to

strengthen it to ensure proper implementation of the proposed integrated strategic urban development plan. To further ensure effective plan implementation, there is a need to enhance public participation frameworks to create more awareness on planning and development within the Municipality.

Table 14-1: A situation synthesis of key sectors in Ol'Kalou Municipality

	Sector	Strengths	Weaknesses	Opportunities	Threats
1.	Location Setting	<ul style="list-style-type: none"> High agricultural potential zone Strategic location within CEREB Close proximity to Nairobi and Nakuru cities Capital town and headquarters of Nyandarua County 		<ul style="list-style-type: none"> Partnerships in the implementation of projects and programs with counties in CEREB Market availability of agricultural products from Ol'Kalou Inter-County physical and land use development policies 	<ul style="list-style-type: none"> Close proximity to the developed towns of Nakuru, Nyahururu and Gilgil, leading to emigration, which ideally wouldn't be the case if the local economy and infrastructural services were well developed.
2.	Policy and Legal Framework Linkages	<ul style="list-style-type: none"> Existing and ongoing county planning interventions such as the Nyandarua County Spatial Plan, CIDP, Ol'Kalou IDeP and CBD physical and land use development plan 	<ul style="list-style-type: none"> Knowledge gap on planning among the implementers and the citizens Institutional weaknesses in implementation of planning policies 	<ul style="list-style-type: none"> Availability of human resource to support plan and policy implementation 	
3.	Natural Environment and Resources	<ul style="list-style-type: none"> Favourable geology that supports agriculture and urban development Availability of natural water body resources 	<ul style="list-style-type: none"> Susceptibility to natural disasters Harsh and unreliable climatic conditions affecting agricultural productivity Environmental degradation from increased human activities Minimal disaster/emergency preparedness 	<ul style="list-style-type: none"> Promotion of smart and sustainable agricultural activities Reclamation/rehabilitation of derelict areas for recreational and eco-tourism purpose Existence of laws and policies conserve 	<ul style="list-style-type: none"> Impacts of climate change Encroachment on environmentally sensitive areas- human development is a threat
4.	Population and demography	<ul style="list-style-type: none"> High youthful population, which translates to a robust workforce Increased rate of immigration into the municipality A high population that provides a ready market for goods 	<ul style="list-style-type: none"> High rate of unemployment Financial insecurity among the youth 	<ul style="list-style-type: none"> Diversification of the job market to increase employment opportunities Gender and youth mainstreaming in municipal development projects and programs 	<ul style="list-style-type: none"> Increased social inequalities

5.	Land Use, Administration & Management	<ul style="list-style-type: none"> Land Availability Timely planning preceding development Existence of committees for land management- County Land Management Board, County Land Advisory Committee 	<ul style="list-style-type: none"> Absence of an updated physical and land use development plan Analogue land processing systems leading to loopholes in land management processes Inadequate human resource capacity in the Municipality to undertake land administration processes Weak institutional linkages and coordination Non-compliance to planning and zoning regulations Shift from agriculture to unsustainable urbanisation 	<ul style="list-style-type: none"> Digitization of land administration and management processes Promotion of community planning clinics to create awareness to the public on sustainable land use Existence of planning and land laws and regulations Servicing and compact development of existing urban nodes 	<ul style="list-style-type: none"> Fraudulent land allocation activities Urban sprawl and ribbon development.
6.	Housing & Human Settlements	<ul style="list-style-type: none"> Involvement of both private and public players in the sector 	<ul style="list-style-type: none"> Lack of affordable housing options within the Municipality particularly for the low-income population Weak coordination between private developers and the county in provision of housing Lack of adequate supporting social infrastructure such as schools and recreational facilities 	<ul style="list-style-type: none"> Increasing housing demand as the municipality is urbanising Existence of public and private sector affordable housing programmes 	<ul style="list-style-type: none"> Poor coordination between different actors and players in the sector.
7.	Physical Infrastructure	<ul style="list-style-type: none"> Enhanced national and regional connectivity High dependence on non-motorised Existing sewer line in the town which can be upscaled 	<ul style="list-style-type: none"> Car-centric Road infrastructure Unsustainable waste disposal and management practices Inadequate water supply within the municipality Inadequate access to electricity 	<ul style="list-style-type: none"> Promotion of inclusive road designs Adoption of green and smart waste management practices Utilization of sustainable energy sources 	<ul style="list-style-type: none"> Rugged terrain in some areas affecting the expansion of physical infrastructure e.g., roads, sewer.
8.	Social Infrastructure	<ul style="list-style-type: none"> Availability of social facilities 	<ul style="list-style-type: none"> Human resource inadequacy such as a high student-teacher ratio Poor infrastructural development Mobility challenges hindering access to these facilities 	<ul style="list-style-type: none"> Land availability for expansion and allocation of new facilities Public-private partnerships in social infrastructure provision 	<ul style="list-style-type: none"> Encroachment on public land allocated for social infrastructure development

9.	Local Economy	<ul style="list-style-type: none"> • Favourable climatic conditions that favour agricultural production • Institutions promoting industrialization such as Industrial Development Centre 	<ul style="list-style-type: none"> • High costs of agricultural production • Lack of supporting infrastructure leading to losses • Unreliable and fluctuating markets • Weak institutional coordination • Increased land conversions for urban development • High costs of doing business in the municipality • Under-utilization of markets and unregulated encroachment of traders along the road reserves 	<ul style="list-style-type: none"> • Promotion of agro-industrialization for value addition and market diversification • Adoption of smart and sustainable agricultural practices • Existing infrastructure upgrading programmes • Availability of land for public and private investment such as proposed market centres. 	<ul style="list-style-type: none"> • Close proximity to the developed towns of Nakuru, Nyahururu and Gilgil, leading to emigration, which ideally wouldn't be the case if the local economy and infrastructural services were well developed.
10.	Institutions and Governance	<ul style="list-style-type: none"> • Existence of the laws putting in place different bodies/institutions 	<ul style="list-style-type: none"> • Inadequate human resource allocation to the municipality 	<ul style="list-style-type: none"> • Existing of a framework of delegated functions as contained in UACA • Existence of a roll stipulating the required staff requirements in the Municipality 	<ul style="list-style-type: none"> • Weak coordination between different agencies
11.	Municipal Finances	<ul style="list-style-type: none"> • Support from KUSP and KISIP for existing infrastructure 	<ul style="list-style-type: none"> • Weak coordination between national and county in revenue allocation and flow to the municipality • The municipality is yet to start raising its own revenue 	<ul style="list-style-type: none"> • Potential partnerships with more development financing partner. 	





CHAPTER

15



SCENARIO BUILDING AND CONCEPTUAL FRAMEWORK



15.1: Overview

This chapter presents different development directions that the municipality can adopt. The development scenarios are based on a synthesis of the challenges and threats faced by the municipality and; the strengths and potentials of the municipality. The preferred model will be supported with requisite strategies to ensure it comes to full fruition. The model will also form the basis of the structure and land use plans. The chapter also describes the planning principles and strategies that will guide this planning process going forward.

15.2: Planning Principles

Guiding Principles of the Plan;

- Promotion of physical and functional rural urban linkages seeing that the municipality cuts across both urban and peri-urban areas. This will promote growth of other centres thereby decongesting the main town.
- Participatory approach: This ensures that Plans are prepared in a participatory and consultative manner as is necessary and as prescribed in the law.
- Inclusivity: Ensures that the Plan meets the needs of all groups
- Access to services: The principle seeks to ensure timely provision of basic services and reduction of costs incurred to access goods and services which will in turn reduce the acquisition cost of these goods and services.
- Liveability: Promote economic viability, social inclusivity and ecological sustainability
- Compact Development: Promote compatibility to ensure urban growth is restricted within set boundaries therefore mitigating urban sprawl
- Sustainable development: The Plan needs to balance social, economic and environmental development aspects while meet-

ing the needs of the current and future generations

- Form and Character: Promote harmony between built and natural spaces
- Urban Resilience: the plan will explore options on which the municipality can be resilient to climate change, disasters and other shocks.

15.3: Strategic Development Directions

In line with the preferred model, the Ol'Kalou municipality ISUDP will be keen on the following;

- Conservation of fragile ecosystem: the plan will propose measures to conserve the fragile ecosystem in the municipality in this case the water bodies, mines, forests etc. The plan will seek to also rehabilitate the dilapidated mining sites which can be converted to generate income for the municipality.
- Growth of secondary urban nodes: Secondary nodes such as Rurii, Tumaini, Captain among others will be key in supporting the main town and decongestion
- Promotion of agricultural activities: agriculture remains the backbone of the economy in Ol'Kalou despite its dwindling returns lately. The plan will seek to come up with strategies and proposals on how to improve the state of this sector within the municipality. It is envisaged that the municipality will reduce overreliance on rain-fed agriculture and embrace irrigation as a suitable alternative. To realize this, the municipality will also need to provide adequate water to support this extra productive use of water.
- Compact development: urban sprawl presents a serious test as far as sustainable land use planning is concerned. There is therefore need to contain this sprawl within the designated urban centres/nodes while largely conserving land for active agricul-

tural use. This will increase land efficiency and only “release” land for residential purposes based on actual demand and need and not for speculative purposes as is the case now.

15.4: Alternative Development Models

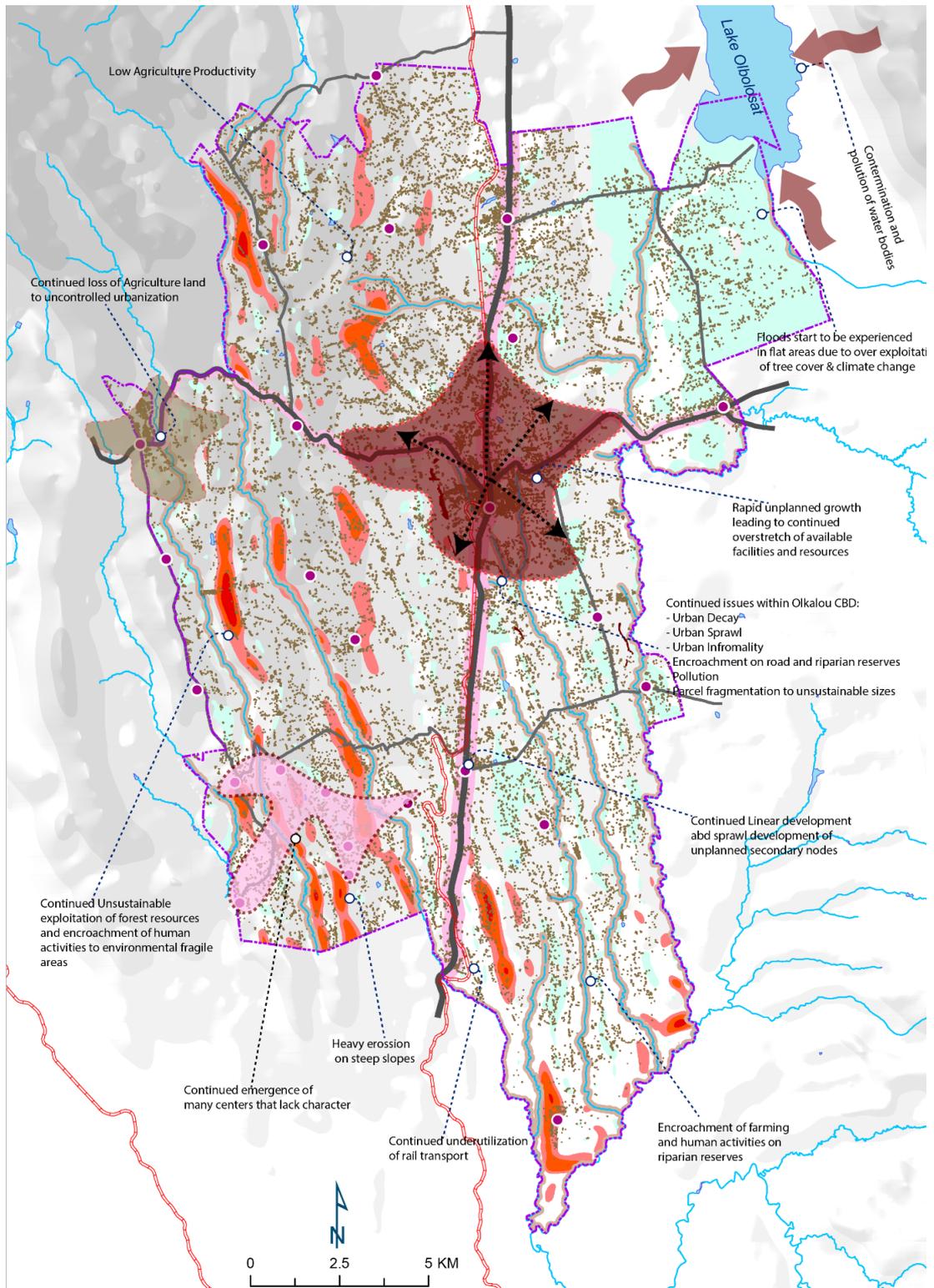
Spatial development alternatives are possible scenarios that would spur development of Ol’Kalou within the planning period. Such development alternatives discussed in this section include: nil intervention, agro-industrial scenario; urbanization scenario, conservation scenario and integrated model alternative.

15.4.1: Nil Intervention Model

Drawing from the situation analysis findings, in the event that there will be zero planning intervention of the emerging issues, below some of the likely occurrences within the planning area as spatially illustrated and described below:

- Haphazard growth with negative social and economic impact in that the centres lack adequate infrastructure and community facilities;
- Continual poor-quality housing with slum dwellings mush-rooming in the centres and linear development along the main transport corridor;
- Massive loss of lives and property in case of natural calamity (e.g., floods, landslides), or human caused disaster such as fires;
- Continued uncontrolled overexploitation of natural resources such soil, land, forests and water. More evidently by the continuing mining of building stones in the quarries across the municipality leaving behind hazardous derelict pits.
- Emergence of human-wildlife conflicts at areas bordering Lake Ol’bolosat reserve especially from existing hippopotamus.
- Solid waste generation will be beyond the Ol’Kalou’s capacity to properly manage and dispose;
- Multiplicity of land use challenges as a result of continual incompatibility of land uses over time;
- Startling urban sprawl and encroachment into the ecologically fragile areas such as forested areas, river riparian reserves as well as Lake Ol’bolosat reserves;
- Demand for housing, infrastructure and utility services (water and electricity) will exceed supply;
- The traffic generated within Ol’Kalou CBD will outweigh the capacity of the roads, termini and the parking spaces available;
- There will be inadequate access to housing because the demand for housing will exceed the supply of the same;
- Increase in poverty levels and low-quality life; and recurrent high cost of living;
- Depletion of aesthetic value and continued urban decay in Ol’Kalou’s and other commercial nodes in the periphery
- Loss and extinction of heritage and cultural sites.

Map 15-1: Nil Intervention Model



Source: Urban Lines Consultants Ltd, 2022

15.4.2: Agro Industrialization-Led Growth Scenario Model

This scenario interplays Ol'Kalou's economic backbone, agriculture and promotion of agro-industrialization to achieve spatially integrated economic growth. Despite one key objective of planning for the municipality being promotion of urbanization, agriculture and industrialization will be key in building wealth, jobs creation and revenue generation, which is key towards self-sustainability. Agro-industrial development alternative will be achieved by:

- Development of storage facilities and cold rooms for fresh farm produce and perishable agricultural products such as fish.
- Building the capacity of farmers on intensive small holder farming and the use of smart farming techniques to promote small-scale profitable agriculture such as aquaculture, apiculture etc.;
- Promotion and establishment of agro-industrialization zones;
- Increase land under irrigated agriculture;
- Upscale production in all existing industries.
- Mechanization of small and medium-holder farmers to increase productivity;
- Development of strong farming cooperative societies and value chain maximization;
- Establishment of agricultural produce collection points within the collection centres;

Advantages of agro-industrialization model

- Better income to farmers as the industries

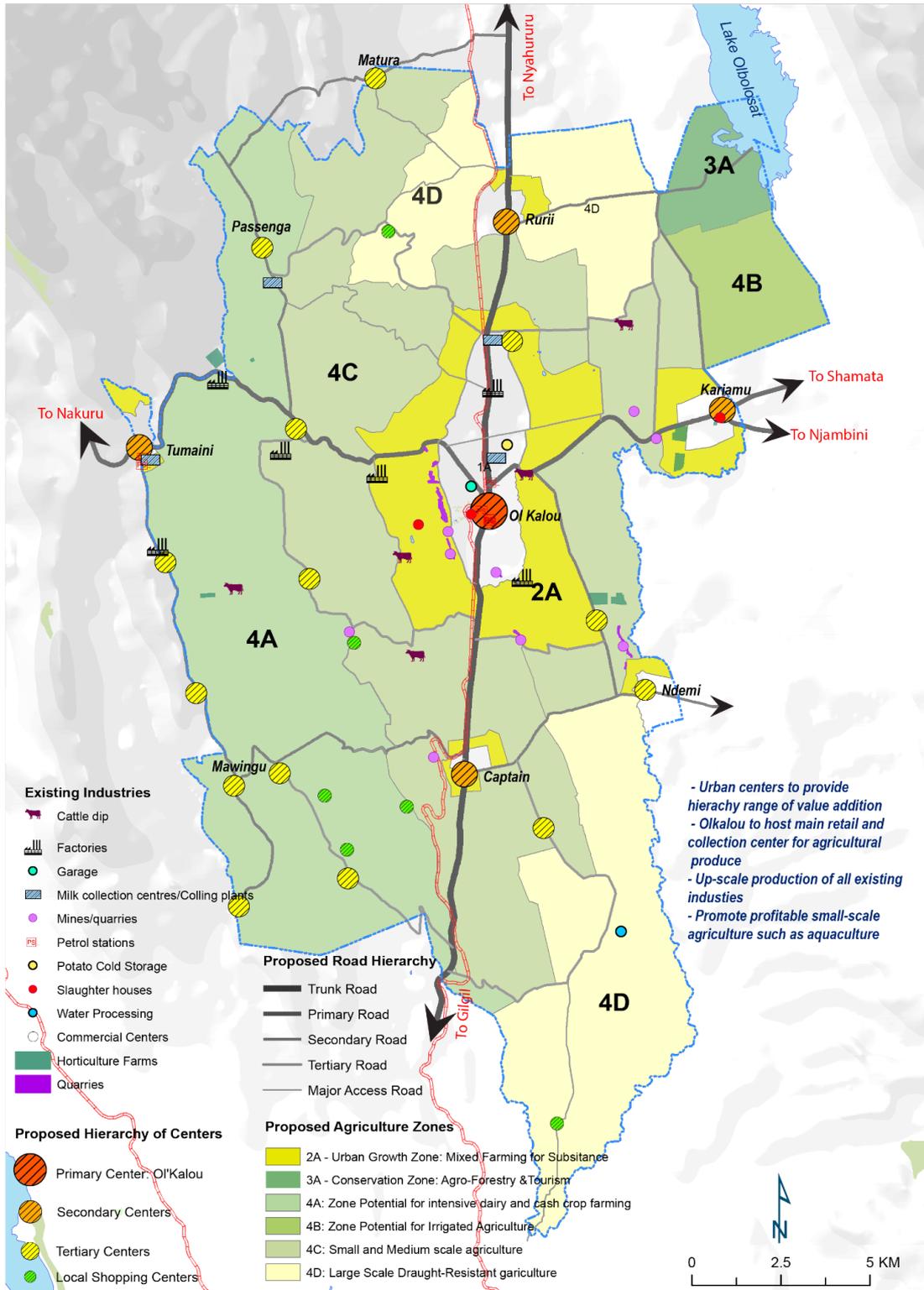
will be agro-based for farm produce value addition which will attract better prices

- The growth of industries will result in large scale production of goods which are available to the consumer at much cheaper rates.
- Industrialization will create new job opportunities, leading to reduction of poverty to a great extent.
- Industrialization will result in development and utilization of new modes of transport (such as the rail transport) making quick export and import possible.

Disadvantages of agro-industrialization model

- The immediate result dominance of industrialization is in the gradual disappearance of many natural resources, the pollution of land, water and air.
- This model will result to increase in vehicular traffic, the incessant working of machines in factories will bring in noise-pollution and dust and smoke.
- The general dirty and unhealthy conditions in and around the industrial sites have affected human health and happiness. Diseases, unheard of before, are spreading far and wide.
- The gradual displacement of manpower in industries is ultimately leading to unemployment.

Map 15-2: Agro Industrialization-Led Growth Scenario Model



Source: Urban Lines Consultants Ltd, 2022

15.4.3: Urbanization-Led Growth Scenario Model

This model recommends an urbanization-led growth where Ol'Kalou urban centre and other commercial nodes within the periphery drive the development agenda. This model will facilitate spatial growth and transformation based on the trend and promise that urbanization is and will continue to intensify and help shape Ol'Kalou's growth as a major driver of development. It will also drive change through the hierarchy of centres through establishment of support infrastructure and service provision. The urban centres will be categorised in to four levels namely primary, secondary, tertiary and local shopping centres. In light of the above pointers, the 3 possible broad scenarios for urban growth can be described as:

- **Urban Development Scenario (Core Urban area):** Assumes the urbanization patterns of planned Ol'Kalou urban area and other centres within the planning area will continue for the next 10 years but guided by the planned and zoned land use activities to control development. It projects a future which transport infrastructure improvements help shape urban growth. Urban development aligned along the railway line and the tarmacked transport corridors. Urbanization that would intensify increasing urban densities around the secondary and tertiary centres.
- **Serviced rural areas:** Within 10 years, the hinterland with rural character and commercial nodes will be serviced based on ranked hierarchy of settlements. Services to include Physical infrastructure and

social amenities. Spreading of services throughout the rural areas and respective hinterland of the secondary nodes within the planned Ol'Kalou urban area. Prime farmlands in the hinterland areas will be zoned and conserved to enhance rural commercial agriculture productivity. It will take advantage of an efficient transport system to enhance connectivity.

- **Infrastructure driven urban development.** Major Highway transportation improvements to help shape growth and development in the planning area. Urban development channelled along the railway line if its potential is tapped for economic and tourism benefits.

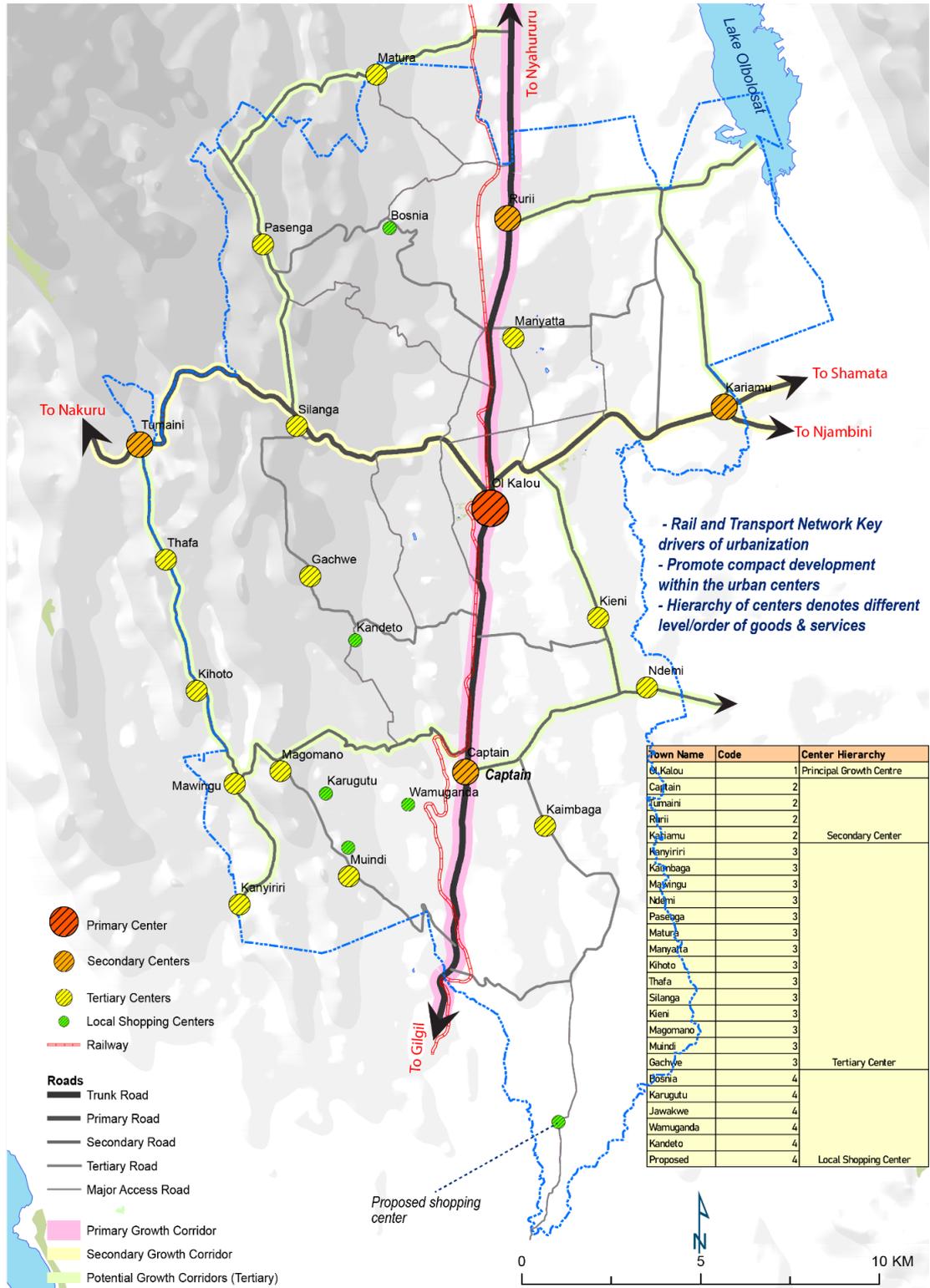
Advantages of urbanization scenario model

- Compact development will reduce pressure on land hence controlled sprawl
- Maintenance of existing urban fabric and functions of different commercial nodes
- Planned transport infrastructure will improve access to services
- Increased mixed use developments within the commercial nodes
- Reduced carbon emissions and increased social integration
- Encourages walkability and use of NMT

Disadvantages of urbanization scenario model

- Require strict development control measures and enforcement
- Encourages congestion of human settlements

Map 15-3: Urbanization-Led Growth Scenario Model



Source: Urban Lines Consultants Ltd, 2022

15.4.4: Conservation-Led Growth Model

This scenario seeks to promote sustainable and environmentally friendly urban development. The model also promotes sustainable exploitation of resources, conservation of natural environment and bio-diversity. The conservation scenario alternative will be achieved by:

- Observe buffer zone for all rivers and water bodies using the highest flood watermark
- Promote agro-forestry and eco-tourism
- Safeguard open spaces in urban areas
- Promote eco-friendly smart sustainable urban development in all commercial nodes
- Promote conservation tourism
- Safeguard existing tree cover, encourage use of life fencing on individual properties (homes) and promote agro-forestry.
- Promote use of sustainable farming methods such as use of environmentally friendly farm inputs and organic fertilizer

- Reclaim all derelict quarries by transforming them to conservation zones for local economic development.

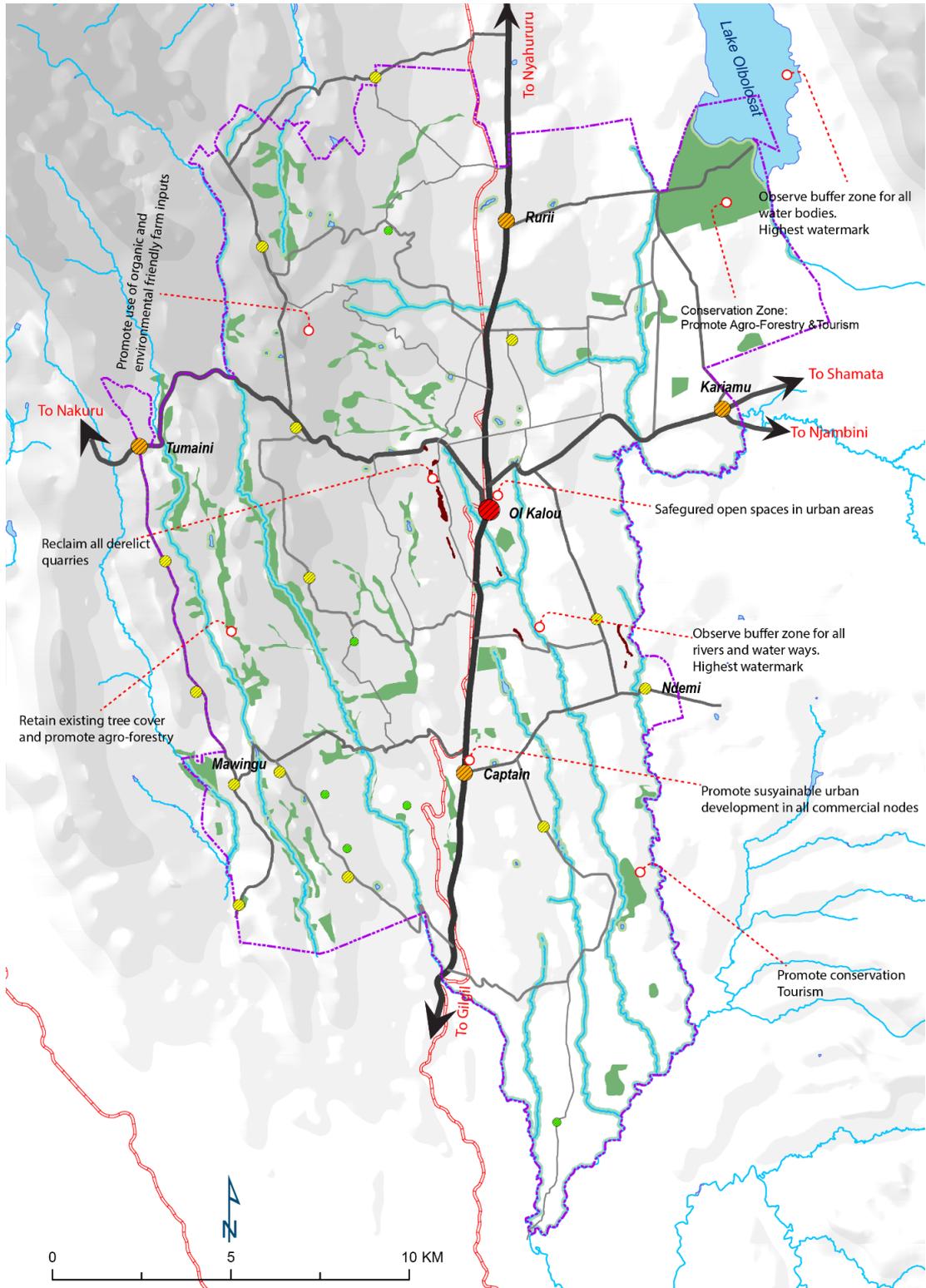
Advantages of conservation scenario model

- Safeguards bio-diversity
- Promotes sustainable urban development
- Enhances sustainable exploitation of natural environment
- Creates opportunity for eco-tourism activities

Disadvantages of conservation scenario model

- Requires strict development control measures and enforcement
- Encourages compact development on core urban areas which can lead to congestion in those zones.

Map 15-4: Conservation-Led Growth Model



Source: Urban Lines Consultants Ltd, 2022

15.4.5: Integrated Model Alternative [Preferred]

This is the preferred model as it takes account of all development sectors and forms a hybrid and foundation for development control guidelines. This model ensures:

- Reduced overstretch and strain of infrastructure in OI'Kalou due to promotion of other nodes to secondary and tertiary status.
- Increased investments, jobs, trade and commerce opportunities in OI'Kalou and all other commercial nodes.
- Reduced dependence of OI'Kalou CBD for commerce, trade, and infrastructure and service provision.
- Sustainable environmental conservation and exploitation of natural resources.
- Enhanced ward-wide accessibility and connectivity with interlinked nodes.
- Improved access to services and facilities within the entire planning area.
- Increased trickledown effects to the secondary nodes.
- Orderly and controlled urban developments.

Advantages of Integrated Model Alternative

- Reduced overstretch of resources and in-

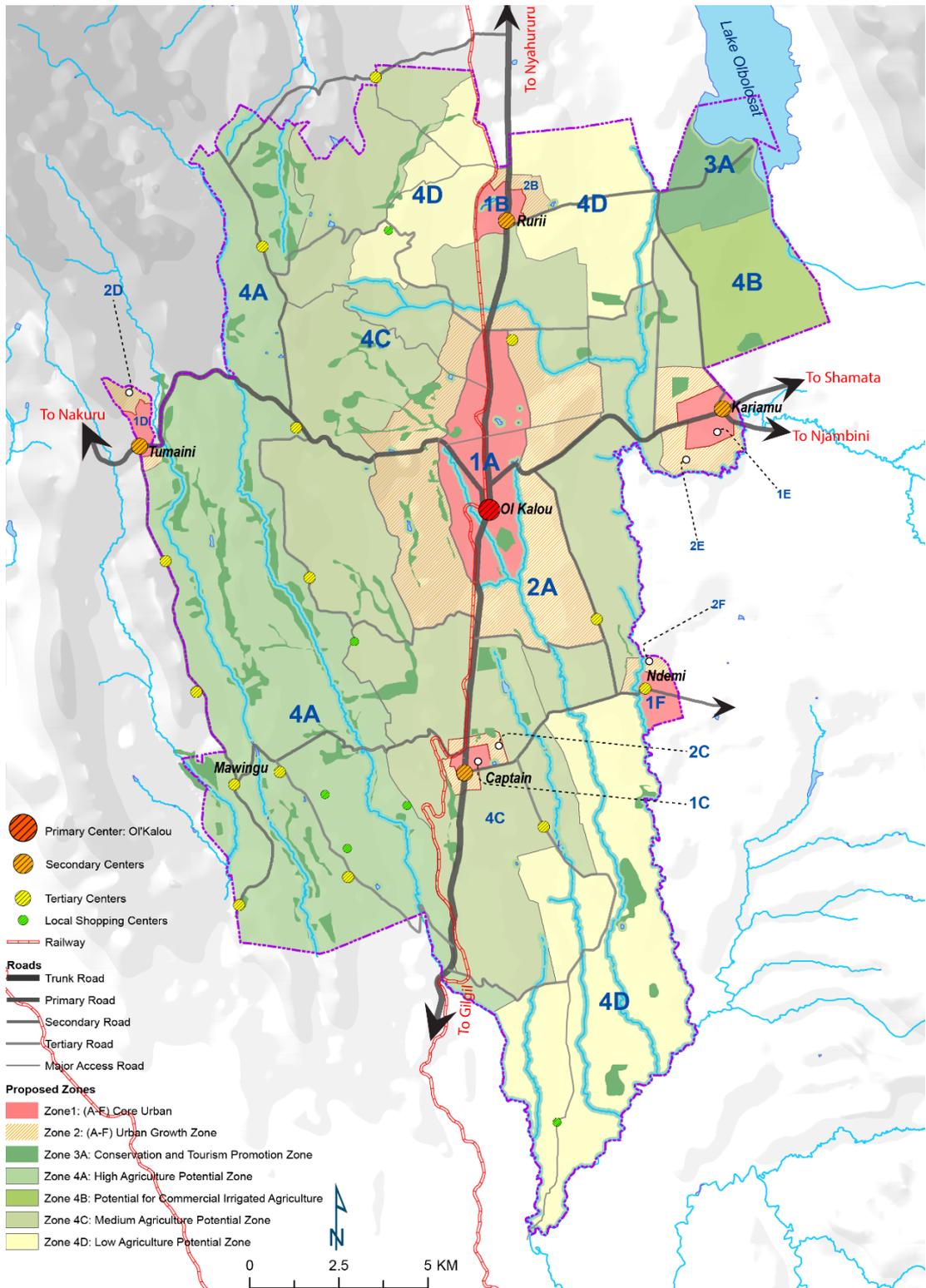
frastructure strain in OI'Kalou CBD due to development increased service provision and opportunities in all planned secondary and tertiary nodes.

- Reduced dependency on OI'Kalou as a primary commercial node by introducing secondary, tertiary and local level hierarchy of centres.
- Reduced traffic congestion on the major transport corridors and within OI'Kalou.
- Reduced fragmentation of land parcel to uneconomical sizes.
- Enhanced intra and inter regional access and connectivity.
- of infrastructure and facilities in the secondary nodes.
- Increased opportunities for revenue and wealth creation.
- General increased access to facilities and services.
- Controlled urban developments.
- Better conserved environment.

Disadvantages of Integrated Model Alternative

- Require strict development control measures and enforcement.
- High cost of implementation.

Map 15-5: Integrated Model Alternative



Source: Urban Lines Consultants Ltd, 2022

15.5: Vision of the Plan

During the community participatory session at the stakeholder's workshop, the Ol'Kalou community expressly settled on the following vision for the municipality.

"To be a leading municipality in fostering sustainable socio-economic development through promoting agro-industrialization, environmental conservation, good governance, and social integration"

Plate 15-1: A Breakaway working group session during the visioning process



Source: Urban Lines Consultants Ltd, 2022



CHAPTER

16



SECTORAL STRATEGIES

16.1: Overview.

This chapter provides sectoral strategies and respective programmes and projects to be implemented. The strategies are geared towards achieving the preferred model and the land use plan. The actors and timelines are indicated

Project Phasing

Project Term	Timeline
Quick Wins	3 to 6 months
Short-term	1 to 3 years
Medium Term	3 to 5 years
Long Term	5 to 10 years

16.2: Strategies on Local Economic Development

Like any other place, the economic sector in the municipality is multifaceted. These aspects include agriculture, trade and commerce, manufacturing and industrialization. These sectors need favourable environment in order to thrive. This section aims to propose necessary infrastructure to trigger the best economic activities for high returns, boost investments and increase working hours. The section presents strategies on the following sectors;

- Agriculture i.e., Livestock and crop farming
- Trade and commerce
- Manufacturing and industrialization

16.2.1: Trade and Commerce

Trade and commerce in the municipality is hindered by high cost of doing business and infrastructural constraints. Towards improvement of the sector, a conducive business environment needs to be created and nurtured. This will be in form of business-friendly policies, rational tax regime, efficient infrastructure and affordable credit. The trade and commerce improvement strategies are contained in table 16-1 overleaf.

16.2.2: Manufacturing & Industrialization

The strategic location and the existing agro-industrial base of the municipality and the county can be harnessed to the betterment of the economy and for provision of employment opportunities. The strategies will also propose interventions to spur the cottage/jua kali sector through allocation of space and provision of investment incentives. The table 16-2 presents some of the strategies and programmes that can be implemented to propel this economic plank.

Table 16-1: Trade and Commerce Improvement Strategies

Strategy	Programme	Project
Create conducive business environment for growth and employment opportunities	Provide adequate trading facilities	<ul style="list-style-type: none"> • Modernize and expand traders market facilities in Ol'Kalou town, market centres and other strategic areas • Provide and frequently maintain the sanitation, water and solid waste management. • Enhance security services i.e., personnel and flood lighting
		<ul style="list-style-type: none"> • Decongest the CBD by: <ul style="list-style-type: none"> • Use of Stacked containers • Enforce traders to operate from designated spaces • Designate certain public spaces/streets for periodic market days especially on weekends, and other nodes within the municipality
		<ul style="list-style-type: none"> • Develop and operationalize mechanisms to handle public grievances on local, regional international trade and customer care issues
		<ul style="list-style-type: none"> • Develop and operationalize policy on growth of trade
Promote access to affordable credit with favourable interest rates		<ul style="list-style-type: none"> • Formation of cooperatives, saccos, saving groups and chamas • Expand the county and national government fund to support individual traders and groups through microfinance and banks. • Train traders and groups on financial literacy and corporate governance • Mitigate financial default risks through insurance coverage
Strengthen and expand MSMEs		<ul style="list-style-type: none"> • Promote formalization through business registration and compliance • Rationalize licensing and taxation regime. • Capacity building and training on business systems (book keeping and management)
Incorporate and facilitate MSMEs to participate in procurement in Ministries Departments and Agencies (MDAs)		<ul style="list-style-type: none"> • Compliance with the government procurement procedure • Awareness creation to MSMEs on procurement procedures and eligibility. • Provide an online platform for traders to interact with MDAs. • Develop innovative access to county and MDAs tenders.

Table 16-2: Manufacturing Strategy

Strategy	Programme	Project
Promote the Municipality as an agro-industrial centre	Implement effective industrial development policies and strategies targeting large, medium and small-scale industrial operators	<ul style="list-style-type: none"> • Implementation and updating of policies and programmes for stimulation of domestic, foreign industrial investments and trade promotions.
		<ul style="list-style-type: none"> • Develop and implement strategy to support bilateral, regional and international trade linkages
	Conducting feasibility studies on industrial development as defined in the proposed land use plan.	
	Establish industrial zones	<ul style="list-style-type: none"> • Plan for industrial zone • Provide support infrastructure (roads, electricity and water) and logistical support • Formulate favourable credit systems and taxation regimes to attract and retain investments
	Strengthen small scale industrial operators (Jua Kali and cottage)	<ul style="list-style-type: none"> • Upscale the existing Ministry of Industrialization's Industrial Development Centre with adequate human and financial resources as a prototype small scale centre to promote facility. • Strengthen the Ol'Kalou Digital Jua Kali Association by; • Access to modern equipment, power supply, water and sanitation • Promote the embracing of innovative technology • Securing the land from grabbers and encroachment • Enhance market penetration and linkages with consumers e.g., farmers to purchase farming equipment. • Training on skills, management and leadership • Encourage local consumption of manufactured goods and services- ('Made in Ol'Kalou, Buy in Ol'Kalou') • Expand the operating sheds to accommodate more workers and provide storage facilities • Support benchmarking for learning from local, regional and international platforms • Organize local showcase events to boost local talent and productivity

16.2.3: Livestock

The following targeted interventions by the government into the livestock sector holds the key to unlocking the potential of great wealth

and employment to the farming community in the municipality and the county at large.

Table 16-3: Livestock Sector Implementation Matrix

Strategy	Programme	Project	
Unlock the livestock potential for maximum economic value	Improve livestock productivity through disease control	• Deploy and expand extension services to every ward	
		• Train farmers on best practices on animal husbandry	
		• Disease surveillance & control	
	Promote better productive genetics for all livestock	• Subsidized artificial insemination services (cattle)	
		• Source pedigree rams (Hampshire & Corriedale Sheep) to improve the breed ¹⁷	
		• Farmer Training programmes	
	Enhance milk production from 9L to 18L per cow through quality and reliable fodder supply.		• Promote farm level fodder production for subsistence use
			• Promote small and medium size commercial fodder production
			• Identify best varieties of fodder seeds & trees
			• Train farmers on fodder conservation/storage
• Subsidized feed			
Knowledge transfer and capacity building		• Establish model demonstration farms within the municipality	
		• Promote exchange programmes	
Promote value addition, food safety and marketing		• Organise annual investment conferences to promote livestock sector investments and marketing	
		• Establish a modern abattoir for beef, sheep & goats	
		• Formulate regulations for safe food handling (processing, inspections & storage)	
		• Set aside land for an industrial park with utilities such as water, electricity, roads, drainage and sewerage	
		• Promote cold storage facilities to mitigate glut and for price stabilization. (Confirm whether the existing one has space for livestock produce storage, if so, propose expansion)	
		• Give industrial investors 5-year land rates payment moratorium	
Provide financial linkages		• Partnership with financial institutions to fund agricultural sector	
		• Mainstream uptake of agro-insurance covers.	
		• Mobilize development partners and agri-business NGOs to support agriculture	
Provide water for livestock use to mitigate drought effects		• Map out existing boreholes and assess reticulation coverage	
		• Drilling of water boreholes and earth pans to ensure constant water supply	
		• Rainwater harvesting	
		• Dredge existing and construct new water pans	
		• Explore potential for dam construction	

¹⁷ 17 Counties that have sourced such breeds include Uasin Gishu

16.2.4: Crops farming

While Nyandarua is renowned for potato farming, other crops have the potential to push this sector to the best performing in the municipality and the county. The following proposals are geared towards encouraging investments in the sector.

Table 16-4: Implementation Matrix – Crop Farming

Strategy	Programme	Project
Unlock crop potential for food security, farmers income and employment.	Promote high potato sub-sector productivity	<ul style="list-style-type: none"> Lobby the county and national government to subsidize certified potatoes seeds, farm inputs and offer extension services such as soil testing.
		<ul style="list-style-type: none"> Identify and build capacity of farm potato seeds production centres through continuous research and development
		<ul style="list-style-type: none"> Establish potato seed stockists in Ol'Kalou to improve access and reduce transportation costs
	Value addition and marketing for potatoes, horticulture and vegetables	<ul style="list-style-type: none"> Enforce 50kgs packing bag Aggregating and packaging of horticultural produce (carrots, snow peas and peas) Construct cold storage facilities Forge Public Private Partnership with commercial entities Capacity build farmers on adoption of integrated pest management system and phytosanitary standards (use of harmful chemicals during planting and post harvesting)
	Agricultural land preservation	<ul style="list-style-type: none"> Community sensitization barazas on viable land use Enforce zoning guidelines
	Crop Diversification	<ul style="list-style-type: none"> Identify best crops suited for crop rotation Linkages with research institutions for suitable crop technologies
	Farm mechanization Processes	<ul style="list-style-type: none"> Leverage on existing county programmes on appropriate and affordable technologies such as tractors, forage cutters, hay bailers and harvesting equipment.
	Maximization of farmers returns	<ul style="list-style-type: none"> Strengthen farmers cooperatives Diversification of market channels/new markets Enforcement of minimum guaranteed returns
	Enhance access to credit and financial support	<ul style="list-style-type: none"> Mainstream uptake of agro-business insurance Recapitalize cooperatives through member contributions, earnings retention, county grants & donations

Plate 16-1: Small Scale Mechanization in Bangladesh and Burundi



16.3: Strategies on Physical Infrastructure & Basic Services

Efficient physical infrastructure is imperative in spurring local economic development, social wellbeing and easy access to services. This Plan appreciates that the municipality faces an acute physical infrastructural challenge including inadequate transport facilities (NMT, parking facilities, termini), and poor internal roads that have led to slow

development and therefore needs urgent redress. Transportation, water and sanitation, waste management improvement strategies are captured below.

16.3.1: Transportation Strategy

An effective and efficient transport system is an important prerequisite in facilitating national and regional integration, movement of people, goods and services; promote trade. This will enhance economic growth, reduce poverty and create wealth.

Table 16-5: Transportation Sector Improvement strategy

Strategy	Programme	Project
To create a modern, well connected and efficient transport system for movement of people, goods and services.	Improvement of existing and expansion of transport facilities	Construction laybys/bus stops along the major roads and urban centres
		Construction of local and long-distance lorry parks
		Construction of NMT facilities
		Construction of matatus terminus by reclaiming and expanding the earlier earmarked termini currently encroached by traders
		Construction of parking lots
		Construction of boda boda sheds
		Construct a new bus terminus at the railway station
		Upgrading of roads within the municipality to improve connectivity and unlock local economy
Upgrading Oleriondo – Mawingu road to bitumen standards		
Upgrading Captain – Kaimbaga road to bitumen standards		
Dualling the Gilgil-Nyahururu stretch between Captain and Rurii.		
Storm water drainage	Upgrading drainage channels within the municipality	Construction of drainage channels along the major roads.
		Rehabilitation of the existing drainage channels.
		Increase the coverage of the drainage in the major centres. Covering the storm water drainage system with durable covers

16.3.2: Water, Sanitation and Solid Waste Management Strategies

In line with SDG goals 3 and 6, this ISUDP aims to promote good health and wellbeing by ensuring access to safe water, decent sanitation and better management of liquid and solid waste generated.

According to the Ol'Kalou Municipality IDeP 2021, the municipality aims at becoming a fully water secure town by 2030. This will be realized by adoption of efficient water

technologies, prudent use of existing water resources and developing new ones to meet the domestic and productive uses such as industrial, commercial and agricultural needs with an overall goal of ensuring provision of safe, clean reliable and affordable water supply¹⁵. This ISUDP wishes to actualize this goal by undertaking the following interventions for better waste management, access to safe water and sanitation and hygiene as highlighted below.

Table 16-6: Utility provision

Strategy	Programme	Project
Provision of adequate, reliable and affordable water supply	Increase and expand potable water supply annually from 40km ² to 340km ² within the plan period (10 years)	Mix of water supply technologies <ul style="list-style-type: none"> - Reticulation within urban and peri-urban centres - Boreholes and water kiosks within rural areas
		Increase the storage and treatment capacity in population areas both urban and peri-urban
		Drill 5 boreholes in the municipality
		Public participation to review water tariffs.
		Rehabilitation and repair of dilapidated and decaying pipes and metres
Provision of water for agriculture and livestock use	Provision of alternative water technologies such as <ul style="list-style-type: none"> - Rain water harvesting - Dams and earth pans - Shallow wells where applicable 	
Improving water accountability	Introduce GIS based monitoring technology Training residents on sustainable water management practices	
Protection of catchment areas	Protection of rivers within the municipality against encroachment and pollution	

¹⁵ Ol'Kalou Municipality IDeP 2021

Strategy	Programme	Project
Improve access to decent sanitation	Expand sewer system to 100% coverage.	Construction of sewer treatment plant
		Promote public participation and awareness on the existing connections on sewer regarding costs, environmental and health benefits
		Expand sewer reticulation network
		Provide better, increase and manage onsite sanitation systems in the market centres
		Purchase equipment and engage private sector providers on sanitation services.
		Design and implement schools' sanitation programme
Enhanced sustainable solid waste management	Improve solid waste management within the municipality	Regular collection and safe disposal of waste
		Purchase refuse bins, skipper trucks and transfer stations
		Train and create awareness on waste management
		Prepare policy on pollution offences and fine payment
		License small scale waste collectors
		Sensitize and train households and SMEs on circular economy of waste e.g., organic fertilizers, paper and plastic re-use
		Construction of modern sanitary landfill and waste recycling plant.
		Decommission and rehabilitate the current dumpsite
		Protection of the current dumpsite against encroachment
Commissioning of a new dumpsite outside the urban core		

Figure 16-1: Sample of Waste Management Receptacles



16.4: Strategies on Social Infrastructure Services

16.4.1: Health

SDG 3 champions for the promotion of good health and wellbeing for all¹⁶. On the other hand, the Ol'Kalou IDeP recognizes health as a pertinent social and economic issue for the development of the municipality¹⁷. This Plan's goal is to improve access to affordable and quality healthcare to realize a healthy and well-nourished population. This can be achieved by the following strategic approaches;

16.4.2: Education

In line with the national government target on 100% enrolment and transition from primary to secondary school, this Plan aims at achieving quality and accessible education for all especially in underserved areas of the municipality. This will be attained through the targeted approaches key among them enhanced and adequate provision of these facilities through partnerships with National Government and availing of incentives to the private sector to encourage investments in this sector. However, to ensure that this works, there is need to ensure adequate human resource is employed and deployed to these facilities.

Table 16-7: Healthcare improvement strategies

Strategy	Programme	Project
Ensure access of better healthcare to all	Expand and equip health facilities	Provide personnel and drugs in public health facilities to decongest JM Kariuki Hospital
		Construct (3) level 3 hospitals at Tumaini, Rurii and Captain to improve coverage of healthcare services
		Upgrade the existing health facilities structurally and with equipment and personnel
		Purchase at least 3 ambulances to improve emergency services
		Upgrade JM Hospital to Level 5 standards and equip with specialised medical equipment e.g., cancer care and renal
		Acquire/reserve/surrender land for more health facilities

16 United Nations, Sustainable Development Goals

17 Ol'Kalou Municipality, Ol'Kalou IDeP 2020-2025

Table 16-8: Education Strategies

Strategy	Programme	Project
To provide quality education for all	Improve enrolment in schools	Provide adequate ECDE facilities within 500 metres walking distance
		Enforce 100% transition to secondary schools through expansion of education facilities within 3km radii.
		Increase student capitation and bursaries to the needy and vulnerable
		Employment and deployment of adequate teaching personnel
		Offer incentives to the private sector to promote construction of more private schools
		Acquire/reserve/surrender land for more education facilities
	Promote technical skills training	Expand the Technical & Vocational Education and Training (TVET) institutions
		Provide bursaries for the needy students
		Construct the proposed Nyandarua Model University to provide specialized skills
	Promote special education	Upgrade the existing special school with special ed. Learning equipment and personnel
Provision of Child Care facilities	Integration of child care facilities within public spaces	

16.4.3: Other social facilities

These include other support social infrastructure including police posts, cemeteries, social halls among others.

Table 16-9: Strategies for other Social Infrastructure

Strategy	Programme	Project
Enhance response of public facilities	Provide support social facilities	Construct fire station, fire-fighting truck & fire hydrants)
		Police post and security apparatus
		Construct a modern cemetery and crematorium in town and improve other cemetery sites
		Construct 4 social halls equipped in ICT and library services
		Construction of an airstrip

16.5: Strategies on Land & Land Use

The National Land Use Policy, 2017 aims for the promotion of the best land use practices for optimal utilization of the land resource for the socio-economic and cultural benefits to the public. This is further reinforced by Article 60 and 66 of the Kenya Constitution, 2010, which calls for equitable, efficient, productive and sustainable use of land and regulation of any activity on land. Land use practices in Ol'Kalou have manifested in the contrary of the foregoing provisions due to the lack of an up-

to-date development framework and policies. This is further exacerbated by uncoordinated development activities due to increased land conversions, informal subdivisions, conflicting land uses, insufficient infrastructure to support the budding land uses, densification and incongruent developments etc. It is thus, the aim of this Plan to offset current land and land use issues and actualize the goals of legal and national statutes, and creation of synergies between different actors, through implementation of the following strategies.

Table 16-10: Land and Land Use Management Strategies

Strategy	Programme	Projects
Sustainable management of land through efficient planning and management	Mainstream and localise National Land and Urban policies within the Ol'Kalou municipality	<ul style="list-style-type: none"> Constitute a technical land management committee comprising of NLC, survey, physical planning, land administration to coordinate implementation of the laws, policies and regulations Prepare local guidelines for implementation Embrace online platforms such as Ardhi Sasa and development application system for harmonization land use planning, administration and management.
	Synergy between land administration actors and institutions	<ul style="list-style-type: none"> Creation of a nexus of technical meetings to enhance coordination and collaboration between actors
Secure public land	Develop a living document on public land inventory	<ul style="list-style-type: none"> Audit and secure all the current public land within the municipality and create a living document Enforcement of planning standards in areas undergoing subdivision and conversion to non-agricultural use to reserve land for public use (schools, health facilities, open spaces and other support infrastructure). Plan, survey and register all public land in liaison with NLC Operationalize repossession of all grabbed public land.

Enhance local economic development through efficient land use planning	Promote land balance between agriculture and secondary uses such as residential, industrial and commercial uses	<ul style="list-style-type: none"> • Create awareness through land use clinics on optimal land use (agricultural, commercial, industrial parks) • Conduct market studies on potential economic zones on industrial and commercial uses.
Updated policy and development framework	Effect the plan for implementation	<ul style="list-style-type: none"> • Zone land for local economic development hubs leveraging economic potential within each ward (at least two (2) per ward). • Secure land tenure especially in Ol'Kalou town and the market centres • Approval and Implementation of the Ol'Kalou Integrated Strategic Urban Development plan • Undertaking land clinics and workshops to inform the public of urban development plans • Establishment of an appraisal mechanism for plan implementation • Curb political interference in planning processes

16.6: Strategies on Urbanization, Housing & Human Settlements

By 2030, SDG 11 envisions communities that are inclusive, safe, sustainable, resilient, and which offer affordable and accessible services, decent housing, inclusive and safe green open spaces, with positive socio-economic rural-urban linkages. Ol'Kalou Municipality is fast urbanizing vis a vis the current infrastructure inventory creating

increased pressure and deficits. It is thus the aim of this Plan to provide programs and projects that will promote sustainable urbanization to address the growing needs of the Municipality in terms of infrastructure services, housing and transportation services. Also, the plan will propose and delineate core urban and urban fringes to control urban sprawl and promote compact development of the urban core and satellite centres.

Table 16-11: Urbanization and Human Settlement Strategies

Strategy	Programme	Project
Framework for delegating powers to municipalities in providing urban services	Creation of a transition taskforce/ committee to ensure transfer of functions from the county to the municipality	Task force Report
Development control policies and enhance their implementation	Establish a system of scrutinizing development applications for approval, supervision and enforcement of development	Empower the planning department at the municipality to process development control through online development application system
	Enhancing the development application approval timelines	Procedures on application processing and approvals E-DAMS
Control urban sprawl and promote compact development of the urban core and satellite centres	Promote compact development	Upgrading of the existing infrastructure in the CBD and satellite centres
		Densification of the urban areas by increasing plot ratios
		Delineation of the CBD and market centre boundaries
Harmonize streetscapes and minimize vehicular/ non-motorized traffic conflicts	Promotion of use of non-motorized modes of transport	Construction of footpaths, cycling lanes and street furniture within Ol'Kalou CBD Encourage tree buffers
Promote distinctive character and "sense of place"	Establishment and enforcement of distinctive building facades and character	Renovation of dilapidated buildings within Ol'Kalou CBD
	Incorporation of green and open spaces in private developments as a development approval requirement	
Provide a framework for decent and affordable housing for the urban residents of Ol'Kalou	Undertake a housing market study within Ol'Kalou to determine the housing needs and demand particularly for the low-income	Affordable housing study
	Promotion of Public-Private Partnerships to promote investment in housing sector	PPP framework
		Development of County social housing projects Upgrading of physical infrastructure and social amenities in residential areas (site & service schemes)
Upgrading of Kariamu, Rurii, Captain and Tumaini to town status	Governor to appoint ad-hoc committee as per UACA 2019	Formation of committee
		Public participation meeting
		Report and adoption
		Governor to confer township status
		Approval by county assembly Appointment of town committee

16.7: Tourism, Culture, Sports and Recreation Strategy

Tourism, cultural, sports and recreational activities are requisite in the enhancement of regional identity, community togetherness, healthy living, and are the cornerstone of local economic development. The municipality's tourism potential though rich and robust, remains untapped and its potential somewhat unexploited. Pursuant to the provisions of the National Tourism Policy, 2010, which calls

for the promotion of sustainable tourism that promotes quality of life for communities, this Plan provides strategies on how to revitalize and harness the tourism, cultural and recreation opportunities by not only promoting community access to sport and recreational facilities, but also allocating and securing land for other social facilities and promoting the cultural heritage of the people for the socio-economic development of the area. This will be achieved by the following;

Table 16-12: Tourism Implementation Strategy

Sector	Strategy	Programme	Project
Tourism	Promote Ol'Kalou as a tourism destination	Promote Lake Ol'bolosat as a tourist destination with tourism stakeholders	<p>Gazettement & provide support infrastructure to develop lake Ol'bolosat to a tourist site in partnership with private sector</p> <p>Develop Ol'Kalou arboretum park with a garden, park, hotel and conference facility through a PPP arrangement.</p> <p>Identify, preserve and gazette historical sites and cultural centres.</p> <p>Develop a tourism circuit network integrating Nyandarua within the wider CEREB tourism potential. e.g., Lake Ol'bolosat, Aberdare, Thompsons Falls, Mt. Kenya, Lakes Naivasha and Nakuru.</p> <p>Organize annual tourism conferences with relevant actors to showcase Ol'Kalou tourism potential and boost community participation</p> <p>River line redevelopment to promote eco-tourism along River Ol'Kalou</p>
Arts & Culture	Promote arts and conserve the cultural heritage of the Municipality	Community education of importance of arts, cultural and historical preservation	<ul style="list-style-type: none"> Awareness creation on importance of culture preservation Development proposal of an arts and cultural centre with a theatre and museum
Sports and recreation	Promote community access to sports and recreational facilities		<p>Redevelopment of the Ol'Kalou civic area to serve as a public green open space</p> <p>Delineate space for provision of public green open spaces to optimize access</p>
Sports and recreational activities	Promote access to social and recreational facilities	Allocate and secure land for social facilities such as cemeteries and social halls	<p>Acquisition of public land for Municipal cemetery and Community centres</p> <p>Completion of the municipality social hall</p> <p>Gazettement of Ol'Kalou cultural and historical sites</p>

16.8: Strategies on Environment & Climate Change

The United Nations' Sustainable Development Goal 12 calls for sustainable production and consumption patterns, while Goal 13 aims at integrating climate change measures into national policies, strategies and planning as an urgent action towards combating the effects of climate change. Article 42 of the Kenya Constitution, 2010, further mandates the right to a clean and healthy environment for everyone. The National Environment Policy, 2013 caps it off by identifying the environment

and natural resources as valuable assets that form the foundation for local and national economic development, thus their utilization and management should be in a sustainable manner.

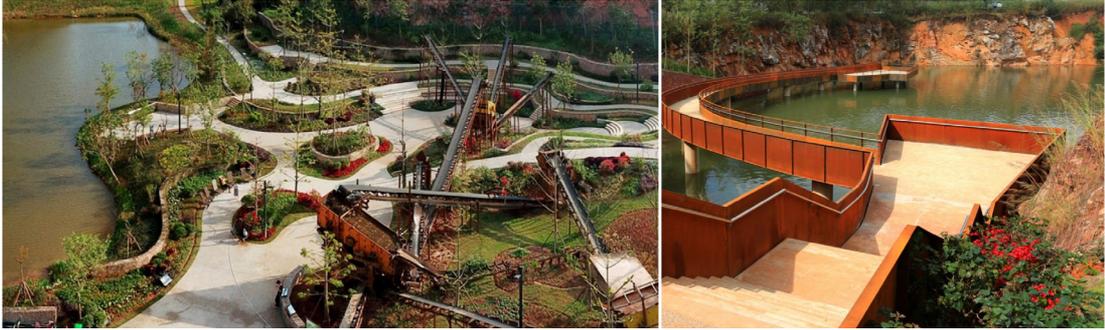
With the myriad of environmental threats and challenges that Ol'Kalou Municipality is facing, it is thus the aim of this Plan to actualise these calls to action by ensuring conservation of the environment and sound consumption of natural resources while promoting the sustainable development of the Municipality.

Table 16-13: Strategies on Environment and Climate Change

Strategy	Programme	Project
Optimal and sustainable use of natural resources	Reforestation	Distribution of tree seedlings to the residents Planting of tree buffers in all public land, and along streets
	Awareness creation on sound resource management	Conducting periodic training and outreach programs to the community
		Creation of educative programs on local media stations
Protect and conserve environmentally sensitive areas	Enforcement of riparian reserves along all water bodies	Map and gazette all riparian reserves within Ol'Kalou
	Riverfront redevelopment in Ol'Kalou River	Tree planting along river banks and on hilly areas
		Construction of public promenades
		Undertaking River cleaning up activities
Regional management approach to rivers	Landscape management to manage upstream river pollution	
Adopting a polluter-pays principle for any natural resources such as leaving derelict quarries, contamination of water resources, and excessive use of pesticides	Prepare policy on pollution offences and fine payment	
Reclaim and rehabilitate the derelict quarries	Regulation of quarrying activities in the Municipality	Preparation of quarrying policies within Ol'Kalou Municipality to guide and regulate ongoing and future mining practices and requiring EIAs to be conducted prior to commissioning of quarries
		Training and sensitization of community members on quarry site reclamation and rehabilitation

Alleviate the effects of climate change	Providing institutional and financial capacity to build on research on climate change	Budget allocation to help in tackling effects of climate change and implement climate smart solutions
	Promotion and adoption of use of renewable sources of energy	Installation of solar or wind powered street lighting
	Training of county and municipal departments on integration of climate change in sectorial plans and strategies	Establishment of a climate change department within the county and municipality pursuant to Section 19 of the National Climate Change Act, 2016
	Community education on climate change and sustainable land use	Providing free online/face-face training courses to the municipal staff and the public
	Provide extension services on adoption of climate smart agricultural practices	Deployment of extension staff to Ol'Kalou Municipality
Harmonious human-wildlife co-existence	Human-wildlife conflict resolution	Enhancing the current county interventions in creation of buffers in form of fences or trenches to prevent human-wildlife conflicts
		Community education on peaceful co-existence with the wildlife
Emergency and disaster preparedness within the Municipality	Strengthening institutional capacities, and research to manage risks and disaster-prone areas to ensure the safety of communities	Establishment of a disaster management department in the Municipality
		Undertake the disaster mapping of the municipality
		Acquisition of land and construction of a fully equipped disaster management centre
		Construct and equip the proposed fire station
		Establishment of a coordination mechanism among all concerned agencies for disaster management, like Health Department, Fire Department, Police department, etc.
Development, regular updating and wide dissemination of information on disaster risks		

Figure 16-2: Rehabilitated Mines in China and Haller Park



16.9: Municipal Governance and Institutional Framework Strategy

Successful implementation of physical and land use development plans is ultimately dependent on the capacity of each stakeholder and institution to efficiently accomplish their responsibilities in effecting the proposed plans

and strategies. Besides the stakeholders, policy instruments and institutional structures also highly influence effective plan implementation, which are vital parameters of governance. To enhance governance of the people, by the people and for the people within the municipality, the following strategies have been recommended.

Table 16-14: Municipal Governance Structure

Strategy	Programme	Project
Clear cut governance structure and coordination between the county government and the municipality	Implementation of transfer of roles and functions from the county government to the municipality	Creation of a function delegation committee from county to municipal governance to operationalize Section 21 (1(a)) of UACA, 2011
	Capacity building programs on county and municipal governance and roles as per CGA, 2012 and UACA, 2011	Undertaking training workshops to the Municipal executive and technical staff on their statutory roles
Broaden and enhance governance coordination between stakeholders and service delivery	Provision of an enabling environment for the private sector in service provision as per Section 33 of UACA, 2011	Establishment of a municipal public-private partnership committee Public Private Partnership Act, 2021
		Provision of fiscal incentives to the private sector to enhance service delivery
		Preparation, adoption, and implementation of a tariffs and pricing policy for delivery of services in the Municipality pursuant (Section 20 (n& m) of UACA 2011 and Section 120 of CGA 2012
	Mainstreaming technology in enhancing municipal service delivery to the public	Developing of an online repository system of services, professionals and institutions
	Enhance transparency and fairness in the procurement processes in the Municipality as per Public Procurement and Asset Disposal Act, 2015	Establishment of a Procurement department within the Municipality pursuant to Section 32 of UACA, 2011
Public advertisement and dissemination of service delivery tender notices in local media as per the provisions of the PPADA, 2019		
Enhance coordination between stakeholders and government agencies	Establishment of a collaboration framework between the Municipality and other government agencies in accordance to Section 33 of UACA, 2011	
Establish citizen fora for structured stakeholder engagement and awareness creation for urban development and growth pursuant to Part VII & XI of CGA, 2012	Establishment of citizen fora that ensures inclusivity and representation of marginalized groups such as women, youth and PWDS	Creation of community forums at all decentralized units (village, market centre, wards, town, and municipality)
	Promote transparent communication and sensitization to citizens	Establish an online interactive platform to enhance communication between the public and municipal government
		Create a complaint management and feedback system

Develop structured budgetary, funding and revenue collection processes for urban projects (physical infrastructure and social amenities) and services	Create a harmonious finance and revenue system	Establishment of an institutional framework to integrate planning, budgeting, financing programs and performance review
		Prepare annual budgets for urban management and governance per Section 20(l) of UACA, 2011
		Invest in an integrated automated revenue Collection system
	Continuous monitoring and tracking of the urban development projects within the set timelines.	Establishment of a Project Management Committee to oversee the implementation projects in the municipality

16.10: Financial Management & Resource Mobilization Strategies

For the effective implementation of programmes and running of the municipality,

the financial status of the municipality will need to be healthy. The following are some of the strategies that can be put in place to achieve successful running of this institution.

Strategy	Programme	Project
To be a sustainably financed municipality able to provide services and improve the wellbeing of the people	Enhance municipality revenue base.	Map and collect revenues of all services offered by the municipality
		Automate revenue collection points
		Carry out a revenue feasibility study on <ul style="list-style-type: none"> Identify potential revenue sources Identify the optimal charging
		Development an incentive plan to achieve <ul style="list-style-type: none"> Compliance Waivers on accumulated penalties to induce principal payment
		Awareness creation and timely enforcement <ul style="list-style-type: none"> Institute regular checks. Electronic notification on charges to encourage timely payments. Undertake regular tax clinics Regular supervision and audits of tax collection
		Timely receipts of funds from <ul style="list-style-type: none"> County to implement delegated functions in line with UACA and Municipal Charter Compliance with Development partners requirements for designated projects
	Formulate and implement infrastructure development levy for medium and large-scale developers	Issue development approval conditions to medium and large-scale developments on land subdivision, housing, industries and institutions. Monitor and issue compliance certificate
	Promote joint investments in targeted sectors	Implement the PPP investment proposals <ul style="list-style-type: none"> Built Operate and Transfer Concessions and reservations to develop facilities financially accessible to the public Leasing of construction, farm machinery and medical equipment Management Contracts with private entities for collection of fees, land rates, recreational and utility services and garbage collection for effective revenue collection.
	Strategic partnership with development partners	Local share investment in targeted sectors e.g., in agrobusiness (dairy, abattoirs, seed multipliers) Lobby National Government to implement major infrastructural projects in CEREB regions i.e., roads, railway, power, water, tourism, research and development, sanitary landfills
	Prudent fiscal management	Through the following: <ul style="list-style-type: none"> Monitor and analyse budget spending Regular auditing of financial records



CHAPTER

17



STRATEGIC STRUCTURE & LAND USE PLAN

17.1: Structure Plan

Borrowing from the integrated model, the structure plan advocates for both urbanization and conservation of agricultural land. This will ensure sustainable exploitation of economic potentials while also leaving land for agriculture. The urban centres will be mainly reserved for urban uses such as commercial and residential while the hinterlands will be mainly reserved for agricultural activities.

The structure plan has mainly been shaped by the structuring elements within the municipality. It mainly includes both natural and man-made features that present as 'immovable' opportunities or constraints that influence the location of different utilities resultantly shaping the development framework of the municipality. Some of these structuring elements are captured on the list below.

- **Transportation networks:** road networks such as Gilgil–Nyahururu, Nakuru–Ol'Kalou–Engineer roads and the railway play a major role in defining the structure plan and will act as buffers in some instances.
- **Quarry pits:** mainly within the town and in Ndemi.
- **Human settlements and land subdivision patterns:** the plan takes cognisance of the existing human settlements and the nature of land subdivision within the municipality.
- **Water bodies:** includes water bodies e.g. Lake Ol'bolosat, water pans and water ways both permanent and seasonal rivers.
- **Natural features:** such as valleys, cliffs
- **Satellite centres:** major centres such as Tumaini, Kariamu, Captain, Rurii and Ol'Kalou town have influenced the structure plan

17.1.1: Land Budget

Currently, the distribution of land uses in Ol'Kalou point to an agriculturally dependent town seeing that agriculture accounts for

more than 72% of the total land area. This, however, is at the expense of other land uses. Going forward, part of agricultural land will need to be released for other supporting land uses if the municipality is to grow sustainably. This land will then be distributed towards residential to increase the housing stock, industries, mixed use, and commercial areas respectively to provide places to work; another towards conservation to achieve the national threshold of a minimum of 10%. The rest will be availed for support facilities including roads, public facilities, and utilities. The table below provides indicative land uses that can create a good balance within the municipality.

The Ol'Kalou structure plan provides a framework to guide the development or redevelopment of the planning area by defining the future development and land use patterns, areas of commercial land uses, agriculture zones, conservation areas, the layout and nature of infrastructure (including transportation links), and other key features and constraints that influence how the effects of development are to be managed.

17.1.2: Growth Limits

The growth limit is essential in untying the urban areas from the agricultural hinterland. The boundary for the planning area comprises the wards of Rurii, Kaimbaga and Karau; and inclusion of Tumaini and Ndemi centres in Kanjuri Ridge and Wanjohi wards respectively with an approximate area of 364.7 km². Natural structuring elements such as River Malewa defines the municipality's eastern boundaries whereas River Mukuyu defines the southern boundaries. Lake Ol'bolosat define its north-eastern tip. Roads, rivers and emerging agro-climatic zones were also critical in formulation of different zones for the structure plan.

Code	Use	Existing Land Uses	Proposed Plan
0-1	Residential High	3.3%	3.6%
0-2	Residential Medium		2.1%
0-3	Residential Low		0.6%
1	Industrial	3.9%	5.8%
2	Educational	4.7%	5.6%
3	Conservation/ Recreational	1.6%	6.5%
4	Public Purpose	2.2%	3.1%
5	Commercial	3.5%	4.0%
6	Public Utility	1.4%	2.2%
7	Transportation	4.6%	5.5%
9	Agriculture	72.9%	64.2%
10	Mixed-Use	1.9%	2.3%

17.1.3: Promotion of Growth Nodes

Several factors have been used to classify the centres in to four levels of urban promotion areas. These factors include: hierarchy of goods and services they offer; number of structures and traffic generation; vibrancy of the urban centre in terms of commerce and trade; transport networks connectivity within and beyond; and, spatial spread of developments within the centre.

Based on the above factors, the resultant growth nodes are:

- **Primary Centre:** Ol'Kalou will be the primary centre within the planning area. The centre will offer first tier hierarchy of goods and services.
- **Secondary Centres:** Four (4) centres will be promoted to secondary centres. These centres will include: Captain, Tumaini, Kariamu and Rurii. The centres will offer second tier hierarchy of goods and services.
- **Tertiary Centres:** Four (14) centres will be promoted to secondary centres. These centres will include: Kanyiriri, Kaimbaga, Mawingu, Ndemi, Passenga, Matura, Manyatta, Kihoto, Thafa, Silanga, Kieni, Magomano, Muindi, and Gachwe. The centres will offer third tier hierarchy of goods and services.

- **Local shopping Centres:** Seven (7) centres will be local shopping centres. These centres include: Bosnia, Karugutu, Jawakwe, Wamugunda, Kandeto, an additional proposed centre at Kaimbaga Zone. These centres will offer fourth tier of goods and services for specifically targeting home-steads within the immediate vicinity. Some of these services may include: retail goods, cereals, vegetables, laundry services, M-Pesa financial services etc.

17.1.4: Promotion of Agriculture Production

Ol'Kalou planning area has vast rich agricultural hinterland favoured by rich farming soils and good climatic conditions. This potential needs to be optimally exploited to foster local economic growth of this area. The agriculture production will be promoted through the following measures:

- Improvement of infrastructure to transport agricultural goods within the secondary, tertiary and local shopping centres and export to other towns outside Ol'Kalou;
- Enhancing value addition through establishment of agro-industries;
- Promoting commercial irrigation farming to ensure sustained agriculture production throughout the year;

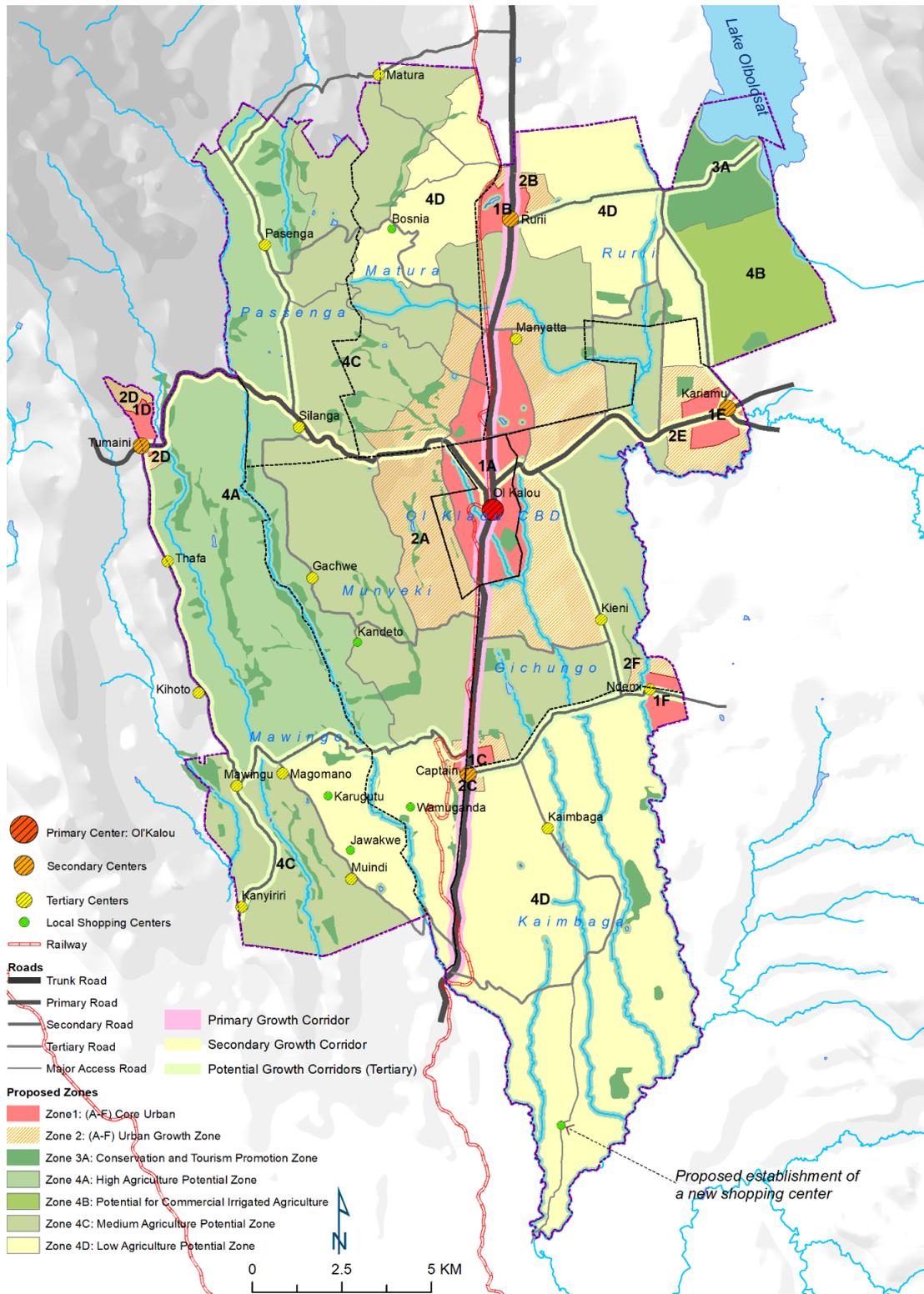
- Promoting small-scale modern agriculture production technologies to promote apiculture, aquaculture and animal farming such as chicken and rabbits.

17.1.5: Spatial Development Zones

This Plan provides that Ol'Kalou will grow based on four (4) distinct zones namely; the urban core, the urban growth zone, conservation zone/urban fringe zone and agriculture promotion zone. Specific character of the zones is briefly described below:

- **Zone 1:** Core Urban Zone: Core Area for promotion of urban redevelopment and densification. This area will equally be the capital of commerce, trade and administration for the planning area.
- **Zone 2:** Urban Growth Zone - Urban Growth Area to be prepared for future urban expansion to accommodate future planned and quality urban development and location of large urban land users as well as protection and enhancement of strategic environmental assets.
- **Zone 3:** Conservation Zone (Urban Fringe zone) – This is the transition zone between urbanization, agriculture and an important environmental fragile area (Lake Ol'bolosat). The zone is to be protected from urbanization and agriculture to support for conservation to promote tourism development.
- **Zone 4:** Agriculture Promotion Zone- This zone is meant to promote small, medium and large-scale agricultural practices to produce raw materials for value addition and agro-industrialization in the spirit of promoting local economic development.

Map 17-1: Ol'Kalou Structure Plan



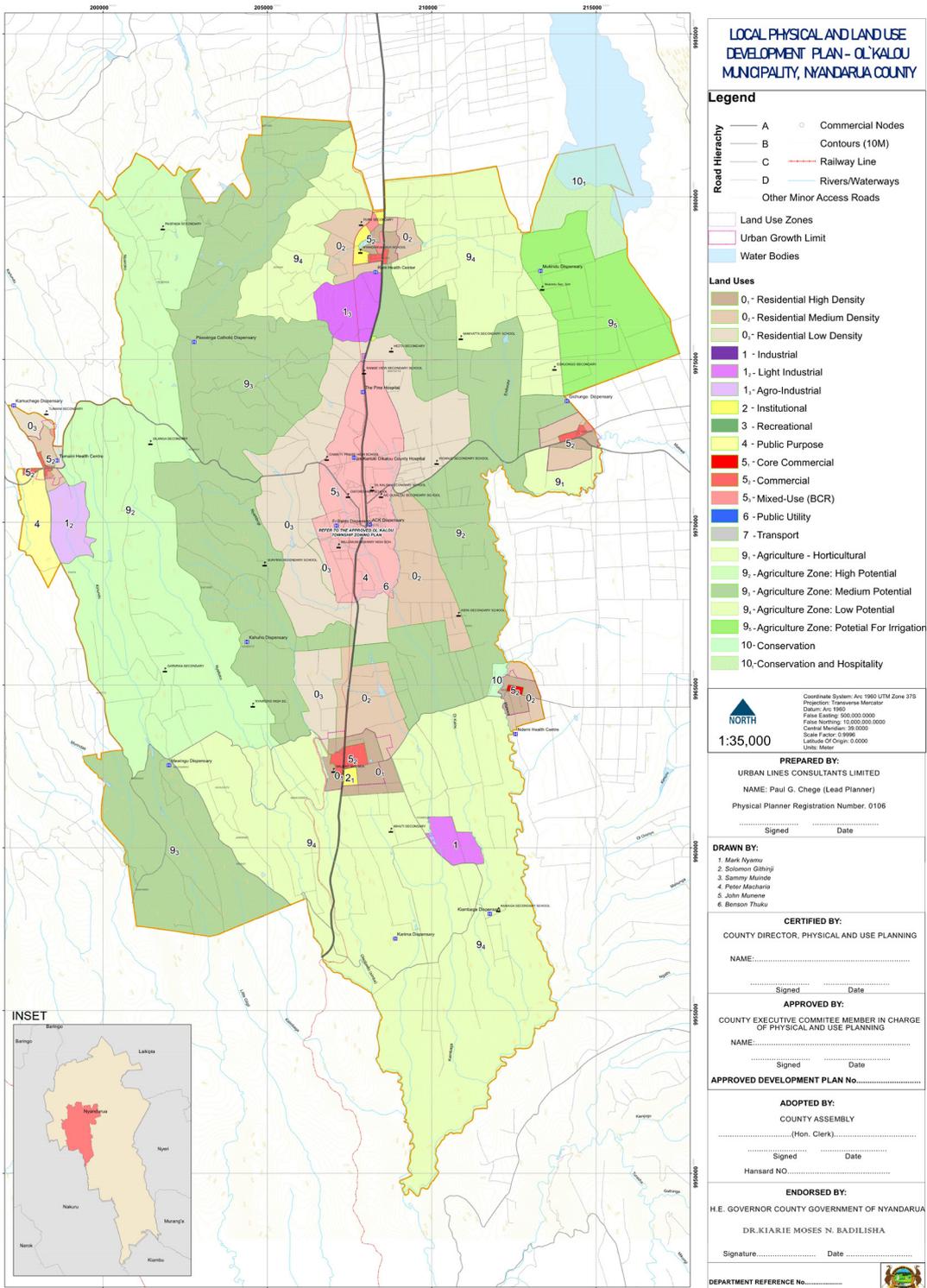
17.2: Proposed Land Use and Zoning Plan

The land use plan shown below is a culmination of inputs from the situational analysis, community feedback sessions and

the alternative development models which are based on an area's potentiality and strategic location. The table below shows the broad earmarked functions which reflect in the land use and zoning plan.

Centre	Earmarked Function
Ol'Kalou town	<ul style="list-style-type: none"> • County HQs & administrative hub • Commercial hub • Residential • Industrial • Transportation hub
Rurii	<ul style="list-style-type: none"> • Small & medium scale industrial centre • Residential • Education/vocational • Upgrade to town status
Captain	<ul style="list-style-type: none"> • Tertiary education centre • University village • Commercial • Residential • Upgrade to town status
Kiriamu	<ul style="list-style-type: none"> • Agro-industrial centre • Horticulture • Education • Residential • Upgrade to town status
Tumaini	<ul style="list-style-type: none"> • Agro-processing • Value addition • Industrial • Upgrade to town status

Figure 17-1: Proposed Zoning Plan



17.3: Zoning Guidelines

17.3.1: Ol'Kalou Town

Land use	Zone no.	Estate/Areas	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	Gc (%)		PR		No. of Floors	Special conditions	
						S	U	S	U			
Residential High Density	01-15	—Makenzi/Kimari —County housing (old estate) —Huruma estate —Site and service scheme —Mundia —Mombasa estate —Jerusalem Estate —Mario —Malewa Estate —Uhuru Estate —Huruma 2A Estate —Huruma 2B Estate —Ol' Kalou Site C —Kiganjo	Apartments	0.045 Ha	6	60	40	1.5	1	G+6	Apartments to be connected to the trunk sewer 3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25	
	016-31	—Kimathi Estate —Jamuhuri Estate —Mwalimu Estate —Kenyatta Estate —Aberdare Estate —Mukuyu (Behind JM Hospital)	Apartments	0.045 Ha	6	50	40	1.5	1	G+4	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25	
	065	—County Affordable Housing	Apartments	As per the approved Master Plan								3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25
	066-1 & 66-2	—Existing County Housing Estate	Apartments	0.045 Ha	6	50	40	1.5	1	G+6	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25	
	067	—Maendeleo ya Wanawake Housing Estate	Apartments	0.045 Ha	6	50	40	1.5	1	G+6	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25	
Residential Medium Density	035-48	—Muthaiga (to Captain) —Opposite Royal Gardens Hotel —Mugumo —Milimani Estate —Macqooti Area	Bungalow Town Houses Maisonette	0.045	9	25	25	25	25	G+1	No Apartments	

Land use	Zone no.	Estate/Areas	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	Gc (%)		PR		No. of Floors	Special conditions
Residential Low Density	055	— Area Around Kibali & Kidawa Farm	Bungalow Town House Maisonette	0.4	12	20	20	20	20	G+1	Ample Greenery No Apartments Area to act as town butter from agricultural land
	056-59	— Areas around Kiganjo Primary & Secondary — Area behind government residence	Bungalow Town House Maisonette	0.2	12	20	20	20	20	G+1	Area to act as town butter from agricultural land
	070-74	— State and senior government residence	Maisonette Bungalows	0.2	12	20	20	20	20	G+1	Ample greenery No apartments No Keeping of Livestock
Light - Industrial Zone	12	— Area around Ol'Kalou dairy and Potato processing plant	Processing Assembly	1	12	70					Non-Pollutant Industries 1 1 car space for every 6-10 workers Demonstrate proper waste management as per NEMA guidelines
Agro - Industrial Industrial	116	— Agro-Industrial Zone	Storage Agro-Processing	0.2	12	70	-	-	-	-	1 car space for every 6-10 workers
	12	— Industrial Park		As per the approved master plan							Traffic management plan to be provided.
Education facilities guidelines	-	As per the recommendations of the physical and land use planning handbook.									
Recreational	3-1	— Stadium	Sporting facilities	-	-	-	-	-	-	-	Gazettelement
	32	— Arboretum — Forests	Recreational spaces	-	-	-	-	-	-	-	Gazettelement
	33-15	— Open Recreational Spaces		-	-	-	-	-	-	-	<ul style="list-style-type: none"> Gazettelement No encroachment County to provide furniture and maintenance

1 More Details in planning regulation guidelines outlined below

Land use	Zone no.	Estate/Areas	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	Gc (%)		PR		No. of Floors	Special conditions
Commercial	51-5	— Core CBD	Banks Supermarkets Retail stores Hotels Offices Hostels Petrol station	0.1	6	80	60	5.0	3.5	G+8	<ul style="list-style-type: none"> Adequate parking Lifts to be provided for buildings with 5 floor and above
	58-15	— Medium Commercial Promotion	Mini-supermarkets Green groceries Hotels Petrol filling station	0.1	4	70	60	4.0	3.0	G+7	<ul style="list-style-type: none"> Adequate parking
	517-21	— Area around Royal Gardens — Chamber Estate — Jua Kali Estate — Vatican Estate	Residential Commercial Mixed use	0.045	6	75	50	5.0	3.5	G+6	<ul style="list-style-type: none"> Commercial to be limited to the ground + 1 Apartments to be connected to the trunk sewer. 3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25 (Basement parking to be encouraged)
Conservation	81-	— Quarries	Mining/ rehabilitation after decommissioning	-	-	-	-	-	-	-	Decommissioning To be done as per the NEMA Guidelines
	82	— Riverine zones	Tree planting	-	-	-	-	-	-	-	Observe the permitted riparian reserves as per WRM2

17.3.2 Kariamu

Land use	Zone no.	Estate Name	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	Gc (%)		PR		Special Conditions
						S	U	S	U	
Residential High Density	0 ₁	-	Apartments and Hostels	0.045 Ha	6	50	40	1.5	1	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25
Residential Medium Density	0 ₂	-	Bungalow Town House Maisonette	0.045	6	25	25	25	25	No Apartments
Residential Low Density	0 ₃	-	Bungalow Town House Maisonette	0.1	12	20	20	20	20	Ample Greenery Kitchen garden not exceeding house coverage No Keeping of Livestock No Apartments

Industrial	1-1	-	Proposed workshops	0.1Ha	9	70	-	-	-	1 car space for every 6-10 workers
	1-2	-	Proposed workshops	0.1Ha	12	70	-	-	-	1 car space for every 6-10 workers
	1-3	-	Horticulture	0.4 Ha	12	70	-	-	-	1 car space for every 6-10 workers
Educational facilities guidelines	As per the recommendations of the physical and land use planning handbook.									
Recreational	3-1	-	Open space							
Commercial	5-1		Existing air market							
	5 ₂	Shopping centre	Retail shops	0.045	15	75	50	8.0	5.0	
			Proposed air market							
5-3		Business cum residential	0.045	6	75	50	5.0	3.5	<ul style="list-style-type: none"> Commercial to be limited to the ground + 1 Apartments to be connected to the trunk sewer. <p>3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25 (Basement parking to be encouraged)</p>	
Agricultural	9	-	Agricultural	0.2 Ha	18	-	-	-	-	-

17.3.3 Ndemi

Land use	Zone no.	Estate Name	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	GC (%)		PR		Special conditions							
						S	U	S	U								
Residential High Density	01	Around Ndemi shopping centre	Apartments and Hostels	0.045 Ha	12	50	40	1.5	1	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25							
Residential Medium Density	02		Bungalow Town House Maisonette	0.045	12	25	25	25	25	No Apartments							
Education facilities guidelines	As per the recommendations of the physical and land use planning handbook.																
Recreational	3-1		Open Space														
Commercial	5 ₂	Shopping centre	Retail shops	0.045	15	75	50	8.0	5.0								
Commercial	5-1		Open Air Market	-													
	5-2		Cooperative Society	0.045	15	75	50	8.0	5.0								
Conservation	8	Ndemi	Programme rehabilitation for the quarries as per NEMA guidelines														
Agriculture	9	-	Agricultural	0.2 Ha	18	-	-	-	-	-							

17.3.4: Rurii

Land use	Zone no.	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	GC		PR		Special Conditions
					S	U	S	U	
Residential High Density	0 ₁	Apartments and Hostels	0.045 Ha	12	50	40	1.5	1	3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25
Residential Medium Density	0 ₂	Bungalow Town House Maisonette	0.045	12	25	25	25	25	No Apartments
Residential Low Density	0 ₃	Bungalow Town House Maisonette	0.1	12	20	20	20	20	Ample greenery Kitchen garden not exceeding house coverage No keeping of livestock No Apartments
Light Industrial	1-1	P.P.S							
	1-2	Holding Ground							
	1-3	Petrol Station							
Education facilities guidelines	As per the recommendations of the physical and land use planning handbook.								
Recreational	3-1	Stadium	As per the recommendations of the physical and land use planning handbook.						
	3-2	Open space							
	3-3	Open space							
	3-4	Eco-park							
Commercial	5-1	Existing open air market	-						
Agriculture	9	-	Agricultural	0.2 Ha	18	-	-	-	-
Industrial	1 ₃	Agro Industrial	1	18	70				Non-Pollutant Industries ³ 1 car space for every 6-10 workers Demonstrate proper waste management as per NEMA guidelines
Institution	2	TVETs High schools Primary Schools	2	18	As per the approved Master Plans				
Commercial	5 ₂	Retail shops	0.045	15	75	50	8.0	5.0	
Conservation	8	Programme rehabilitation for the quarries as per NEMA guidelines							

17.3.5: Tumaini

Land use	Zone no.	Estate Name	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	S	U	S	U	Special Conditions
Residential Medium Density	02		Bungalow Town House Maisonette	0.045	12	25	25	25	25	No Apartments
Residential Low Density	03		Bungalow Town House Maisonette	0.1	12	20	20	20	20	Ample Greenery Kitchen garden not exceeding house coverage No Keeping of Livestock No Apartments

Light Industrial	1-1		Animal Feed Manufacturing Processing Assembly Manufacturing	1	18	70						Non-Pollutant Industries 1 car space for every 6-10 workers Demonstrate proper waste management as per NEMA guidelines
Education facilities guidelines	As per the recommendations of the physical and land use planning handbook.											
Commercial	5-1		Market Centres	0.045	15	75	50	8.0	5.0			
	5-2		Market Centre									
	5-3		Posho Mill									
	53		Retail Shops Residential									
Public Purpose	47	NYS	As per the National Youth Service Guidelines									
Agricultural	9	-	Agricultural	0.2 Ha	18	-	-	-	-	-	-	-

17.3.6: Captain

Land use	Zone no.	Estate	Permitted user	Subdivision level (minimum ha)	Minimum frontage road width (m)	Gc (%)		PR		No of floor	Special conditions
Residential	01 – 03	—Area surrounding shopping centre and proposed university	Residential High Density	0.045 Ha	12	50	40	1.5	1	G+4	
	07-012	—British farm —Kabera Farm —Mumbi school neighbourhood	Residential Medium Density	0.045	12	25	25	25	25	G+1	No Apartments
Light Industrial	1-1		Garage								
	1-2		Juakali								
Education facilities guidelines	As per the recommendations of the physical and land use planning handbook.										
Commercial	5-1		Core Commercial	0.045	6	75	50	5.0	3.5	G+6	<ul style="list-style-type: none"> Commercial to be limited to the ground + 1 Apartments to be connected to the trunk sewer. 3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25 (Basement parking to be encouraged)
	5-2		Existing Open Air Market	-							
	5-3		Business cum residential	0.045	6	75	50	5.0	3.5		<ul style="list-style-type: none"> Commercial to be limited to the ground + 1 Apartments to be connected to the trunk sewer. 3 Bd 1 Car Park 2 Bd 0.5 1 Bd 0.25 (Basement parking to be encouraged)
Agricultural	9	-	Agricultural	0.2 Ha	18	-	-	-	-	-	-

17.3.7: Zoning Regulations

17.3.7.1: Residential Use

Permitted Uses: Within residential zones, the following uses are permitted:

- Bungalows, maisonettes, multi-family dwellings (multi-story flats/apartments), row housing, detached, semi-detached, and residential-cum-work
- Hostels, rented houses, nursing homes, community halls, police stations, and guest houses (not exceeding 200 m² in floor area)
- Kindergartens, day care centres, parks, and playgrounds
- Corner stores, small shopping malls, and health care facilities (dispensaries, nursing home, etc.)
- Educational facilities, religious facilities, libraries, gymnasiums, parks, technical training centres, banks, matatus stops/Boda-Boda stands (not exceeding 100 m² in floor area), post offices, non-commercial hostels, and so on.

Prohibited Uses: In residential zones, all uses that are not specifically permitted as listed above are prohibited, including the following:

- Industries that are heavy, large, and extensive: noxious, obnoxious, and hazardous industries
- Warehousing, perishables storage, hazardous and flammable goods storage
- Matatu/Boda-Boda/Bus workshops, etc.
- Houses of Slaughter.
- Waste treatment plants, as well as a shooting range

Change to permitted uses: The municipality may add to or amend the above list at any time by considering overall land use compatibility through notification.

Parking norms for residential development:

The general principle to be followed is one car parking space per 100m² gross built area (refer to 'Car Parking in Buildings' of Kenya Planning and Building Regulations), and considering the various bedroom dwelling units in town, the following parking norms must be followed for parking in residential areas:

- 1 parking space per 2 (1-bedroom dwelling Unit)
- 1 parking space per 1 (2-bedroom dwelling Unit)
- 1.5 parking space per 1 (3-bedroom dwelling unit)

Cul-de-sacs (dead-end streets): A dead-end street should be aligned in such a way that it provides access to no more than 8 to 10 residential plots, is no longer than 60 meters in length, and has a turning radius of at least 12 meters Hammerhead.

17.3.7.2: Commercial Use

Permitted uses: The permitted uses in commercial areas include: Shops, convenience/neighbourhood shopping centre, local shopping centres, cluster centre, market centres, professional offices, work places/offices, banks, stock exchange/financial institutions, bakeries and confectionaries, cinema halls/theatres, malls, banqueting halls, guest houses, restaurants, hotels, petrol pumps, warehousing, general business, wholesale, hostel/boarding housing, banks/ATM, auditoriums, commercial service centres/garages/Workshop, wedding halls, weekly/informal markets, libraries, parks/open space, museums, police stations/posts, matatu stands, Boda-boda stands, parking sites, post offices, government/ institutional offices, etc.

Restricted uses: Non-polluting, non-obnoxious light industries, warehousing/storage go-

downs of perishable, inflammable goods, coal, wood, timber yards, bus and truck depots, gas installation and gas works, poly-techniques and higher technical institutes, junk yards, railway stations, sports/stadium and public utility installation, religious buildings, hospitals and nursing homes.

Prohibited Uses: All uses not specifically mentioned above are prohibited in this zone.

17.3.7.3: Industrial Use

Permitted uses: The following uses will be permitted for the main purposes and accessory uses: All uses permissible in the industrial use zone with the special sanction of the authority except residential uses. Residential buildings for security and other essential staff required to be maintained in the premises.

All kind of industries, public utilities, parking, loading, unloading spaces, warehousing, storage and depot of non-perishable and non-inflammable commodities and incidental use, cold storage and ice factory, gas go-downs, cinema, Workshop, wholesale business establishments, petrol filling stations with garage and service stations, parks and playgrounds, medical centres, restaurants, matatu station, etc.

Restricted uses or use permitted with special sanction of the authority

- Some of the uses may be permitted with special sanction of the competent authority. These may include noxious, obnoxious and hazardous industries, storage of explosive and inflammable and dangerous materials, junkyards, electric power plants, service stations, cemeteries, business offices, bank and financial institutions, helipads, religious buildings, gas installations and gas works, stone crushing, small shopping

centres, etc.

- **Prohibited uses:** All uses not specifically permitted as mentioned above shall be prohibited.
- **Sewerage Connection:** The industrial unit has to be connected with the sewer system and if there is no sewer available in the area, then a bio-digester of adequate size has to be installed by the owner for taking approval. Industrial units of chemical nature or where chemical waste is generated in the process, an affluent treatment plant with a capacity of treating the chemicals has to be installed and in that case the chemical waste shall not be mixed with toilet waste.

17.4. Action Area Plans

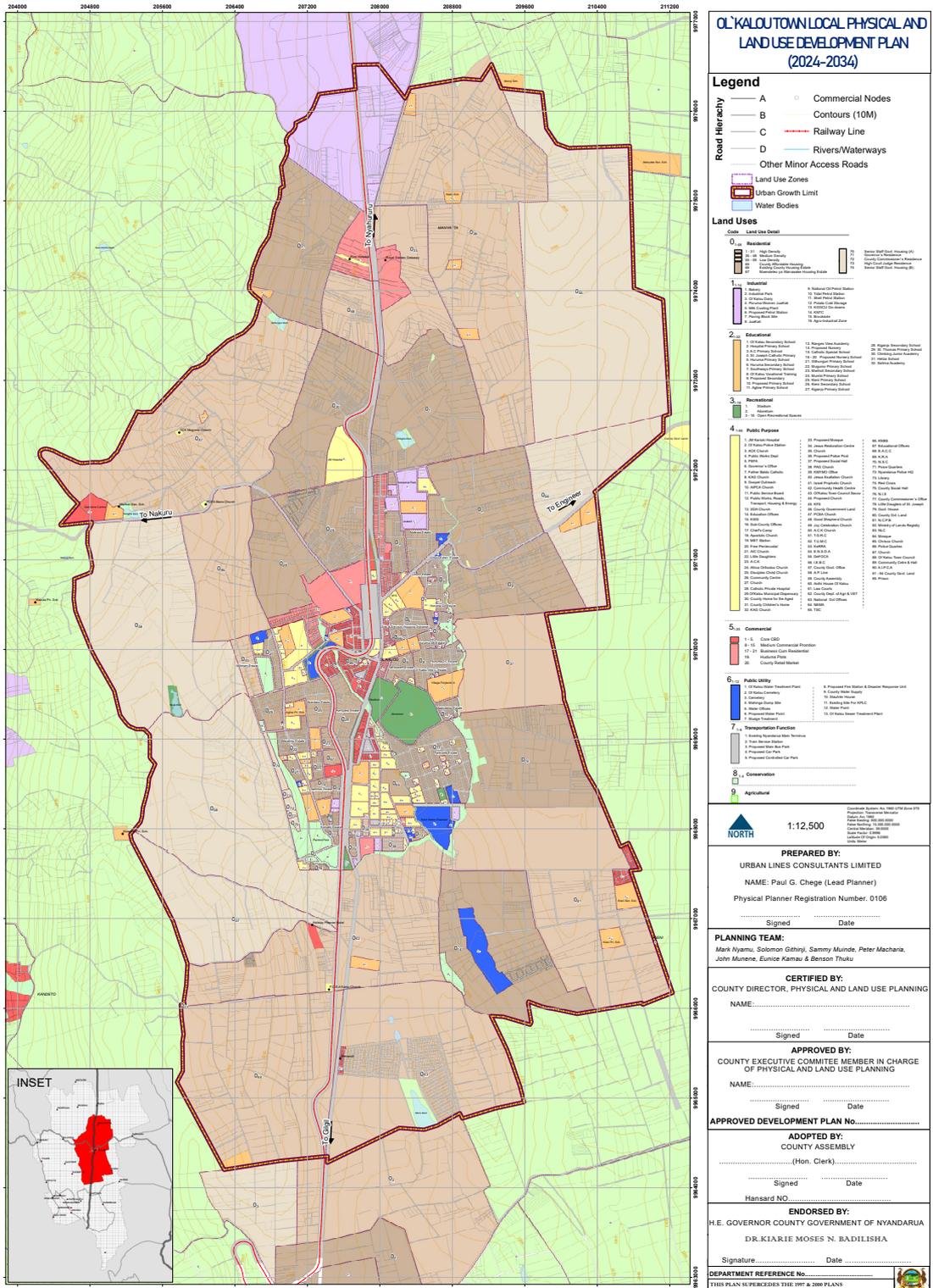
This Plan has identified areas that require specific curative and preventive interventions to improve the functionality or aesthetics of these areas. These areas include: Ol'Kalou CBD, Captain Market Centre, Kariamu Market Centre, Tumaini Market Centre, Government Square, Rurii and Ndemi Centres.

17.4.1: Ol'Kalou CBD

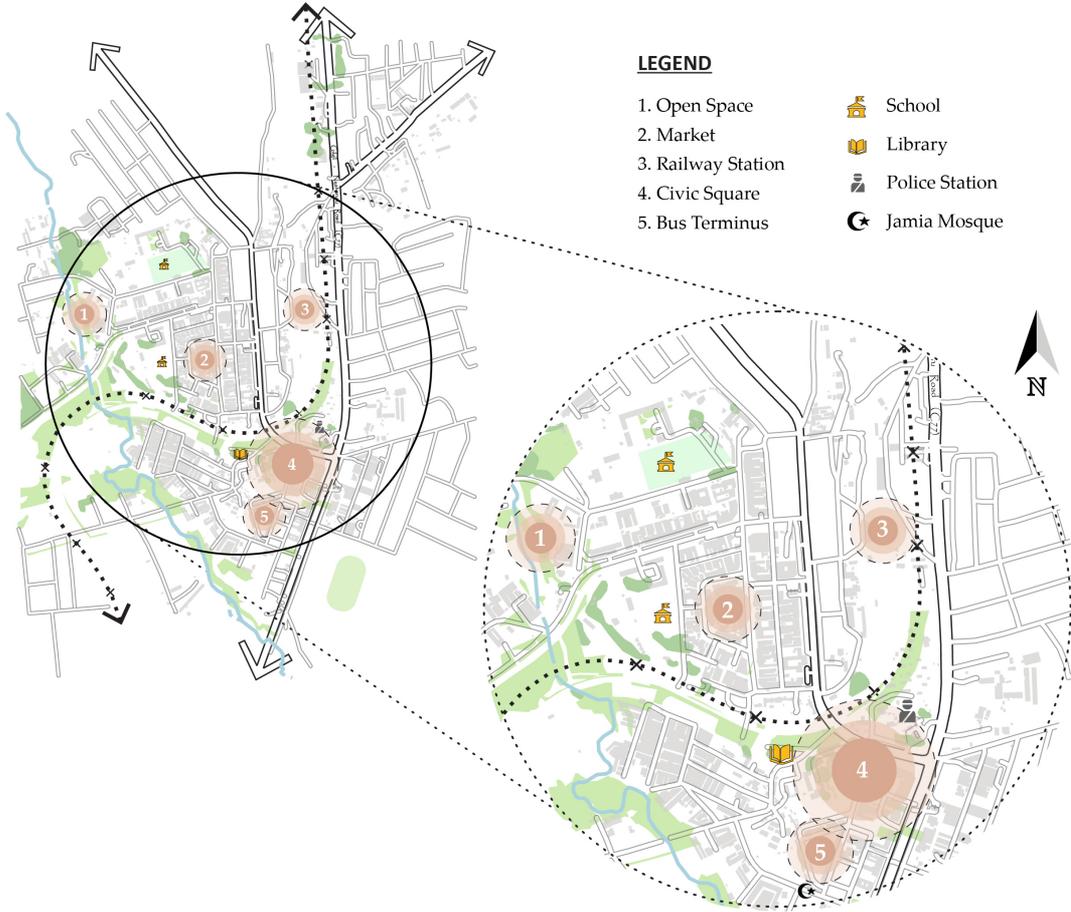
As described in 7.5 Profile of Municipality's Urban Centres, the functionality of Ol'Kalou town CBD is affected by conflicting land uses and a disorganized streetscape despite it being the main node hence a melting point of various activities and functions. The immediate surroundings of the CBD depict pockets of both planned and unplanned sprawling settlements. The spill-over of trading activities onto the roads creates disorderliness hence unsightliness visual appearance. These challenges are exasperated by inefficient solid waste management and uneven building façade.

This Plan proposes the following proposals in a bid to restore the towns glory and enhance its efficiency.

Figure 17-2: Ol'Kalou Township Local Physical and Land Use Development Plan.



SOCIAL SERVICES



Challenges

- Encroachment on road reserve ●
- Under-utilization of space ●
- Lack of traffic calming features ●
- Inadequate physical access ●
- Poor legibility and lack of character ●
- Inadequate urban support services (street lighting, drainage, footpaths) ●



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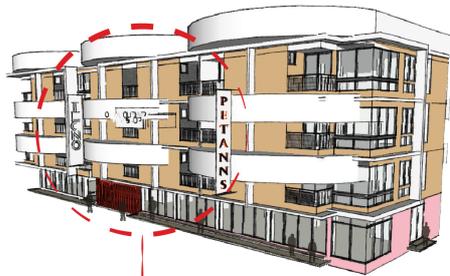
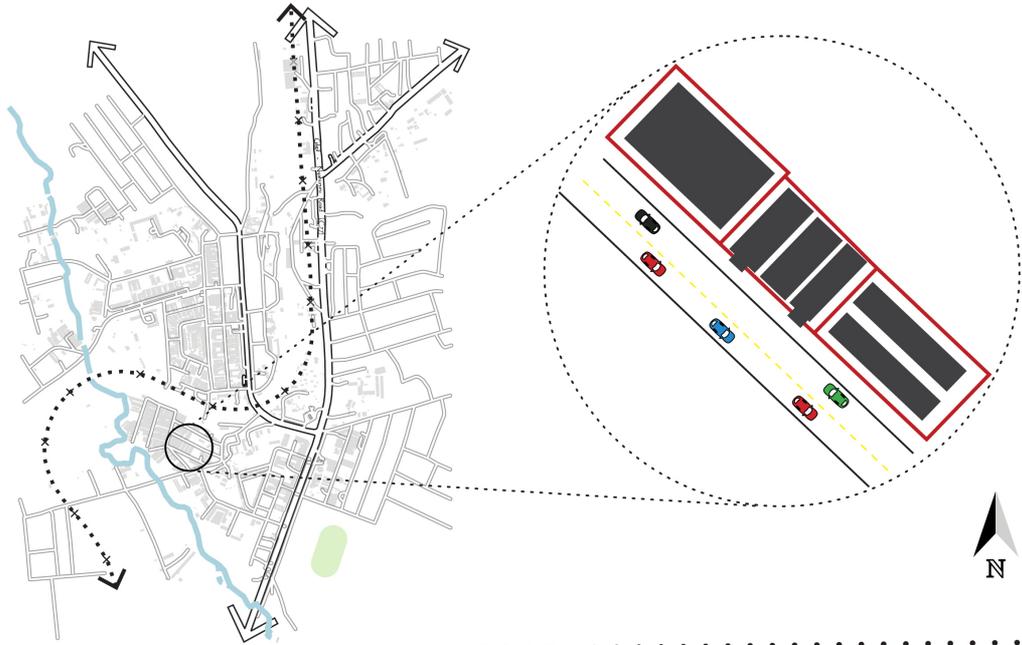


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DEVELOPMENT CONTROL



Visual clutter (advertising) due to unregulated advert placement along O'Kalou Market Street

Challenges

- 90 % -100 % plot coverage - beacon to beacon development in residential zones ●
- Encroachment of trading activities onto the street ●
- Lack of coordination and harmonization of development (uncontrolled development) ●
- Poor control of display of outdoor advertising - visual clutter ●

Table 17-1: Proposed OI'Kalou CBD Interventions

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Enhancing walkability by improving street designs including their legibility and quality	1. Redesign and upgrade Gilgil - Nyahururu Road to accommodate acceleration and deceleration lanes and enhance turning radii at the intersection joining OI'Kalou - Nakuru Road	MoT&I KENHA KURA County Department of Roads	Public funding, Bilateral & multilateral donor funding	1.Improved sightlines and traffic movement at the T-Junction	1-3 Years
	2. Developing a street addressing policy and system on all roads including erecting signages and wayfinding mechanisms	Department of Roads and Physical Planning		2.Street addressing policy by road and building by end of 3rd year after plan approval	1-3 Years
	3. Demarcation of on-street and off-street parking spaces	Department of Roads and Physical Planning		3.Delimited parking areas and spaces	1-3 years
	4. Integrate NMT infrastructure and facilities on all major roads		Public funding Private investment	4. Segregated motorized and NMT traffic with the associated infrastructure by the end of the 3rd year after plan approval	1-3 Years
	5. Upgrading of all CBD roads to Bitumen Standard/ cabro block paving			5. 100% of roads upgraded to proposed standards by end of the 3rd year	3-6 Months
	6. Integrating traffic calming features i.e., bumps, kerb extensions			6. Installed traffic calming features within 6 months after plan approval	3-6 Months
	7. Integrating direct and level road-pedestrian crossings at distance intervals of 100m			7.Presence of direct pedestrian crossings at regular intervals	3-6 Months

Rail Terminus revitalization	1. Integration of the new rail terminus with the CBD and Gilgil-Nyahururu Road	County Department of Roads Kenya Railways Corporation	Public funding Private investment	Complete access network with the adjacent activities by the end of the 3rd year after plan approval	1-3 Years
	2. Integrating direct and level rail-pedestrian crossings at distance intervals at strategic points			Presence of direct rail-pedestrian crossings at strategic points	3-6 Months
	3. Construction of low-level relocation units (economic zones) for a relocation action plan				
Enforcement of development control guidelines and building code standards	<p>Enforcing relevant road reserves</p> <p>Enforcing of building lines and setback on frontages of all residential buildings</p> <p>Densification of commercial and office buildings to 5+ storeys</p> <p>Establish a policy to regulate outdoor advertising and signages</p>	Department of Physical Planning	Public funding	Serviced, accessible and plots with appropriate ratios and built coverage	1-3 Years
Enhancement of urban core character	<p>Enhance the quality of local building materials, and promote the use of ABMT</p> <p>Establish clear building design standards (canopies, fenestration) and regulations on building facades'</p> <p>Establishment of focal points and landmarks</p> <p>Creation of vistas and skylines</p>	<p>Department of Physical Planning</p> <p>Department of Engineering Public Works</p>	Public and private sector funding	<p>Adoption of ABMT in construction</p> <p>Enactment of a policy guiding building standards and regulations</p> <p>Repairs and redecoration of buildings</p> <p>Developed and gazetted monuments after 6 months of plan approval</p>	3-6 Months

<p>Improvement of Ol'Kalou Bus Station Area</p>	<p>Establish NMT facilities such as passenger waiting bays with weather protection shelters and pedestrian crossings</p> <p>Redevelopment of the low-rise retail shops into 2-storey container stalls</p> <p>Plant ornamental trees strategically within and around the terminus to improve the aesthetic appeal</p>	<p>Transport SACCOs</p> <p>County</p> <p>Department of Roads and Transportation</p>	<p>Public and private sector funding</p>	<p>Complete and operational expanded bus terminus with commercial retail container stalls by the end of the 6th month after plan approval</p> <p>Planted ornamental trees</p>	<p>1-3 Years</p>
<p>Redevelopment of Ol'Kalou retail market into a bazaar market</p>	<p>Delineating loading and offloading zones for goods</p> <p>Improvement of internal circulation system</p> <p>Construction of a covered internal storm-water drainage system</p> <p>Construction of modern kiosks</p>	<p>Department Of Trade and Commerce</p> <p>Department of Public Works</p>	<p>County and Municipal funding</p>	<p>Complete and operational loading, offloading zones and kiosks by the end of the 6th month after plan approval</p> <p>Ample and functional drainage system within the market area</p>	<p>3-6 Months</p>
<p>Revitalization of the CBD open space & CBD riverfront regeneration</p>	<p>Providing urban recreational & riverfront facilities including pedestrian promenades and park lighting features</p>	<p>Department of Planning</p> <p>Department of Environment</p>		<p>Complete regeneration of the park with functional facilities</p>	<p>1-3 years</p>
<p>Enhance urban safety and security</p>	<p>Installation of street lighting on all streets, open spaces, trading markets and the bus park</p> <p>Demarcation of traffic lane separation including integration of bollards and guard rails</p>	<p>Department of public works</p> <p>Department of Roads and Transportation</p> <p>KENHA KURA</p>		<p>Installation of 70% of proposed street lighting within 6 months after plan approval</p> <p>Segregated motorized and NMT traffic by the end of the 3rd year after plan approval</p>	<p>1-3 Years</p>

Figure 17-3: Redevelopment of Ol'Kalou Retail Market

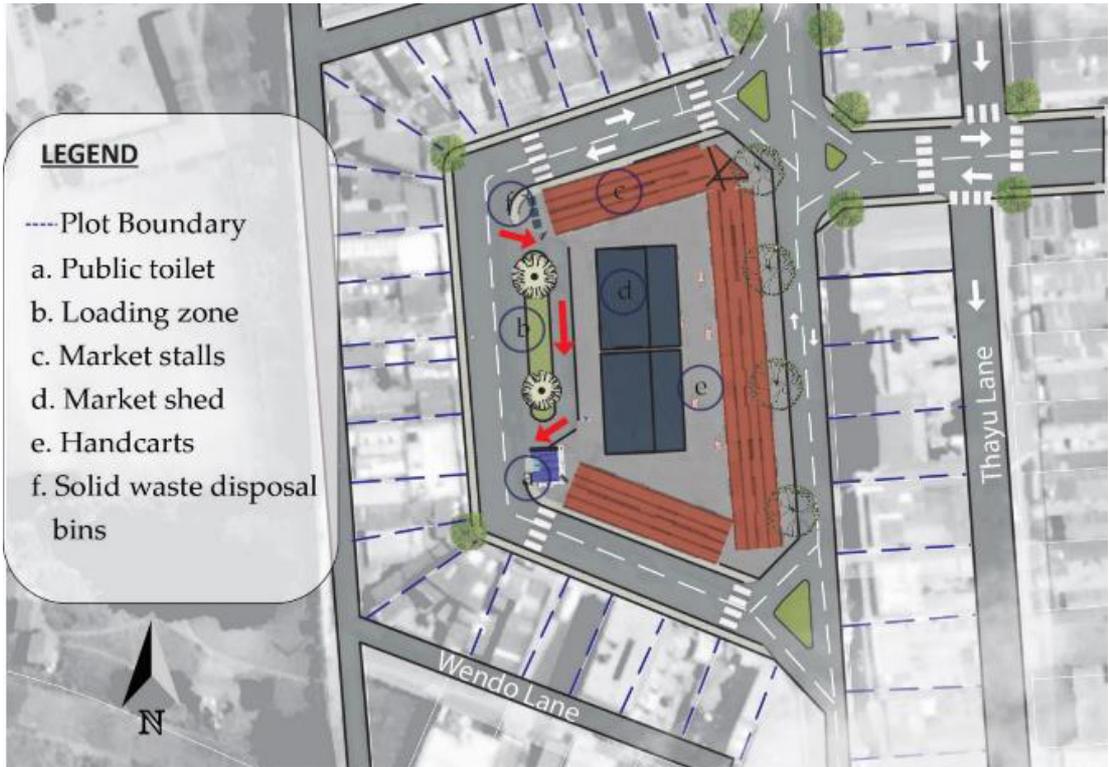


Figure 17-4: Proposed Ol'Kalou Retail Market Model



Figure 17-5: Improvement of Ol'Kalou Bus Station Area

The proposed Ol'Kalou Bus Terminus Area Improvement Project is an extension and renovation of the existing bus terminus aimed at enhancing municipal revenue collection, convenience and efficiency through an integrated municipal transport system. The project includes 2 separate termini for local and regional transport routes with waiting sheds and matatu parking, separate routes for matatus on transit, revenue collection/ticketing office, prefabricated ISO shipping container stalls, public toilets and landscaping.



Figure 17-6: Proposed Ol'Kalou Bus Station Model

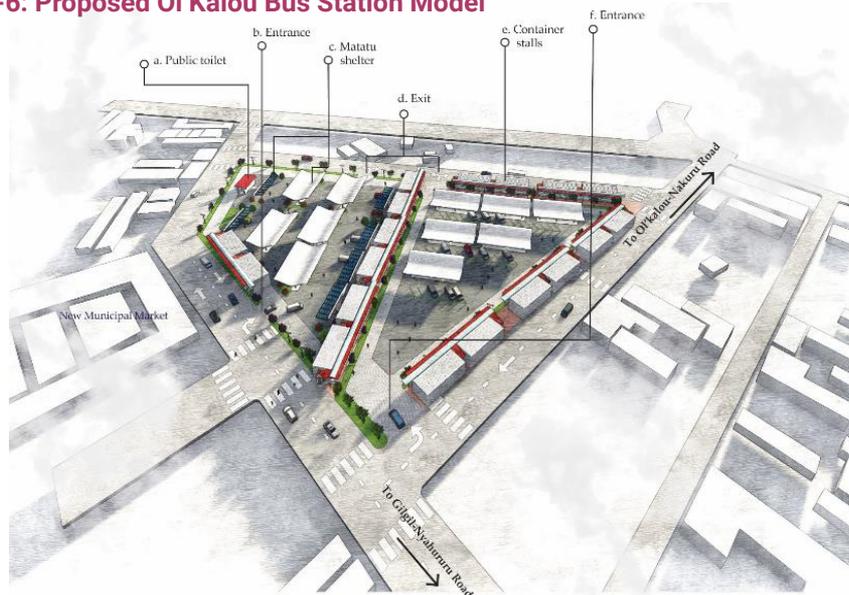
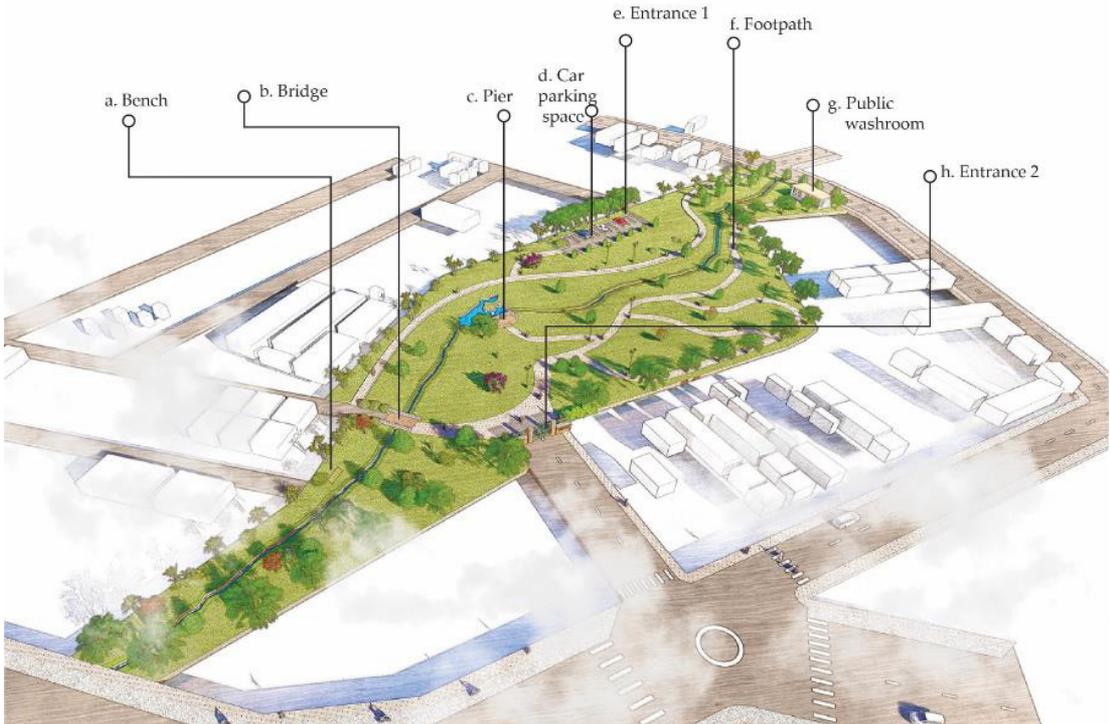


Figure 17-7: Revitalization of CBD Green Park



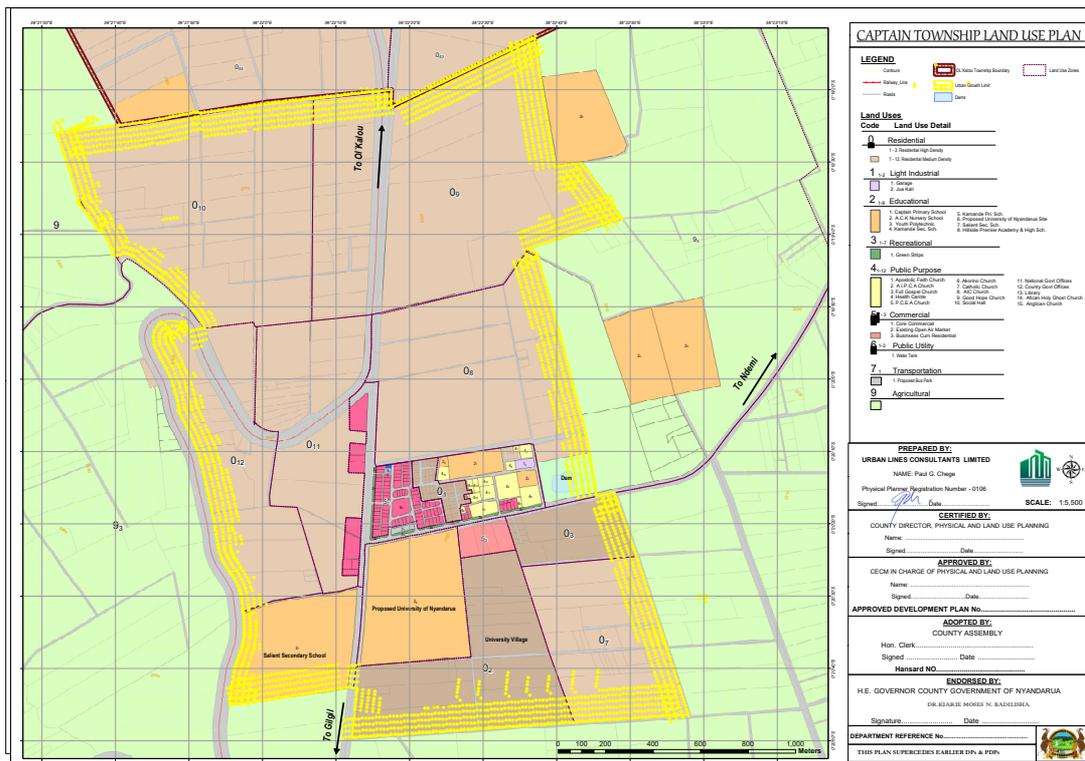
17.4.2: Captain

The centre is strategically located at the intersection of Gilgil-Nyahururu Road (C77) and Captain-Ndemi Road (D389), providing a unique set of opportunities to capitalise on. The development pattern is clustered around the market area.

However, the centre faces several challenges that limit its ability to grow and sustain itself. One such challenge stems from its location, as traders opt to sell along the main road, leading to an underutilization of the designated market space and safety risks. Other major concerns include poor solid waste management, a majority of developments' failure to adhere to building lines, and poor storm water drainage, which increases the risk of flooding and infrastructure damage.

Given these challenges and in light of the proposed university at the centre which is expected to have a ripple effect on the layout and the land use, there is need to improve the centre to transform it into a more vibrant commercial and educational hub to ensure its long-term viability.

In anticipation of the planned university, the adjoining land has been zoned for commercial and residential use, aiming to accommodate the projected surge in demand resulting from the institution. Furthermore, to adequately serve the anticipated population, this plan proposes elevating the market centre to a town status, granting it the capacity to fully cater to the needs of the growing population. The proposed land use for the centre is depicted below.



The table below captures proposed interventions.

Table 17-2: Proposed Captain Market Centre Interventions

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Expansion of transport facilities and improvement of road conditions	Provision of a bus terminus to serve Captain-Ndemi-Wanjohi Road Route and Ol'Kalou-Captain-Oleriondo Route	MoT&I KENHA KeRRA KURA CGN	Public funding, Bilateral & multilateral donor funding	Operational bus terminus by end of 3rd year after plan approval 100% of roads upgraded to proposed standards by end of the 3rd year	1-3 Years
	Upgrading all earth and murrum roads to bitumen/cabro standard				
	Integrating covered storm water drainages on the sides of all roads in the market centre to be used concurrently as pedestrian walkways				
	Widening of narrow 6m internal roads to 9m				
	Provision of adequate road shoulder widths and levelling along Captain-Ndemi Road to accommodate non-motorized traffic				
Enforcement of development control to avert encroachment on storm water drainage	Control trading activities that encroach onto the drainage channels	Department of Physical Planning	Public funding	Confinement of trading activities within the designated areas	3-6 Months
Enhance solid waste management techniques	Provision of waste segregation/separation bins at designated points	Department of Public Health and Environment	Public funding & private investments	More than 50% installation of waste collection receptacles within the first financial year after plan approval	3-6 months
Upgrade the market centre to town status	Formation of ad-hoc committee to check eligibility of the centre for conferment of town status	Governor	-	-	1-3 years

Figure 17-8: Improvement of Captain-Ndemi Road

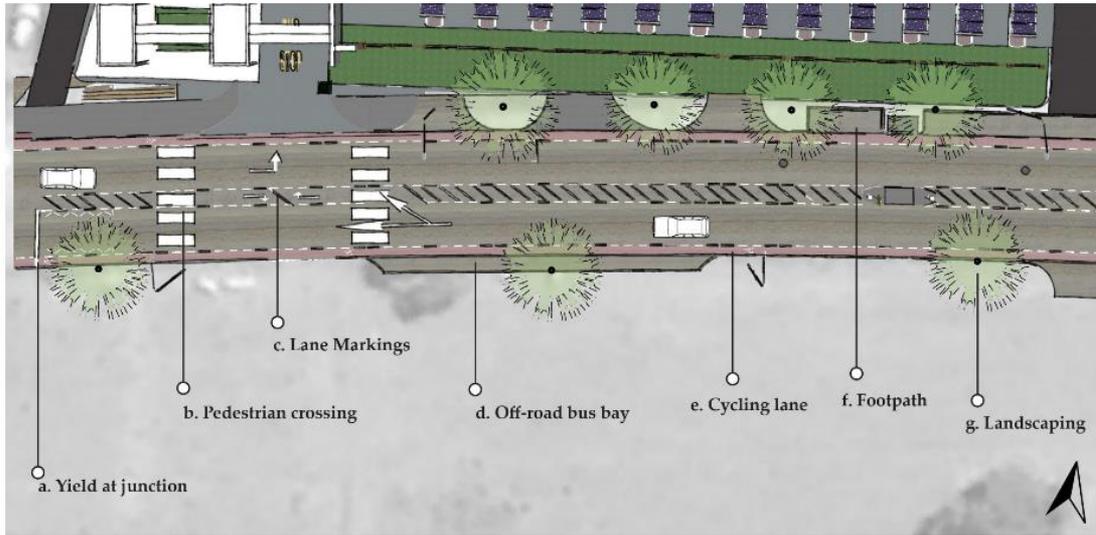


Figure 17-9: Proposed Captain-Ndemi Road Model



17.4.3: Kariamu

Kariamu Centre is the dormitory centre for the workers from the nearby horticultural and flower farms in the area. The centre is characterised by commercial developments in the form of dukawallas, informal businesses, and row residential houses. The centre grapples with narrow roads, inadequate NMT infrastructure, and undesignated termini, making pedestrian movement in the area a challenge. There is an evident encroachment

of development and trading activities on road reserves. The centre is proposed to serve a commercial, residential, and agro-industrial function due to the existing horticultural base. The plan proposes upgrading the market centre to town status.

The redevelopment of Kariamu, as shown in the table below, will enhance the functionality of the centre, making it attractive for investments.

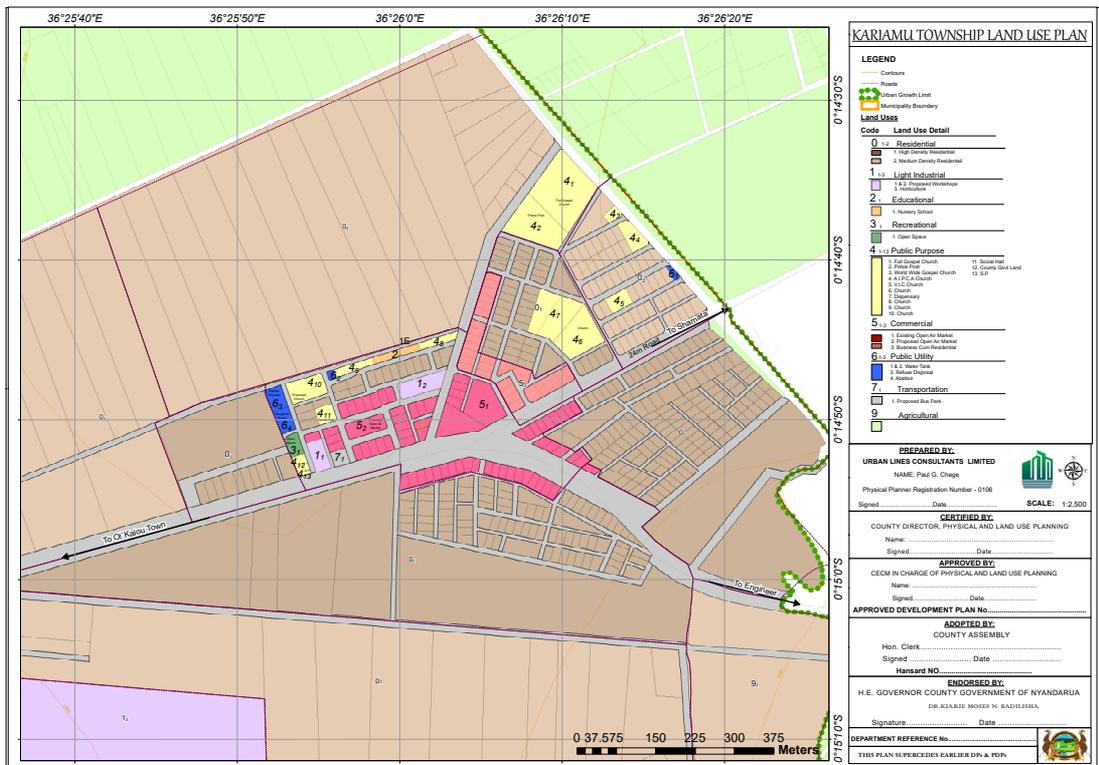
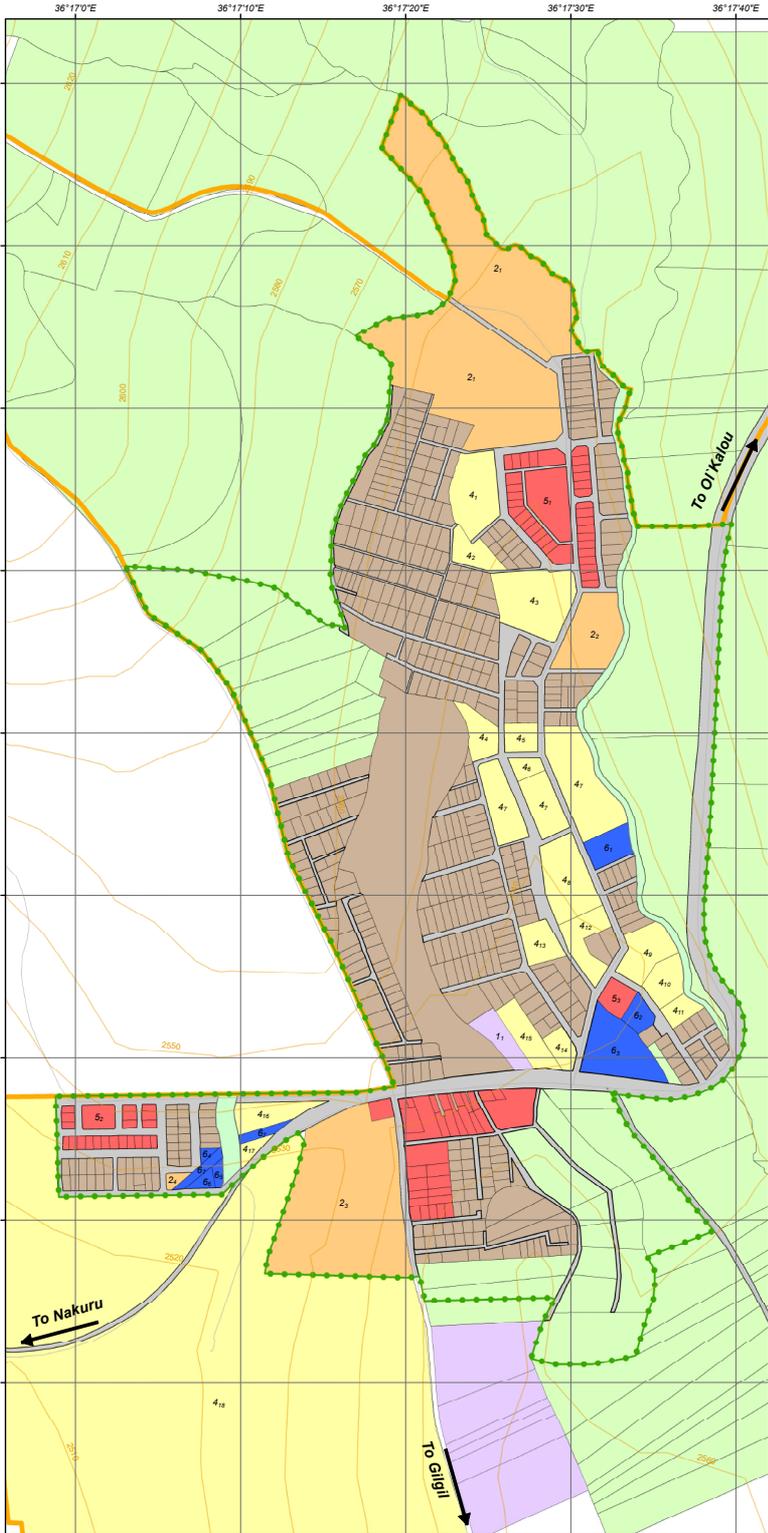


Table 17-3: Proposed Strategies of Redevelopment of Kariamu Market Centre

Strategy	Programme/ Project	Actors	Financial model proposal	Success indicators	Phase
Enforcement of development control and zoning guidelines		Department of Physical Planning	Public funding	Serviced, accessible and plots with appropriate ratios and built coverage	
Improvement of transport infrastructure and facilities	Upgrading Kariamu-Shamata Road from murrum to Bitumen standard Upgrading of major earth and murrum roads to bitumen standard Delineating clear parking spaces	KENHA KeRRA KURA	Public funding, Bilateral & multilateral donor funding	100% of roads upgraded to proposed standards by end of the 5 th year	3-5 Years
Reorganization of the market area into a bazaar market	Construction of modern kiosks	Department of Trade and Commerce	County and Municipal funding	Complete and operational modern kiosks by the end of the 3 rd year after plan approval	1-3 years

17.4.4: Tumaini

Tumaini centre is located to the west of the planning area. It is characterized by linear development. Whereas the road surfaces are good, there exists conflicts between the transport and commercial uses.



TUMAINI TOWNSHIP LAND USE PLAN

LEGEND

- Roads
- Urban Growth Limit
- Municipality Boundary
- Buildings

Land Uses

Code	Land Use Detail
0	Residential
1	Light Industrial
1	1. Animal Feed Manufacturing
2-4	Educational
2	1. Secondary School 3. Tumaini Primary School
2	2. Catholic Youth Polytechnic 4. Nursery School
3	Recreational
4	Public Purpose
4	1. ACK Church 10. Counseling Centre
4	2. KAG Church 11. Apostolic Faith Church
4	3. P.C.E.A Church 12. AIC Church
4	4. New Apostolic Church 13. SDA Church
4	5. A.P. Lines 14. Maranatha Church
4	6. Chief's Office 15. Counseling Centre
4	7. Health Centre 16. AI.P.C.A Church
4	8. Catholic Church 17. Proposed Community Centre
4	9. Full Gospel 18. National Youth Service - Tumaini
5	Public Purpose
5	1 & 2. Market Centres
5	3. Posho Mill
6	Public Purpose
6	1. Public Watering Point 5. Proposed Abattoir
6	2. Abattoir 6. Proposed Hides & Skin Banda
6	3. Cemetery 7. Power Wayleave
6	4. Proposed Waste Receptacle
7	Transportation
9	Agricultural
10	Conservation

SCALE: 1:5,000

PREPARED BY:
URBAN LINES CONSULTANTS LIMITED
 NAME: Paul G. Chege
 Physical Planner Registration Number - 0106
 Signed.....Date.....

CERTIFIED BY:
 COUNTY DIRECTOR, PHYSICAL AND LAND USE PLANNING
 Name:.....
 Signed.....Date.....

APPROVED BY:
 CECM IN CHARGE OF PHYSICAL AND LAND USE PLANNING
 Name:.....
 Signed.....Date.....

APPROVED DEVELOPMENT PLAN No......

ADOPTED BY:
 COUNTY ASSEMBLY
 Hon. Clerk.....
 Signed.....Date.....

Hansard NO......

ENDORSED BY:
 H.E. GOVERNOR COUNTY GOVERNMENT OF NYANDARUA
 DR. KIARIE MOSES N. BADILISHA
 Signature.....Date.....

DEPARTMENT REFERENCE No......

THIS PLAN SUPERCEDES EARLIER DP's & PDP's

This Plan therefore proposes the following to correct this challenge.

Table 17-4: Proposed Strategies on Improvement of Tumaini Market Centre

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Enhancing transport safety and efficiency	Development of a roundabout at the intersection of Tumaini – Gilgil Road and Ol’Kalou Nakuru Road	KENHA KURA KeRRA	Public funding, Bilateral & multilateral donor funding	Completion by end of 6 month after plan approval	3-6 Months
	Integrating direct and level pedestrian crossings at distance intervals of 100m			Presence of direct pedestrian crossings at regular intervals	
Upgrade the market centre to town status	Formation of ad-hoc committee to check eligibility of the centre for conferment of town status	Governor	-	-	1-3 years

17.4.5: Ol’Kalou Government Square and its environs

This is the main square housing the main county government offices, county assembly, law courts among others. There is need to guide the development in the development while the surrounding is still a green field.

Table 17-5: Proposed Interventions for Ol'Kalou Government Square

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Re-organization of the government square and its environs	Development of a master plan detailing the land uses in the immediate neighbouring area as per the zoning plan.	Department of Lands, Housing and Physical Planning.	County and Municipal funding	Approved masterplan	1-3 years
	Develop a multi-purpose social hall	Department of Public Works	Public funding	Complete social hall by end of 3rd year after plan approval	1-3 Years
	Installation of street lights	Department of Public Works	County and Municipal funding	Installation of 70% of proposed street lighting within 6 months after plan approval	3-6 months

17.4.6: Rurii

Rurii centre is located towards the north of the planning area, off Gilgil- Nyahururu highway. It is defined by linear pattern and haphazard clusters of settlements in the immediate rural hinterlands. In terms of development control, there is minimal observance on building lines and setbacks by a majority of developments, most of which are dilapidated or visually unpleasing affecting the aesthetic value of the area. There is also evident spill-over of trading activities onto the highway posing challenges to road users and the traders. To reverse this,

this Plan proposes the following to improve the functionality of the centre.

The centre is proposed to be upgraded to a town status with the core functions being commercial, residential and small and medium scale industries. The proposed town is envisaged to benefit greatly from the vocational institution and Nyandarua High school. The proposed land use plan is shown below

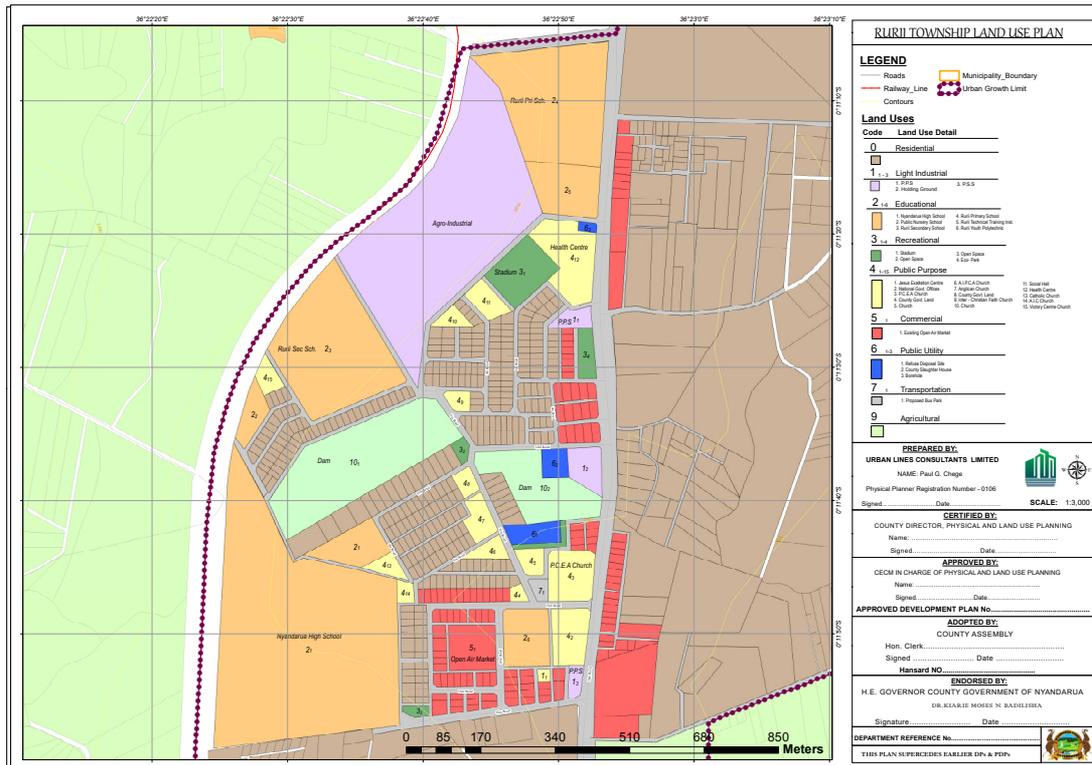


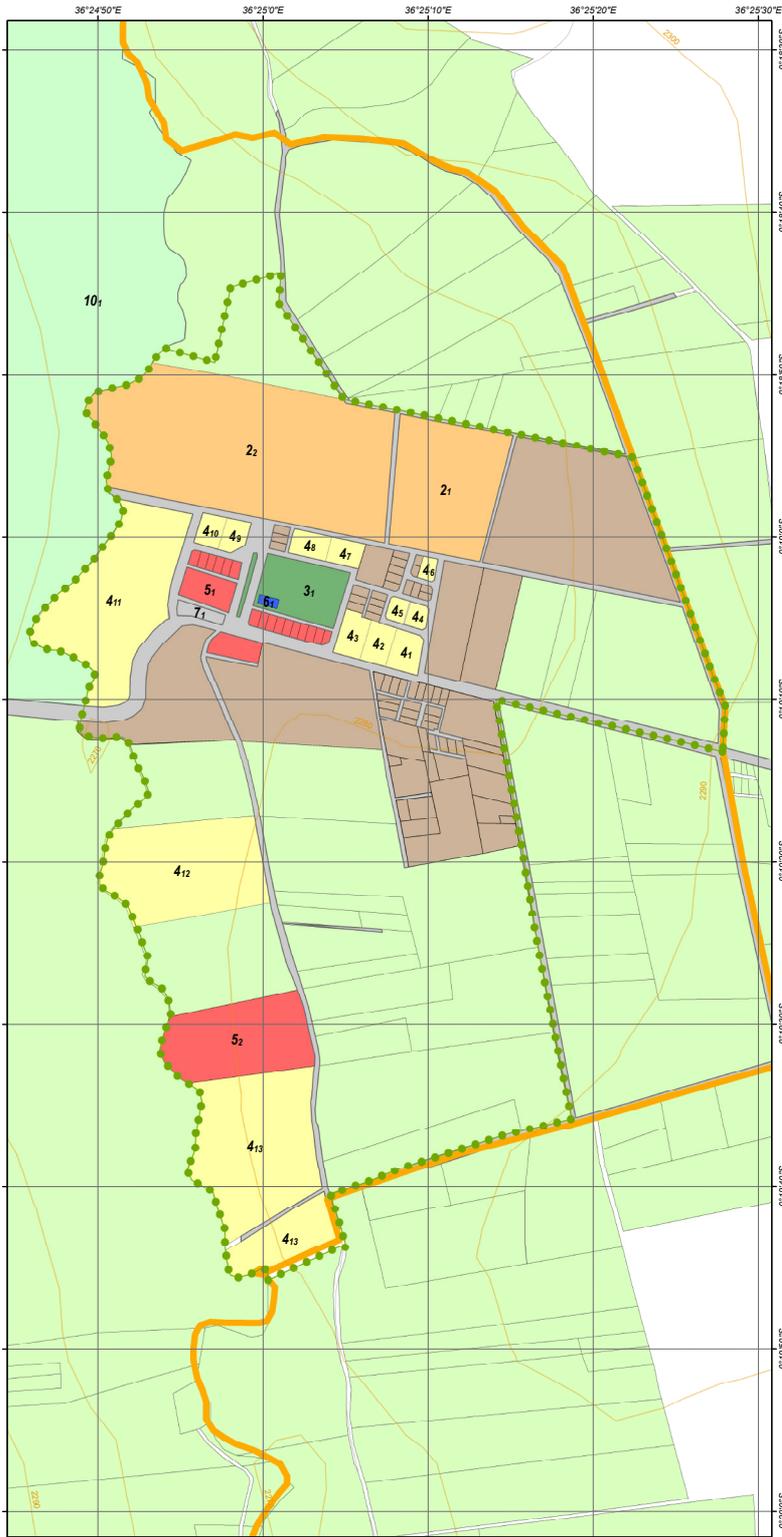
Table 17-6: Proposed Interventions for Rurii Market Centre

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Upgrading of Rurii market area	Construction of a modern market	Department of Tourism, Co-operative Development, Trade and Industrialization	County and Municipal funding	Complete and operational modern market by the end of the 3rd year after plan approval	1-3 years
Enforcement of development control guidelines	Enforcement of development control guidelines	Department of Lands, Housing and Physical Planning		Adherence to development guidelines	1-3 years
Upgrade the market centre to town status	Formation of ad-hoc committee to check eligibility of the centre for conferment of town status	Governor	-	-	1-3 years

17.4.7: Ndemi

Ndemi centre is located towards the eastern boundary along D389 road. The centre struggles with solid waste management and low utilisation. There is need to improve the centre so as to decongest the CBD.

Strategy	Programme/Project	Actors	Financial model proposal	Success indicators	Phase
Re-development of the existing stadium	Upgrade the existing stadium to a multi-use recreational facility	<ul style="list-style-type: none"> · Ministry of Sports · County Department of Sports 	County and Municipal funding	Complete redeveloped stadium by end of 5th year after plan approval	3-5 Years
Reorganization of the market area	Construction of modern kiosks	<ul style="list-style-type: none"> · Department of Trade and Commerce 		Complete and operational modern kiosks by the end of the 3rd year after plan approval	1-3 years
Upgrade the market centre to town status	Formation of ad-hoc committee to check eligibility of the centre for conferment of town status	<ul style="list-style-type: none"> · Governor 	-	-	1-3 years



NDEMI TOWNSHIP LAND USE PLAN

LEGEND

- Contours
- Roads
- Urban Growth Limit
- Municipality Boundary

Land Uses

Code	Land Use Detail
0	Residential
2	Educational
2 ₁	1. Ndem Secondary School 2. Ndem Primary School
3	Recreational
3 ₁	1. Open Space
4	Public Purpose
4 ₁₋₂₀	1. P.C.E.A Ndem 2. Ndem Police Post/ Chief's Camp 3. A.C.K Church 4. Apostle Church 5. PEFA Church 6. County Government Land 7. AIPCA Church 8. Full Gospel Church 9. Catholic Church 10. Social Welfare Centre 12. Cattle Dip 13. Health Centre
5	Commercial
5 ₁₋₂	1. Open Air Market 2. Cooperative Society
6	Public Utility
6 ₁	1. Public Toilet
7	Transportation
7 ₁	1. Bus/Lorry Park
9	Agricultural
10	Conservation

SCALE: 1:5,000



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Hon. Clerk.....

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NYANDARUA

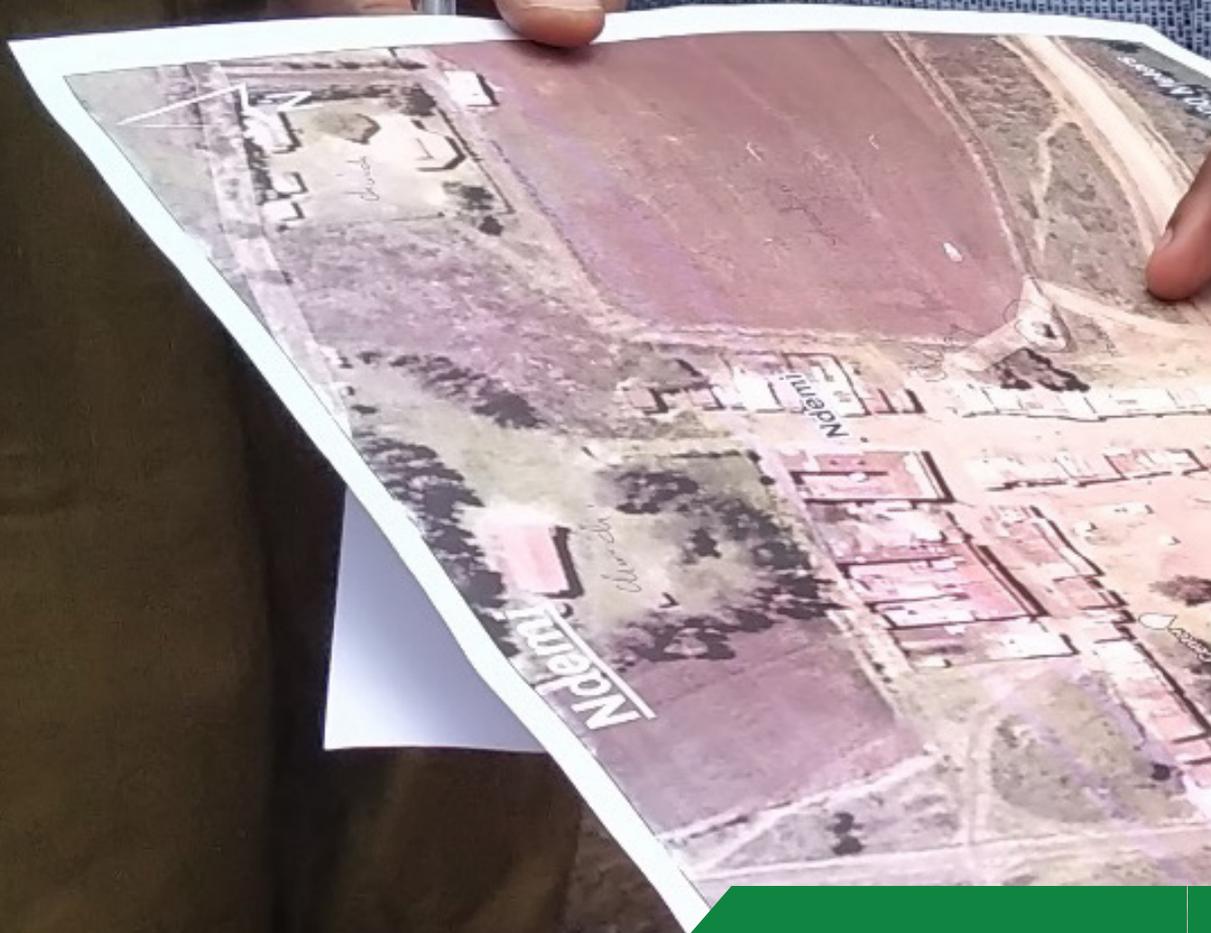
DR.KIARIE MOSES N. BADILISHA

Signature..... Date

DEPARTMENT REFERENCE No.....

THIS PLAN SUPERCEDES
EARLIER DPs & PDPs





CHAPTER

18



IMPLEMENTATION FRAMEWORK

18.1: Institutional Framework

The implementation process of every plan is highly dependent on a sound and efficient institutional framework. The institutional arrangement in regards to planning is well articulated in The County Government Act, the Urban Areas and Cities Act and the Physical and Land Use Planning Act. These legal instruments provide the framework that informs the delivery of services to the lowest devolved units.

Under devolution governance, the County Government Act Section 104(3) state that: "The county government shall designate county departments, cities and urban areas, sub-counties and wards as planning authorities of the county".

The County Governments Act, 2012, clause 105 provides for a County Planning Unit whose role and duty are to coordinate plan preparations and implementation in all county sectors. However, this unit is hardly available in most of the counties. To ensure successful implementation of this Plan, there is a need for its integration into the various plans to maximise synergies and reduce resource waste.

The implementation of the proposed programme and projects will need to be

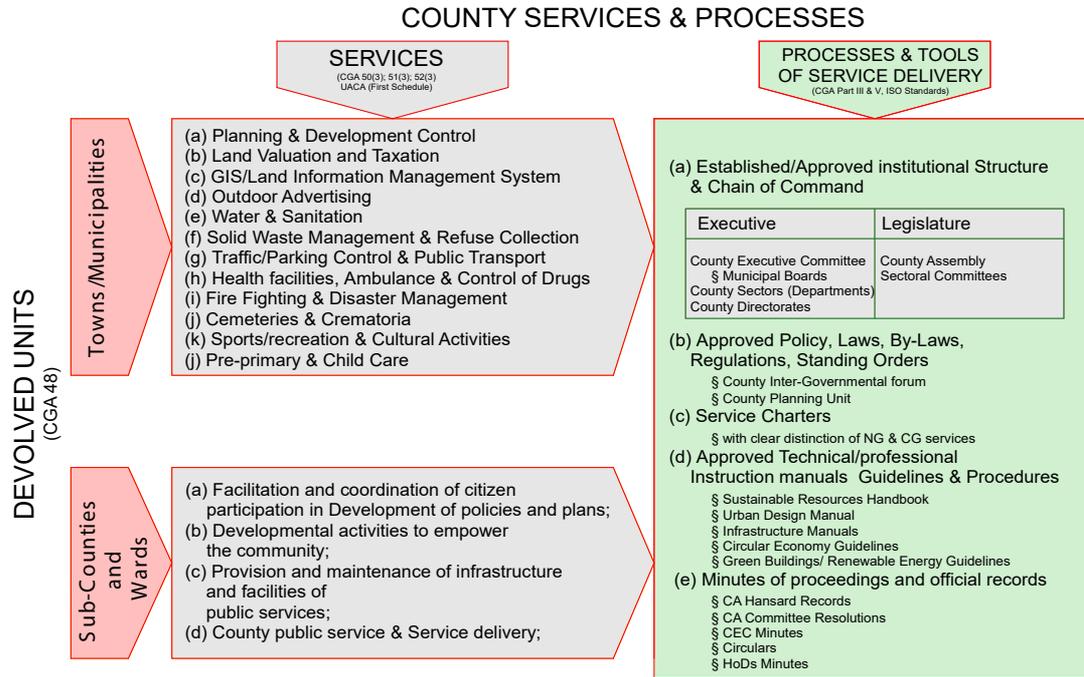
aligned with the 5-year County Integrated Development Plans (CIDPs), the Municipal Integrated Development Plan, and also linked to the Annual Action Plans.

18.2: Plan Implementation at Decentralised Units

As per Part VI Section 48 of the County Governments Act, 2012 on decentralisation, No.13 of 2011, each County Government shall be decentralised to urban areas cities, and municipalities, and towns) established in accordance with the Urban Areas and Cities Act, 2011; sub-counties equivalent to the Constituencies and Wards within the county established under Article 89 of the Constitution of Kenya and Section 26; as well as villages as outlined in the County Governments Act. The objective of this is to ensure decision-making, resource allocation and management is delegated to these units.

Therefore, the implementation of this ISUDPs need to be delegated to Ol'Kalou Municipality as part of delegated functions as spelt out in the Municipal charter which was issued in 2018. Figure 18.1 below shows the process and services offered as per CGA and UACA and roles of the various arms and units in the county.

Figure 18-1: County Services & Processes





CHAPTER

19



IMPLEMENTATION SCHEDULE



19.1: Overview

The chapter below captures the proposed projects and their timelines.

19.2: Quick Win Projects

These are proposed projects that can be completed in one (1) year. The following projects were identified during the community and county feedback sessions:

- i). Conduct training and capacity sensitization to the county departments, members of the county assembly on the components of the plan, integration to sector plans and budgetary allocations.
- ii). Conduct public planning clinics on the implications of the plan through different communication channels.
- iii). Establish the plan implementation and development control team
- iv). Establish County physical and Land Use Planning Consultative Forum and Liaison committee in accordance with PLUPA 2019
- v). Formation of area neighbourhood association to support plan implementation.
- vi). Operationalize the GIS lab and the Land Information Management System (LIMS)
- vii). Implementation of the Land Audit Report for Ol'Kalou town
- viii). Surveying and titling of the other market centres
- ix). Prepare an inventory of existing public land and identify and recommend land for acquisition for public use.
- x). Compliance of development applications to land use zones/guidelines
- xi). Update the existing valuation roll to enhance revenue collection.
- xii). Extension streetlighting Ol'Kalou, Captain, Rurii, Kariamu, Ndemi townships and other major market centres to increase business hours and security.
- xiii). Operationalize the new market at Ol'Kalou town and activate Captain and Oleriondo markets among others.
- xiv). Regulate hawking in the municipality.
- xv). Expand solid waste collection, sorting and reuse at source and dumpsite
- xvi). Sweeping and unclogging of drainages
- xvii). Repair and maintenance of public toilets at Karimu, Rurii, Captain, etc
- xviii). Organise lorry parking and boda-boda sheds/operation

19.3: Medium- and Long-Term Projects

19.3.1: Physical Infrastructure

19.3.1.1: Transportation Sector

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Construct laybys/ bus stops along the major roads and urban centres 	Rurii market Captain market Tumaini market Kariamu market	Municipality County Roads Department-PWRTHE KeNHA KURA KeRRA	1 to 3 years
<ul style="list-style-type: none"> Construct local and long-distance lorry parks 	Ol'Kalou town Captain Tumaini Kariamu	Ol'Kalou Municipality	1-3 years
<ul style="list-style-type: none"> Improve and construct NMT facilities 	Ol'Kalou town Rurii Captain Tumaini Kariamu Ndemi	Ol'Kalou Municipality	1-3 years
<ul style="list-style-type: none"> Construct matatus terminus by reclaiming and earmarked termini sites encroached by traders 	Ol'Kalou town Rurii Captain Tumaini Kariamu	County Municipality KeRRA	1-3 years
<ul style="list-style-type: none"> Construction of parking lots 	Ol'Kalou town Rurii Ndemi Kariamu Captain Tumaini	Ol'Kalou Municipality County government	1 to 3 years
<ul style="list-style-type: none"> Construction of boda boda sheds 	Ol'Kalou town Captain Kariamu Rurii Tumaini Mawingu Ndemi	Ol'Kalou Municipality County government	1-3 years
<ul style="list-style-type: none"> Construct an integrated road and railway bus terminus at the railway station 	Railway station	County Municipality Kenya Railways	5-10 years
<ul style="list-style-type: none"> Upgrading of all feeder roads to all-weather standard (gravelling/murram) 	Ol'Kalou Municipality	County Municipality KeRRA	1-3 years
<ul style="list-style-type: none"> Upgrading Oleriondo – Mawingu road to bitumen standards 	Karau ward	County Municipality KeRRA	3-5 years

<ul style="list-style-type: none"> Upgrading Captain – Kaimbaga road to bitumen standards 	Kaimbaga ward	County Municipality KeRRA	3-5 years
<ul style="list-style-type: none"> Dualling the Gilgil-Nyahururu stretch between Captain and Rurii. 	Captain to Rurii market	County, Municipality, KeNHA	5-10 years
<ul style="list-style-type: none"> Construction of drainage channels along the major roads. 	O'Kalou Municipality	Municipality County government	1-3 years
<ul style="list-style-type: none"> Rehabilitate and increase the coverage of the drainage in the major of the existing drainage channels. 	All major centres	County Municipality	1-3 years

19.3.1.2: Water and Sewer Reticulation

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Expand water reticulation urban and peri-urban areas Provide boreholes and water kiosks to support water supply 	O'Kalou Municipality	OLWASCO County CBOs	0-10 years
<ul style="list-style-type: none"> Drill 5 boreholes to improve water supply 	Mawingu Kaimbaga Ndemi Tumaini Wanjura	OLWASCO County National government	1-3 years
<ul style="list-style-type: none"> Public participation to review water tariffs. 	O'Kalou Municipality	OLWASCO WASREB	0-1 year
<ul style="list-style-type: none"> Promote alternative water technologies i.e., rain water harvesting, dams and earth pans, shallow wells to support agriculture 	Peri-urban and rural areas	Department of Water, CBOs and Residents	1-3 years
<ul style="list-style-type: none"> Reduce unaccounted water by use of GIS based monitoring technology and train residents on sustainable water management practice 	O'Kalou Municipality	OLWASCO D- WENCC	1-2years
<ul style="list-style-type: none"> Protection of rivers against encroachment and pollution 	O'Kalou Municipality	NEMA WRA County government	1-2years

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Expand sewer treatment plant and reticulation 	Ol'Kalou town	OLWASCO Central Rift Valley Water Works Development Agency	1-3years
<ul style="list-style-type: none"> Expand onsite sanitation systems unsewered areas 	Kiriamu Captain Rurii Tumaini Ndemi	OLWASCO County government	3-5 years
<ul style="list-style-type: none"> Support private sector to provide sanitation services. 	Peri-urban areas, schools and institutions	OLWASCO Department of Public Health Department of Water, Environment CBOs Private Investors	3-5 years
<ul style="list-style-type: none"> Design and implement schools' sanitation programme 	All schools	OLWASCO Department of Public Health Department of Education	1-3 years
<ul style="list-style-type: none"> Regular collection and safe disposal of waste 	Ol'Kalou Municipality	Municipality County Government	0-6 months
<ul style="list-style-type: none"> Purchase refuse bins, skipper trucks and transfer stations 	Ol'Kalou Municipality	Municipality County Government	0-6 months
<ul style="list-style-type: none"> License small scale private waste collectors 	Areas not adequately served by municipal services.	Municipality County Government Private firms/investors	0-6 months
<ul style="list-style-type: none"> Sensitize and train households and SMEs on circular economy of waste e.g., organic fertilizers, paper and plastic re-use 	Ol'Kalou Municipality	Municipality Department of Public Health Department of Trade Department of Environment	1-3 years
<ul style="list-style-type: none"> Construct modern sanitary landfill and waste recycling plant. 	Ol'Kalou town	Municipality County Government PPPs	3-5 years
<ul style="list-style-type: none"> Decommission and rehabilitate the current dumpsite 	Ol'Kalou town	County, Municipality and NEMA	3-5years

19.3.2 Local Economic Development

19.3.2.1: Trade and Commerce Sector

Projects	Area	Actors	Phasing
<ul style="list-style-type: none"> Modernize and expand market facilities and lighting in Kalou town, market centres and other strategic areas 	Ol'Kalou town and other strategic locations	Municipality Departments of Trade, Finance, Cooperatives, Physical planning Energy Kenya Power	1-3 years
<ul style="list-style-type: none"> Designate public spaces/streets for periodic market days within the municipality 	Ol'Kalou Town	County Municipal Board D-PWRTHE	2-4 years
<ul style="list-style-type: none"> Develop and operationalize policy on growth of trade 	Ol'Kalou Municipality	County County Assembly Municipal Board D-TCDTI	1-3 years
<ul style="list-style-type: none"> Formation of cooperatives, saccos, saving groups and chamas 	Ol'Kalou Municipality	National Government County government (Trade, Coop, Finance CEREB Private sector (banks, micro finance, insurance) Non-state actor (NGOs and development partners)	1-3 years
<ul style="list-style-type: none"> Train traders and groups on financial literacy and corporate governance 			
<ul style="list-style-type: none"> Promote formalization through business registration and compliance and rationalize licensing and taxation regime. 	Ol'Kalou Municipality	County Municipal Board D-TCDTI	1-3 years
<ul style="list-style-type: none"> Provide an online platform for traders to interact with County and MDAs on tenders. 	Ol'Kalou Municipality	Municipal Board D-TCDTI	Continuous

19.3.2.2: Industrial Sector

Projects	Area	Actors	Phasing
<ul style="list-style-type: none"> Conducting feasibility studies on industrial development as defined in land use plan. 	Ol'Kalou Municipality	County Municipal Board D-TCDTI D-FEP&ICT D-ALF D-LPPUD D-PWRTHE County Land owners	Year 2
<ul style="list-style-type: none"> Provide support infrastructure (roads, electricity and water) to support industrial growth 			Year 1
<p>Upscale the existing Ministry of Industrialization's Industrial Development Centre with adequate human and financial resources as a prototype small scale centre to promote facility.</p> <ul style="list-style-type: none"> Securing the land designated for light industries Training on skills, management and leadership Expand the operating sheds to accommodate more workers and provide storage facilities Support benchmarking for learning from local, regional and international platforms Organize local showcase events to boost local talent and productivity 	Ol'Kalou Municipality	Ministry of Industrialization County Municipal Board D-TCDTI D-FEP&ICT	Year 2

19.3.2.3 Livestock Sector

Projects	Area	Actors	Phasing
<ul style="list-style-type: none"> Enhance livestock extension services to support farmers training on livestock husbandry 	Ol'Kalou Municipality	D-ALF18 Farmers Co-operatives & Groups	Annual
<ul style="list-style-type: none"> Subsidized artificial insemination service Source pedigree rams (Hampshire & Corriedale Sheep) to improve the breed¹⁹ 	Ol'Kalou Municipality	D-ALF Farmers Co-operatives (FC)	Annual
<ul style="list-style-type: none"> Train farmers on fodder conservation/storage Promote exchange programmes 	Ol'Kalou Municipality	D-ALF Farmers Cooperatives	Year 2- 3
<ul style="list-style-type: none"> Organise annual investment conferences to promote livestock sector investment and marketing Establish a modern abattoir for beef, sheep & goats Promote cold storage facilities to mitigate glut and for price stabilization. 	Ol'Kalou Municipality	D-ALF Ol'Kalou Farmers Cooperatives	Annual
<ul style="list-style-type: none"> Promote mainstream uptake of agro-insurance covers. 	Ol'Kalou Municipality	D-HS20	Year 3-4
<ul style="list-style-type: none"> Rehabilitate dams and water pans for water harvesting 	Ol'Kalou Municipality	D-ALF	1-3 years
<ul style="list-style-type: none"> Community sensitization barazas on viable land use and enforce zoning guidelines 	Ol'Kalou Municipality	County, Ol'Kalou D-TCDT121	1-3 years
<ul style="list-style-type: none"> Strengthen farmers cooperatives & diversification of market channels/new markets 	Ol'Kalou Municipality	County Municipality D-WECC&NR	3-5 years
<ul style="list-style-type: none"> Community sensitization barazas on viable land use and enforce zoning guidelines 	Areas zoned for agriculture	Department of Lands, Physical planning & Urban Development	1 year
<ul style="list-style-type: none"> Strengthen farmers cooperatives & diversification of market channels/new markets 	Ol'Kalou Municipality	D-ALF D-ITC MoALF	1-2 years

19.3.3: Social Infrastructure

¹⁸ Department of Agriculture, Livestock and Fisheries

¹⁹ Counties that have sourced such breeds include Uasin Gishu

²⁰ Department of Health Services

²¹ Department of Tourism, Co-operative Development, Trade and Industrialization

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Provide adequate ECDE facilities within 500 metres walking distance 	Ol'Kalou Municipality	County Government Municipality Department of Education Private sector	1-3 years
<ul style="list-style-type: none"> Support 100% transition to secondary schools through expansion of education facilities within 3km radii. 	Municipality particularly Mawingu Silanga	National Government County Government	Continuous
<ul style="list-style-type: none"> Increase student capitation and bursaries to the needy and vulnerable 	Ol'Kalou Municipality	Ministry of Education Municipality County Department of Education NG-CDF	1-3 years
<ul style="list-style-type: none"> Provide adequate teaching personnel 	Ol'Kalou Municipality	Teachers Service Commission	1-3 years
<ul style="list-style-type: none"> Support private sector to provide learning and training institutions 	Ol'Kalou Municipality	National Government County Government Private sector	1-3 years
<ul style="list-style-type: none"> Acquire/reserve and enforce surrender land for schools during subdivision 	Ol'Kalou Municipality	D-LPPUD D-Education	Continuous
<ul style="list-style-type: none"> Expand the Technical & Vocational Education and Training (TVET) institutions 	Ol'Kalou Municipality	National Government County Government	1-3 years
<ul style="list-style-type: none"> Provide bursaries for the needy students 	Ol'Kalou Municipality	National Government County Government NG- CDF	1-3 years
<ul style="list-style-type: none"> Construct the proposed Nyandarua University to provide specialized skills 	Captain area	National Government County Government Private sector	3-10 years
<ul style="list-style-type: none"> Upgrade the existing special school with special ed. learning equipment and personnel 	Ol'Kalou Municipality	County Government Municipality D- Ed.	
<ul style="list-style-type: none"> Integration of child care facilities within public spaces 	Ol'Kalou Municipality	County Government Municipality D- Ed., Social Services	

19.3.3.2: Health Sector

Projects	Area	Actors	Phasing
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• Provide personnel and drugs in public health facilities to decongest JM Kariuki Hospital	Municipality	National Government Department of Health Private sector	1-3 years
• Upgrade health facilities to level 3 hospitals at Tumaini, Rurii and Captain to improve coverage of healthcare services	Rurii Tumaini Captain	Municipality Department of Health	3-5 years
• Provide existing health facilities with equipment and personnel	Mawingu Kariamu Passenga Kaimbaga market centre		1-3 years
• Purchase at least 3 ambulances to improve emergency services	To serve the municipality	Municipality	1-3 years
• Upgrade JM Hospital and equip with specialised medical equipment e.g., cancer care and renal	Ol'Kalou Municipality	National Government County Government Department of Health	3-5 years
• Acquire/reserve/surrender land for more health facilities	Ol'Kalou Municipality	D-LPPUD	Continuous

19.3.3.3: Other Social Infrastructure

Projects	Area	Actors	Phasing
• Construct fire station, fire-fighting truck & fire hydrants)	To serve the municipality	Municipality	1-3 years
• Police post and security apparatus	Ndemi Mawingu Kaimbaga Passenga	Kenya Police Service National Government	3-5 years
• Modernise and improve management of the cemetery and crematorium in town and improve other cemetery sites within the municipality	Ol'Kalou Tumaini Rurii Ndemi Kariamu	Public Health Municipality	1-3 years
• Construct 4 social halls equipped in ICT and library services	Kaimbaga ward Karau ward Rurii ward Tumaini centre	County Department of Social Services Municipality Kenya Library Services	3-5 years

19.3.4: Land and Land Use Management

Projects	Area	Actors	Phasing
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<ul style="list-style-type: none"> Constitute a technical land management committee comprising of NLC, survey, physical planning, land administration to coordinate implementation of the laws, policies and regulations 	Ol'Kalou Municipality	County, Municipality, NLC, MoLPP Land Control Board Professional bodies (lawyers, planners, surveyors etc.)	1-3 years
<ul style="list-style-type: none"> Prepare local guidelines for implementation 			
<ul style="list-style-type: none"> Embrace online platforms such as Ardhi Sasa and development application system for harmonization land use planning, administration and management. 			
<ul style="list-style-type: none"> Creation of a nexus of technical meetings to enhance coordination and collaboration between actors 	Ol'Kalou Municipality	Ol'Kalou Municipal Board & National Land Commission	3 – 6 months
<ul style="list-style-type: none"> Audit and secure all the current public land within the municipality and create a living document 	Ol'Kalou Municipality	County, Municipality, NLC, MoLPP	Continuous
<ul style="list-style-type: none"> Enforcement of planning standards in areas undergoing subdivision and conversion to non-agricultural use to reserve land for public use (schools, health facilities, open spaces and other support infrastructure). 			
<ul style="list-style-type: none"> Plan, survey and register all public land in liaison with NLC 			
<ul style="list-style-type: none"> Operationalize repossession of all grabbed public land. 			
<ul style="list-style-type: none"> Create awareness through land use clinics on optimal land use (agricultural, commercial, industrial parks) Conduct market studies on potential economic zones on industrial and commercial uses. 	Ol-Kalou Town, and urban nodes/growth centres.	County, Municipality Private developers Land owners Business associations Utility providers (water, electricity, transport and roads, ICT)	
<ul style="list-style-type: none"> Zone land for local economic development hubs leveraging economic potential within each ward (at least two (2) per ward). 			
<ul style="list-style-type: none"> Secure land tenure especially in Ol'Kalou town and the market centres 			

• Approval and Implementation of the Ol'Kalou Integrated Strategic Urban Development plan	Ol'Kalou Municipality	Ol'Kalou Municipal Board	Immediate- 10 years
• Undertaking land clinics and workshops to inform the public of urban development plans		D-LPPUD	1-3 years
• Establishment of an appraisal mechanism for plan implementation		Ol'Kalou Municipal Board	3 – 6 months
• Developing the processes and procedures of development control within the Municipality including (zoning, plot coverage and ratio, building lines and setbacks)	Ol'Kalou Municipality	D-LPPUD Ol'Kalou Municipality County Government of Nyandarua	Immediate – 10 years
• Deployment of adequate planning and development control officers to the Municipality			
• Develop a Framework for a Land Information Management System (LIMS) and a land information systems lab.			1-3 years
• Survey and boundary demarcation of public and individual property	Ol'Kalou Municipality	Ol'Kalou Municipal Board, National Land Commission & Survey of Kenya	3 – 6 months
• Issuance of title deeds and lease documents to land owners as per the Land Registration Act	Ol'Kalou Municipality	Ol'Kalou Municipal Board, National Land Commission & Survey of Kenya	1-3 years
• Establishment of valuation roll as per the current physical and land use development plan and the Public Finance Management Act,2012	Ol'Kalou Municipality	Physical Planners, Land Valuers, and finance officers	1-5 years

19.3.5: Urbanization and Human Settlement

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Implementation of the Task force Report 	Ol'Kalou Municipality	County Government of Nyandarua, Ol'Kalou Municipal Board	3 – 6 months
<ul style="list-style-type: none"> Empower the planning department at the municipality to process development control through online development application system 	Ol'Kalou Municipality	Ol'Kalou Municipal Board	1 -2 years
<ul style="list-style-type: none"> Procedures on application processing and approvals such as E-DAMS 	Ol'Kalou Municipality	Ol'Kalou Municipal Board	
<ul style="list-style-type: none"> Upgrading of the existing infrastructure in the CBD and satellite centres 	Ol'Kalou CBD, Captain, Rurii, Kariamu, and Tumaini	County Government of Nyandarua, KENHA, KURA,	1 – 3 years
<ul style="list-style-type: none"> Densification of the urban areas by increasing plot ratios 			
<ul style="list-style-type: none"> Delineation of the CBD and market centre boundaries 		Ol'Kalou Municipal Board	1-3 years
<ul style="list-style-type: none"> Construction of footpaths, cycling lanes and street furniture within Ol'Kalou CBD Encourage tree buffers 	Ol'Kalou Municipality	County Government of Nyandarua, KURA & KENHA	1 – 3 years
<ul style="list-style-type: none"> Renovation of dilapidated buildings within Ol'Kalou CBD 	Ol'Kalou CBD and satellite centres	D-LPPUD Ol'Kalou Municipality	1-3 years
		D-LPPUD Ol'Kalou Municipality	
<ul style="list-style-type: none"> Affordable housing study 	Ol'Kalou Municipality	State Department of Housing and Urban Development, County Government of Nyandarua, Ol'Kalou Municipal Board	3-6 months

• PPP framework	Ol'Kalou Municipality	State Department of Housing and Urban Development, County Government of Nyandarua, Ol'Kalou Municipal Board	1-3 years
• Development of County social housing projects	Ol'Kalou Municipality	County Government of Nyandarua, Ol'Kalou Municipal Board	1 -3 years
• Upgrading of physical infrastructure and social amenities in residential areas (site & service schemes)	Ol'Kalou Municipality	County Government of Nyandarua, Ol'Kalou Municipal Board	1-3 years

19.3.6 Environment and Climate Change

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Distribution of tree seedlings to the residents Planting of tree buffers in all public land, and along streets 	Ol'Kalou Municipality *The zones as per the land use plan	KEFRI22 D-WECC&NR23 Ol'Kalou Municipality	1 – 3 years
<ul style="list-style-type: none"> Conducting periodic training and outreach programs to the community Creation of educative programs on local media stations 	Ol'Kalou Municipality	D-WECC&NR Ol'Kalou Municipality	1-3 years
<ul style="list-style-type: none"> Map and gazette all riparian reserves within Ol'Kalou Tree planting along riverbanks and on hilly areas Construction of public promenades Undertaking River cleaning up activities Landscape management to manage upstream river pollution Prepare policy on pollution offences and fine payment 	Ol'Kalou River, Lake Ol'bolosat and any other riparian features	NEMA, D-WECC&NR Residents of Ol'Kalou Municipality	3-6 months
<ul style="list-style-type: none"> Preparation of quarrying policies within Ol'Kalou Municipality to guide and regulate ongoing and future mining practices and requiring EIAs to be conducted prior to commissioning of quarries Training and sensitization of community members on quarry site reclamation and rehabilitation 	Ndemi Quarries Ol'Kalou Town Quarries	NEMA, D-WECC&NR, Ol'Kalou Municipality	1 – 3 years
<ul style="list-style-type: none"> Budget allocation to help in tackling effects of climate change and implement climate smart solutions 	Ol'Kalou Municipality	County Government of Nyandarua	1 – 3 years
<ul style="list-style-type: none"> Installation of solar or wind powered street lighting 	Ol'Kalou Municipality	KPLC & D-PWRTHE24	1 – 3 years
<ul style="list-style-type: none"> Establishment of a climate change department within the county and municipality pursuant to Section 19 of the National Climate Change Act, 2016 	Ol'Kalou Municipality	County Government of Nyandarua,	1 – 3 years

22 Kenya Forest Research Institute

23 Department of Water, Environment, Tourism and Natural Resources

24 Department of Transport, Energy and Public Works.

<ul style="list-style-type: none"> • Providing free online/face-face training courses to the municipal staff and the public 	Ol'Kalou Municipality	D-WECC&NR, Ol'Kalou Municipality	Immediate to 5 years
<ul style="list-style-type: none"> • Deployment of extension staff to Ol'Kalou Municipality 	Ol'Kalou Municipality	KALRO25, D- WET&NR, D- ALF, Ol'Kalou Municipality	1 - 3 years
<ul style="list-style-type: none"> • Enhancing the current county interventions in creation of buffers in form of fences or trenches to prevent human-wildlife conflicts 	Lake Ol'bolosat and any other areas	KWS26, WRA27 D-WECC&NR, Ol'Kalou Municipality	Immediate to 3 years
<ul style="list-style-type: none"> • Community education on peaceful co-existence with the wildlife 			
<ul style="list-style-type: none"> • Strengthen Disaster Management in the County. 		County Government of Nyandarua D-PWRTHE	5 years
<ul style="list-style-type: none"> • Undertake the disaster mapping of the municipality 			
<ul style="list-style-type: none"> • Acquisition of land and construction of a fully equipped disaster management centre 			
<ul style="list-style-type: none"> • Construct and equip the proposed fire station 			
<ul style="list-style-type: none"> • Establishment of a coordination mechanism among all concerned agencies for disaster management, like Health Department, Fire Department, Police department, etc. 			
<ul style="list-style-type: none"> • Development, regular updating and wide dissemination of information on disaster risks 			

25 Kenya Agricultural and Livestock Research Organization

26 Kenya Wildlife Services

27 Water Resources Authority

19.3.7: Tourism Sector

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Gazettement & provide support infrastructure to develop lake Ol'bolosat to a tourist site in partnership with private sector Develop Ol'Kalou arboretum park with a garden, park, hotel and conference facility through a PPP arrangement. Identify, preserve and gazette historical sites and cultural centres. Develop a tourism circuit network integrating Nyandarua within the wider CEREB tourism potential. e.g., Lake Ol'bolosat, Aberdare, Thompsons Falls, Mt. Kenya, Lakes Naivasha and Nakuru. Organize annual tourism conferences with relevant actors to showcase Ol'Kalou tourism potential and boost community participation River line redevelopment to promote eco-tourism along River Ol'Kalou 	Ol'Kalou municipality County	County Municipality CEREB KWS Tour operators Hotel owners' associations	Year 1
<ul style="list-style-type: none"> Awareness creation on importance of culture preservation Development proposal of an arts and cultural centre with a theatre and museum 	Ol'Kalou Municipality	Ministry of Tourism & National Government County Government D-WECC&NR Municipal Board, D-YESA28 D-ECGAC&SS29	1-3 years
<ul style="list-style-type: none"> Redevelopment of the Ol'Kalou civic area to serve as a public green open space 	Ol'Kalou CBD	D-WECC&NR Ol'Kalou Municipality	1-3 years
<ul style="list-style-type: none"> Delineate space for provision of public green open spaces to optimize access 	Ol'Kalou CBD and Satellite Centres	D-WECC&NR D-ECGAC&SS D-YESA Municipal Board	3-6 months
<ul style="list-style-type: none"> Acquisition of public land for Municipal cemetery and Community centres 	Ol'Kalou Municipality	D-WECC&NR D-LPPUD Municipal Board	1-3 years
<ul style="list-style-type: none"> Completion of the municipality social hall 	Ol'Kalou Municipality	D-YESA D-ECGAC&SS Municipal Board	3-6 months
<ul style="list-style-type: none"> Gazettement of Ol'Kalou cultural and historical sites 	Ol'Kalou Municipality	Ministry of Tourism D-WECC&NR Municipal Board	3-6 months

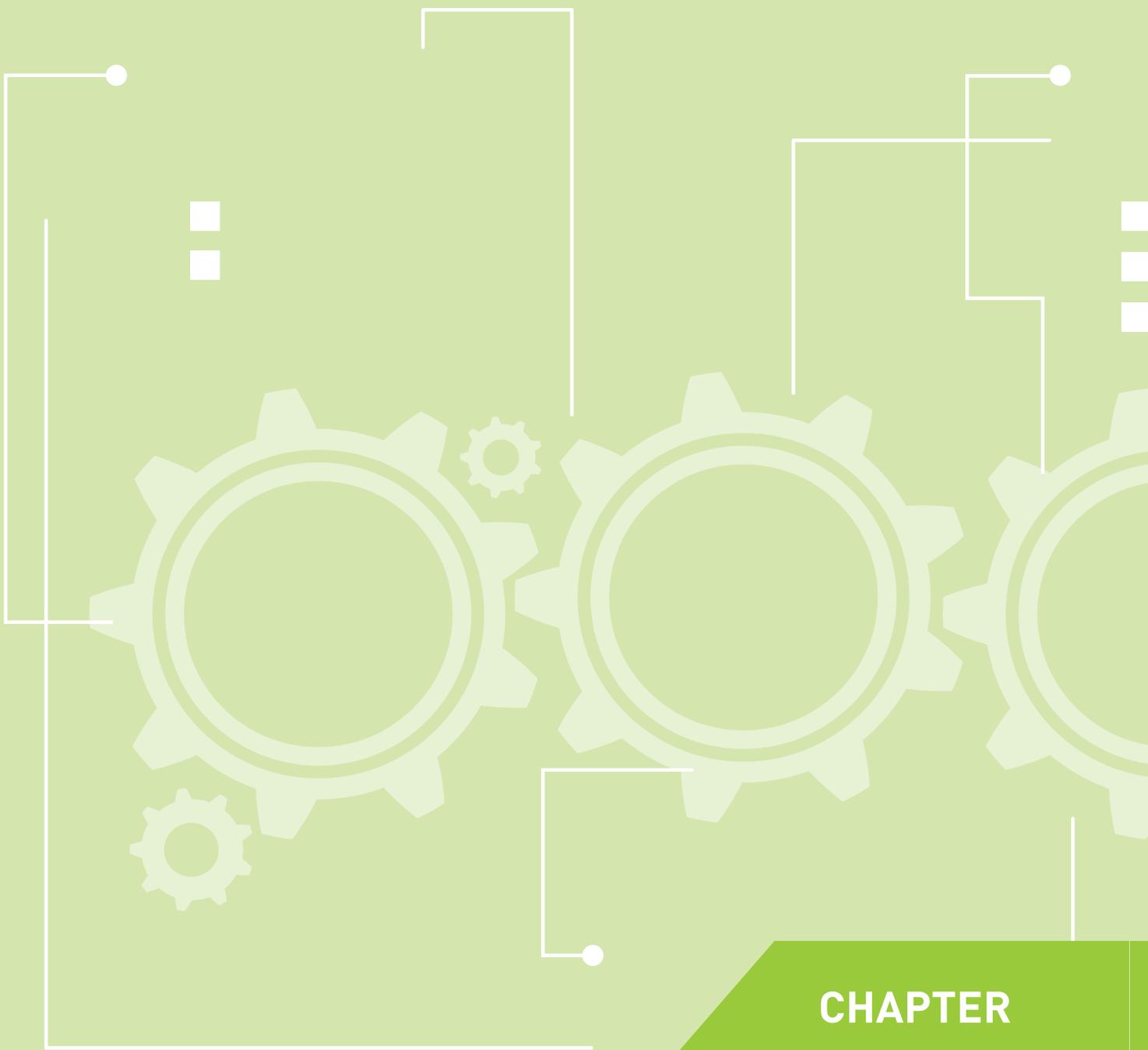
28 Department of Gender, Youth and Social Services

29 Department of Education, Culture and Arts

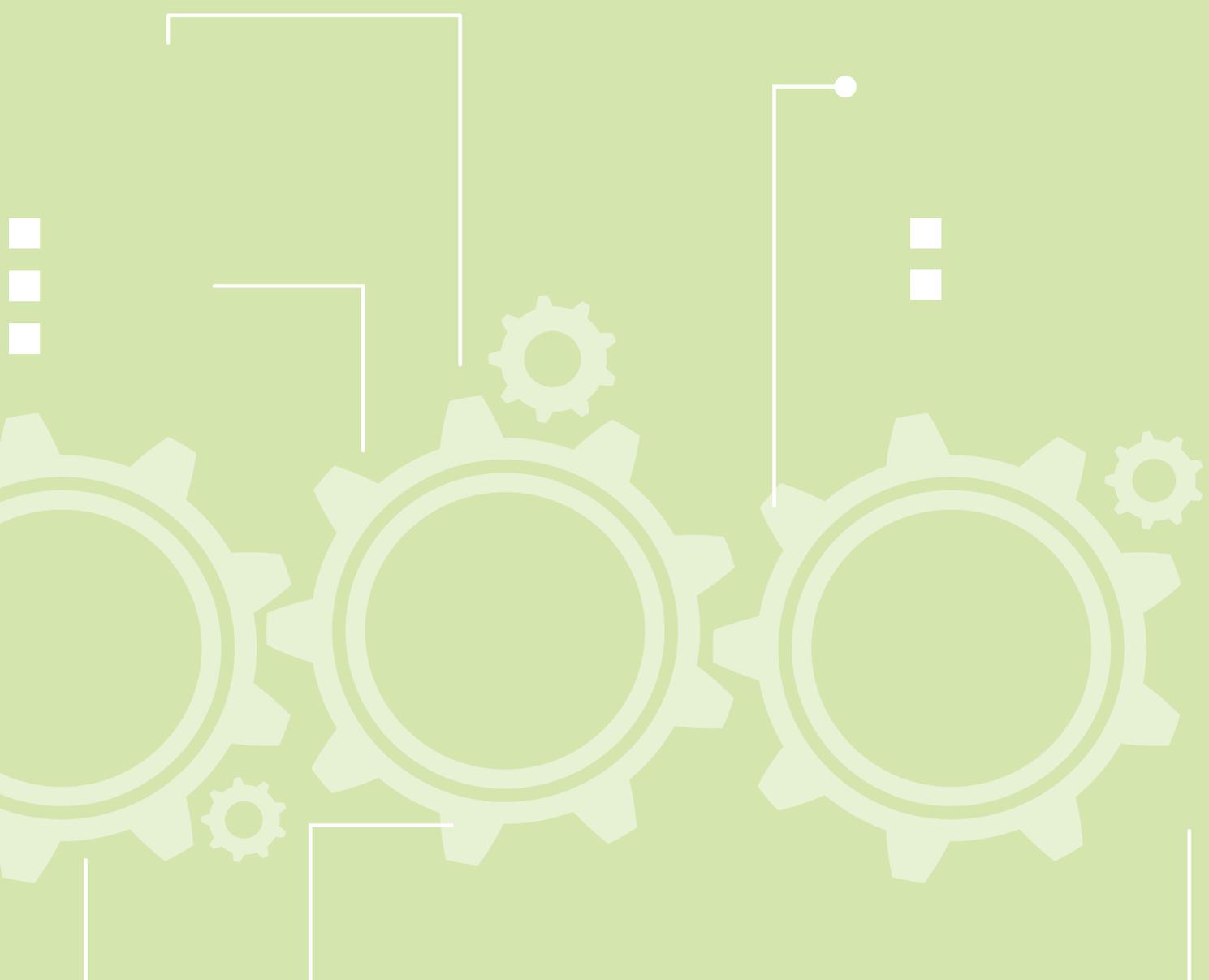
19.3.8: Revenue Enhancement

Project	Area	Actors	Phasing
<ul style="list-style-type: none"> Map and collect revenues of all services offered by the municipality 	Ol'Kalou Municipality	D-FEP&ICT Municipality	1-3 years
<ul style="list-style-type: none"> Automate revenue collection points 	Ol'Kalou Municipality	D-FEP&ICT Municipality	1-3 years
<ul style="list-style-type: none"> Carry out a revenue feasibility study on Identify potential revenue sources Identify the optimal charging 	Ol'Kalou Municipality	D-FEP&ICT Municipality	1-3 years
<ul style="list-style-type: none"> Development an incentive plan to achieve Compliance Waivers on accumulated penalties to induce principal payment 	Ol'Kalou Municipality	D-FEP&ICT Municipality	1-3 years
<ul style="list-style-type: none"> Awareness creation and timely enforcement Institute regular checks. Electronic notification on charges to encourage timely payments. Undertake regular tax clinics Regular supervision and audits of tax collection 	Ol'Kalou Municipality	D-FEP&ICT Municipality	1-3 years
<ul style="list-style-type: none"> Timely receipts of funds from County to implement delegated functions in line with UACA and Municipal Charter Compliance with Development partners requirements for designated projects 	Ol'Kalou Municipality	D-FEP&ICT Municipal Board County Assembly	1-3 years
<ul style="list-style-type: none"> Issue development approval conditions to medium and large-scale developments on land subdivision, housing, industries and institutions. 	Ol'Kalou Municipality	D-FEP&ICT D-LPPUD Municipal Board County Assembly	1-3 years
<ul style="list-style-type: none"> Monitor and issue compliance certificate 			
<p>Implement the PPP investment proposals</p> <ul style="list-style-type: none"> Built Operate and Transfer Concessions and reservations to develop facilities financially accessible to the public Leasing of construction, farm machinery and medical equipment Management Contracts with private entities for collection of fees, land rates, recreational and utility services and garbage collection for effective revenue collection. 	Ol'Kalou Municipality	D-FEP&ICT Legal Department Municipal Board County Assembly National Treasury & Attorney General	1-3 years
<ul style="list-style-type: none"> Local share investment in targeted sectors e.g., in agrobusiness (dairy, abattoirs, seed multipliers) 	Ol'Kalou Municipality	D-FEP&ICT Legal Department Municipal Board County Assembly	1-3 years
<ul style="list-style-type: none"> Lobby National Government to implement major infrastructural projects in CEREB regions i.e., roads, railway, power, water, tourism, research and development, sanitary landfills 	Ol'Kalou Municipality	National Government Relevant counties in CEREB	1-5 years
<ul style="list-style-type: none"> Through the following: Monitor and analyse budget spending and Regular auditing of financial records 	Ol'Kalou Municipality	County Finance Department Municipal Board Auditor General	Continuous





CHAPTER
20



IMPLEMENTATION FRAMEWORK

20.1: Overview

The primary goal of monitoring and evaluation is to assess the effectiveness of the implementation of the Plan. A fully functional M&E system should be able to review a plan's implementation to ensure it delivers its intended results. To achieve this, M&E requires inter-agency/departmental coordination to ensure inclusiveness and reflect the multi-sectoral framework of the plan.

A crucial part of the M&E process is to verify whether all the activities laid out on each county priority project or programme are happening according to planning timelines and targets set in the County Integrated Development Plan (CIDP). M&E also verifies that the project/programme resources are being used correctly and efficiently.

The CoK (2010) requires the Department of Physical Planning and the National Land Commission (NC) to work together on all matters of physical and land use planning. The National Spatial Plan emphasizes the need for performance indicators to facilitate the monitoring of the plan.

NLC developed the Urban Land Use Planning Monitoring and Oversight Guidelines to "provide a lawful basis for engagement between the County Governments as planning authorities responsible for preparing, approving, implementing and reviewing Urban Land Use Plans and the National Land Commission as a monitoring and oversight agency over land-use planning."

The guidelines provide for:

- Regular and systematic monitoring of the plans;
- Documentation and provision of feedback on land use planning activities conducted by the planning authorities;

- Adherence to the constitution, planning standards, policies, and legislations;
- Ensuring the quality of the planning outputs and outcomes;
- Guide and systematize the practice of preparing, implementing, and reviewing Urban Land Use Plans in the Country;
- Enforcing remedial actions to mitigate inappropriate practices,
- Holding the planning authorities accountable for their actions so as to enhance performance.

The County Planning Unit best highlights the M&E process as it reflects the County's spatial, social, and economic development programmes and projects. Through M&E, the County's ISUDP projects are funded, completed, and commissioned.

20.2 Planning Indicators of Progress

A functional physical and land use planning M&E system should align with the following;

- International Policies which the country is party to; SDGs, Urban Agenda, Africa Agenda 2063,
- Existing national policies; National Land Use Policy, Urban Policy, Vision 20230, Housing policy, etc
- Planning framework as provided in the County Government Act 2012, Physical and Land Use Planning Act 2019, Urban Areas and Cities Act 2011 etc:
- Relevant policies and legislations; public participation, neighbourhood associations, inclusivity,
- Constructive partnerships that foster timely completion of programmes/projects, resource mobilization, and inclusivity:

Table 20-1 below presents the physical planning indicators.

Table 20-1: Physical Planning Indicators

Physical planning indicators	Means of verification
Targets Indicators	
1. Legal and Policy Compliance	Compliance with Urban Dev. Sector with Vision 2030.
	Compliance with Urban Agenda and National Spatial Plan.
	Compliance with relevant legislation.
	Compliance with relevant policies.
	Compliance with NLC guidelines.
	Compliance with other national agenda.
2. Physical Planning process	% of entities using the ISUDP.
	% of applications in compliance with the plan.
	% of planning areas defined as problem areas.
	Number of reviews of the ISUDP.
	Number of projects/initiatives completed per year.
	% of functional planning committees in accordance with the Act.
	Integration with other plans.
3. Institutional framework	Effectiveness of Municipal Boards in Plan Implementation.
	Effectiveness of the relationship between the Municipal Board and County.
	Functionality of the physical planning liaison committee.
	Technical staff capacity of the Sub-County.
	Technical equipment capacity at the Sub-County.
	Number of committees constituted as per the legal requirements.
4. Community participation	Level of resident consultation on physical and land use planning issues.
	Number of neighbourhood associations engaged in planning issues.
	Number of planning clinics on awareness held per year.
	Responses to public notices on plans and planning intention adverts.
	% Of participation in planning forums.
5. Monitoring and evaluation	Number of Departments/Units reporting well-functional M&E.
	Number of annual physical planning needs assessments carried out.
	Number of staff trained and applying M&E tools.
	Availability of M&E tools.
6. Resource Mobilisation	Number of partners/agencies supporting ISUDP implementation.
	Revenue generated by physical planning activities.

For effective monitoring of the implemented programmes and projects, it is recommended that they are reviewed annually through submission of accomplished projects to the County Planning Unit.

20.3: Effective Monitoring and Evaluation

For effective monitoring and evaluation there is need to institute the following;

- A functional M&E system to show how projects are programmed and absorption of funds.
- Availing of adequate resources (human and financial) for land use planning at the municipality level.
- Coordination with actors from other agencies such as NLC, road agencies during the plan implementation.
- Synchronicity between the sectoral (infra-structural, social, and economic) plans with the Physical development plans;

20.4: Financial Monitoring

County Governments are mandated by the (CoK 2010) to plan and budget for the delivery of goods and services within their areas. As such, the following plans must be prepared by the County Government to guide expenditure and investment programmes within the county:

- County Integrated Development Plan (CIDP).
- Cities and urban area plans.
- County Performance Management Plans.
- County Sectoral Plans.
- County Spatial Plan.

Annual budgets are contingent on approved plans by the respective county assemblies. Additional guidelines are forwarded to the monitoring and implementation of projects/ programmes outlined in the CIDP, Constituency Development Fund, and other devolved funds being undertaken within the county.

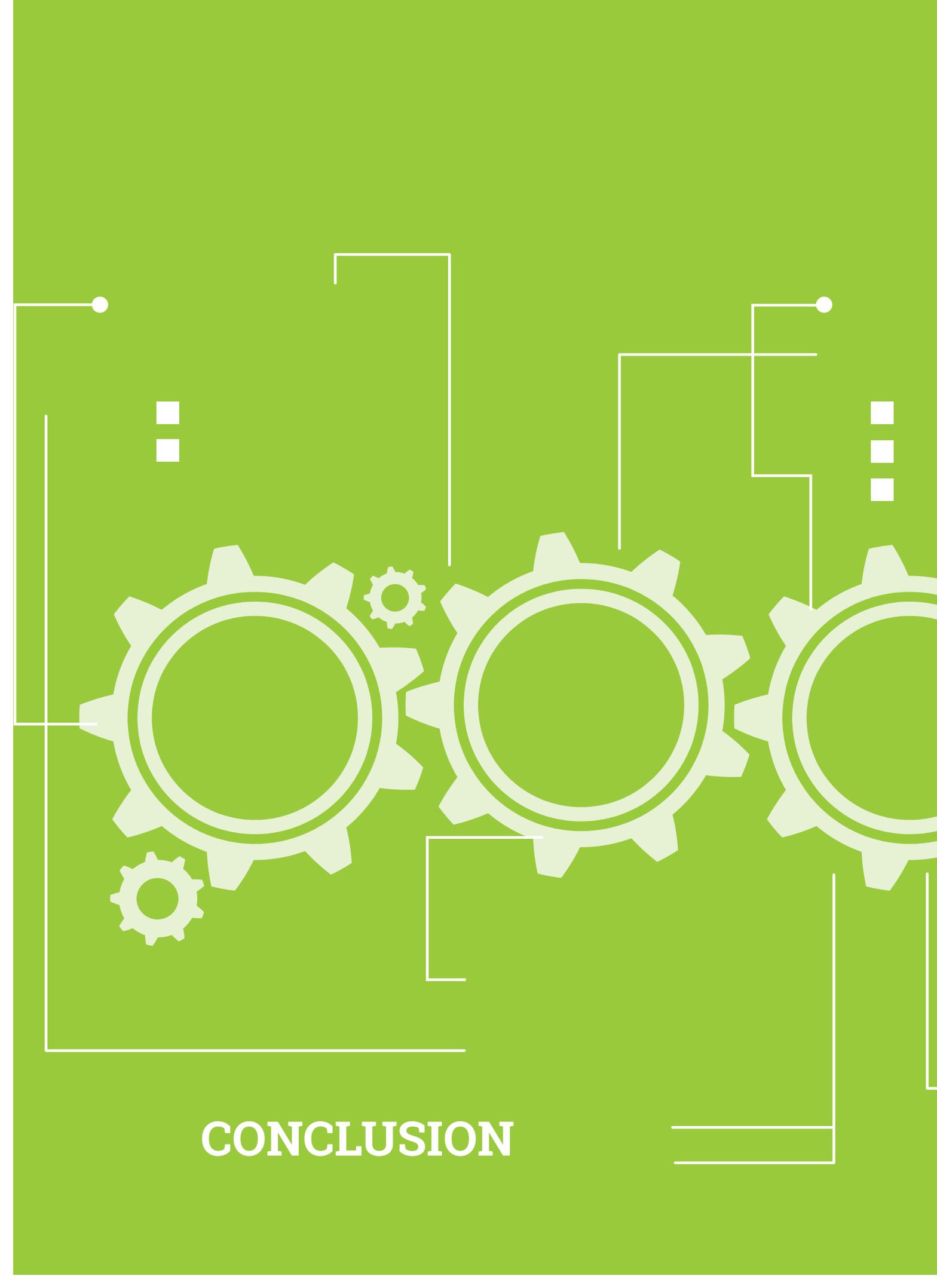
20.5: Monitoring and Evaluation Progress Matrix

Sector	Subsector	Strategic Approach	Key Indicator	Expected Output
Local Economic Development	Trade and commerce	Create conducive business environment for growth and employment opportunities	<ul style="list-style-type: none"> No. of modernized markets constructed No. of new jobs/employment opportunities created Increased business hours within the markets 	<ul style="list-style-type: none"> No. of modernized markets and expanded facilities A trade policy for the county/ municipality developed 1,000 small businesses formalized through business registration and compliance 2 streets designated for periodic market days 500 traders trained on financial literacy and corporate governance
	Industries	Promote the Municipality as an agro-industrial centre	<ul style="list-style-type: none"> No. of Industrial parks developed No. of additional industries developed No. of new job opportunities created 	<ul style="list-style-type: none"> No. of feasibility studies done on industrial development At least 2 industrial parks developed in each ward No. of new industries connected to roads, electricity and water
	Livestock farming	Unlock the livestock potential for maximum economic value	<ul style="list-style-type: none"> Increased milk production Farmer cooperatives strengthened 	<ul style="list-style-type: none"> Enhanced livestock extension services e.g., subsidized artificial insemination and coverage 200 trained farmers on fodder conservation/storage 1 annual investment conferences to promote livestock sector investment and marketing 1 modern abattoir established for beef, sheep and goats 1 additional cold storage facilities constructed Uptake of agro-insurance covers All dams and water pans rehabilitated At least 2 farmers cooperatives strengthened

Sector	Subsector	Strategic Approach	Key Indicator	Expected Output
Land	Land	Sustainable management of land through efficient planning and management	<ul style="list-style-type: none"> No. of public land reclaimed No. of title deeds issued particularly within Ol'Kalou town and the market centres An up-to-date valuation roll launched or in place No. of additional officers employed Policy on land surrender developed in the county / municipality 	<ul style="list-style-type: none"> All grabbed public land repossessed, an inventory in place and the land secured. All land disputes in Ol'Kalou resolved An online development application system in place A policy on land surrender during land subdivision in place Compliance to zoning guidelines No. of planning clinics conducted within the wards Establishment of an up-to-date valuation roll as per the current physical and land use development plan and the Public Finance Management Act,2012
	Physical planning	•	<ul style="list-style-type: none"> No. of planning officers employed Improved turn-around time for development application approval 	<ul style="list-style-type: none"> Approved Ol'Kalou ISUDP 2No. of planning officers employed A technical committee comprising of NLC, survey, physical planning, land administration to coordinate implementation of the laws, policies and regulations in place An online development application system in place All public land planned, surveyed and registered in liaison with NLC Compliance to zoning guidelines Delineated urban growth extents in Ol'Kalou town and other urban centres Upgraded infrastructure in the CBD and satellite centres Constructed footpaths, cycling lanes and street furniture within Ol'Kalou CBD Tree buffers planted in Ol'Kalou town Renovated buildings within Ol'Kalou CBD Affordable housing study PPP framework instituted

Sector	Subsector	Strategic Approach	Key Indicator	Expected Output
Physical infrastructure		To create a modern, well connected and efficient transport system for movement of people, goods and services.	<ul style="list-style-type: none"> No. of feeder roads improved No. of bus stops constructed/ improved 	<ul style="list-style-type: none"> 100km of feeder roads improved to all weather road standard A lorry park constructed 20km of NMT infrastructure installed 10 boda boda sheds constructed Gilgil-Nyahururu road dualled Drainage channels constructed along main roads
	Water supply	Provision of adequate, reliable and affordable water supply	<ul style="list-style-type: none"> No. of additional households connected to piped water What is the capacity increase in terms of no. of litres generated per day? Infrastructure etc. 	<ul style="list-style-type: none"> 100km reticulation coverage in urban and peri-urban areas 5 boreholes drilled and additional water kiosks to support water supply Alternative water harvesting technologies i.e., rain water harvesting, dams and earth pans, shallow wells to support agriculture 30km of rivers protected against encroachment and pollution
	Sewer reticulation	Expand sewer system to 100% coverage	<ul style="list-style-type: none"> No. of households connected to sewer Sewer treatment 	<ul style="list-style-type: none"> 100km of sewer coverage 50% of households connected to sewer A new sewer treatment plant constructed
	Solid waste	Improve solid waste management within the municipality	<ul style="list-style-type: none"> No. of tonnes of waste collected No. of waste equipment Frequency of waste collection No. of job opportunities/ waste enterprises created Scale of waste segregation at source, collection etc 	<ul style="list-style-type: none"> A new sanitary landfill constructed A decommissioned and rehabilitated current dumpsite New equipment purchased to improve collection i.e., refuse bins, skipper trucks and transfer stations Expanded waste collection to market centres Regular collection and safe disposal of waste 100 youths employed in the waste enterprises Sensitized households and SMEs on circular economy of waste e.g., organic fertilizers, paper and plastic re-use

Sector	Subsector	Strategic Approach	Key Indicator	Expected Output
Social infrastructure	Education	To provide quality education for all	<ul style="list-style-type: none"> • Acreage of land set aside for new institutions • No. of new institutions constructed • No. of pupils/ students enrolled • Student/ teacher ratio 	<ul style="list-style-type: none"> • Construction of new schools to meet current and projected demand <ul style="list-style-type: none"> o 39 ECDEs o 49 Primary school o 20 secondary schools o Nyandarua University • Support 1000 students transition to secondary schools through increased capitation and bursaries • Additional adequate teaching personnel • Provision of special ed. learning equipment and personnel to the existing special school • Acquire 100 acres of land for construction of schools through purchase and land surrender during subdivision of land above 10 acres • Expand the Technical & Vocational Education and Training (TVET) institutions
	Health	Ensure access of better healthcare to all by expanding and equipping the health facilities	<ul style="list-style-type: none"> • No. of institutions improved • No. of new facilities constructed • No. of equipment installed/ purchased • Enhanced access to health facilities 	<ul style="list-style-type: none"> • 3 Level 3 hospitals constructed in Tumaini, Rurii and Captain • JM Kariuki Hospital equipped with specialized medical equipment., cancer care and renal • Increased personnel and drugs in public health facilities • 3No. purchased ambulances to improve emergency services.
Environment	Environmental conservation	Conservation of environmentally fragile areas	<ul style="list-style-type: none"> • Protected water bodies such as rivers, lake and dams etc • Protected quarries and mining areas • Protected forests 	<ul style="list-style-type: none"> • Protection of Lake Ol'bolosat <ul style="list-style-type: none"> o Surveyed o Title deed • Rivers; conserved riparian reserves in line with WRA regulations • Mines; decommissioned and rehabilitated quarries and mining areas • Forests; no. of protected/ gazetted forests



CONCLUSION

The Ol'Kalou Municipality, due to its strategic location within the county and CEREB region, possesses immense potential to succeed and become sustainable. However, in order to effectively implement the development plan, several key factors must be taken into consideration:

- **Land:** The municipality faces a scarcity of public land, which hinders the provision of essential services to the public. Resolving land disputes and addressing encroachment issues are crucial steps towards provision of services to the population (current and projected), unlocking the untapped potential of land towards production and development.
- **Delegation of functions:** As enshrined in the Municipal Charter and the UACA 2011, there is a need to transfer the delegated functions to the municipality to bequeath the necessary authority and resources to carry out its responsibilities effectively.
- **Strengthen capacity of implementing institutions:** Both the municipality and the County Planning Unit must be strengthened in terms of human resources and technical capabilities. This will ensure that the development plan is effectively implemented and managed. In addition to this, there is a need to ensure strong coordination between various actors in different sectors and departments to maximise efficiency, promote synergy, and enable the municipality to make the most of available resources.
- **Infrastructure Improvement:** Infrastructure improvement has been identified as a catalyst for growth. Enhancing infrastructure, including roads, water and sanitation systems, sewerage expansion, energy supply, solid waste management, and ICT, is essential to supporting the envisioned development programmes in the municipality. These improvements will provide a solid foundation for future growth. The implementation of this infrastructure will require continuous alignment with other plans, i.e., the County Spatial Plan, CIDP, and other relevant plans, to coordinate implementation and hence ensure a cohesive approach to development. This integration will help streamline efforts and avoid conflicting objectives.
- **Continuous Monitoring and Evaluation:** Regular monitoring and evaluation of interventions are crucial to identify areas for improvement and capitalise on emerging opportunities. Establishing a robust monitoring and evaluation framework allows for proactive course correction and enhances the chances of success.
- **Revenue Enhancement:** To supplement county allocations from the national government, exploring revenue enhancement through various sources and strategic partnerships is vital. By securing and delivering on these agreements, the municipality can improve its planning and delivery within the proposed timeframe.

By considering these factors and taking appropriate actions, the Ol'Kalou Municipality can harness its potential and achieve successful development outcomes for the benefit of its residents both the current and the projected.

BIBLIOGRAPHY

- County Government of Nyandarua, 2020. Nyandarua County Spatial Plan 2020-2030,
- County Government of Nyandarua, 2018. Nyandarua County Integrated Development Plan (CIDP2) 2018-2022
- County Government of Nyandarua, 2023. Nyandarua County Integrated Development Plan (CIDP3) 2023-2027
- County Government of Nyandarua, 2021. Ol'Kalou Municipality Integrated Urban Development Plan (IDeP) 2020-2025
- Kenya National Bureau of Statistics, 2019. Kenya Population and Housing Census. Volume IV: Distribution of Population by Socio-Economic Characteristics.
- Kieti, R. M. (2015). Urban housing affordability in Kenya: a case study of the mortgage housing sector in Nairobi. Doctoral dissertation, University of Nairobi.
- MWI Design Manual for Water Supply in Kenya, 2005
- National Land Commission, 2016. Urban Land Use Planning: Monitoring and Oversight Guidelines
- National Land Commission, 2021. Effects of Land Fragmentation on Land Use and Food Security
- Republic of Kenya, 1968. The Building Code
- Republic of Kenya, 1968. The Building Code
- Republic of Kenya, 1986. Public Health Act, Cap 242
- Republic of Kenya, 1999. Environmental Management and Co-Ordination Act.
- Republic of Kenya, 2002. Water Act
- Republic of Kenya, 2002. Water Act
- Republic of Kenya, 2007. Kenya Vision 2030
- Republic of Kenya, 2007. Kenya Vision 2030.
- Republic of Kenya, 2007. Kenya's Vision 2030.

- Republic of Kenya, 2008. Physical Planning Handbook (Draft).
- Republic of Kenya, 2009. The 2009 Kenya Population and Housing Census.
- Republic of Kenya, 2009. The National Trade Policy
- Republic of Kenya, 2009. The National Trade Policy
- Republic of Kenya, 2010. Constitution of Kenya.
- Republic of Kenya, 2012. National Land commission Act
- Republic of Kenya, 2012. Sessional Paper No. 10 of 2012 on Kenya Vision 2030
- Republic of Kenya, 2012. The Dairy Industry Act, Cap 336
- Republic of Kenya, 2012. The National Land Commission Act
- Republic of Kenya, 2015. Environment Management and Co-ordination (Amendment)
- Republic of Kenya, 2015. The Special Economic Zones Act
- Republic of Kenya, 2017. National Spatial Plan 2015-2045
- Republic of Kenya, 2017. The Kenya Roads Act
- Republic of Kenya, 2019. Physical and Land Use Planning Act.
- Republic of Kenya, 2019. The 2019 Kenya Population and Housing Census.
- Republic of Kenya, 2019. Urban Areas and Cities Act, 2011 Amendment
- UN-HABITAT, 2020. Local Assessment Report for Nyandarua County.
- UN-HABITAT, 2020. New Urban Agenda
- United Nations, 2015. Sustainable Development Goals.

APPENDICES

Year 2000 Approved Development Plan



Notice of Intention to Plan

Stocks

NAIROBI SECURITIES EXCHANGE

Last 12 Mths	High	Low	Security	Prices Yesterday	Previous	Shares
15.90	10.00	10.00	Equipeq Ltd	12.40	12.45	7,000
45.00	360.00	360.00	Kakua Plc. Ord 5.00	385.00	415.00	100
10.00	80.00	80.00	Kapchorer Tea Kenya Plc Ord	81.00	80.00	100
3.00	260.00	260.00	The Limuru Tea Co. Ord 20.00	300.00		
21.50	16.15	16.15	Seem Ltd Ord 1.00	16.00	20.00	2,200
154.75	130.00	130.00	William Tea Kenya Plc Ord 5.00	138.00	138.00	200

Automobiles & Accessories

36.00	20.00	20.00	Car & General (K) Ord 5.00	36.00		
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Banking

11.35	8.60	8.60	ABSA Bank Kenya Ord 5.00	10.10	10.10	150,600
41.00	28.00	28.00	Bank of Commerce Kenya Ord 5.00	28.75	29.00	2,200
69.00	55.25	55.25	Diamond Trust Bank Kenya Ord 4.00	57.50	57.25	71,800
55.00	39.25	39.25	Equity Group Holdings Ord 0.50	50.00	49.75	3,730,700
4.30	3.40	3.40	IFB Group Plc Ord 0.50	3.80	3.99	7,700
46.95	20.50	20.50	I & M Holdings Ltd Ord 1.00	21.90	21.75	500
60.75	40.00	40.00	NCBA Group Ord 1.00	43.85	43.95	1,062,800
6.50	3.22	3.22	National Bank of Kenya Ord 0.50	4.12		
29.00	24.45	24.45	Kenya Group Ord 1.00	24.10	24.10	105,900
99.00	78.00	78.00	Stanbic Holdings Ord 5.00	87.00	92.79	100
142.00	117.00	117.00	Standard Chartered Bank Kenya Ord 5.00	129.00	129.25	60,800
34.00	11.90	11.90	The Commercial Bank of Kenya Ord 1.00	12.50	12.65	1,237,900

Commercial & Services

0.10	0.45	0.45	Diamond East Africa Ord 2.50	0.45		
1.90	3.80	3.80	Everway EA Ord 1.00	1.00	1.01	31,500
0.90	0.80	0.80	Homeboy Entertainment Plc Ord 0.50	0.80		
4.50	3.70	3.70	Longhorn Publishers Ord 1.00	3.83	3.98	400
13.80	4.30	4.30	Nairobi Business Ventures Ord 1.00	5.32	5.24	52,200
26.50	14.35	14.35	Nation Media Group Plc Ord 2.50	21.50	21.05	12,900
4.00	3.80	3.80	Samuel Africa Ord 1.00	3.80		
20.00	15.00	15.00	Standard Group Ord 5.00	16.00	15.90	23,400
11.00	13.20	13.20	TPS Eastern Africa Ord 1.00	15.50	16.00	580
0.78	0.72	0.72	Urban Supermarket Ord 0.50	0.72	0.73	400
6.24	3.50	3.50	WFP ShareGroup PLC Ord 1.00	4.85	4.73	287,900

Construction & Allied

1.58	2.45	2.45	KEM Cement Ord 1.00	1.55		
4.85	34.00	34.00	Basini Cement Ltd. Ord 5.00	36.10	36.75	11,800
42.80	19.00	19.00	Concrete North Kenya Ord 0.50	32.75	31.50	28,400
1.62	1.18	1.18	E.A. Cable Ord 0.50	1.30	1.25	27,700
1.54	7.20	7.20	E.A. Portland Cement Ord 5.00	6.00	8.10	56,700

Energy & Petroleum

0.10	3.00	3.00	Kemboi Ord 5.00	4.71	4.57	1,980,700
1.86	1.29	1.29	KP & LC Co Plc Ord 2.50	1.98	2.02	1,874,500
0.50	4.80	4.80	KP & LC Plc. Prv Ord 20.00	4.83		
0.00	6.00	6.00	KP & LC Plc. Prv Ord 20.00	6.00		
27.00	23.00	23.00	Total Kenya Ltd. Ord 5.00	24.45	24.25	2,200
1.20	9.44	9.44	Unilever Ltd Ord 0.50	6.86	6.88	2,100

Insurance

8.78	6.60	6.60	British Holdings Ord 0.10	7.76	8.00	35,000
3.50	2.01	2.01	CIC Insurance Group Ord 1.00	2.44	2.48	45,500
0.92	0.90	0.90	Johni Insurance Ord 1.00	300.00	300.00	17,600
2.80	2.28	2.28	Kenya Re Corporation Ord 2.50	2.39	2.40	19,000
0.30	0.60	0.60	Kenya Re Holdings Ord 1.00	0.60	0.60	8,800
22.30	9.00	9.00	Sanlam Kenya Plc Ord 0.50	11.70	11.70	400

Investment

18.00	14.00	14.00	Cerium Investment Co Ord 0.50	17.75	17.60	9,600
0.45	0.10	0.10	Kenya Ltd Ord 1.00	0.38	0.40	325,800
1,900	1,500	1,500	Kuruli Ventures Ltd. Ord 100.00	1,600.00		
2.24	1.63	1.63	Olympia Capital Holdings Ltd Ord 5.00	1.94	2.00	8,100
1.86	1.08	1.08	Trans Century Plc Ord 0.50	1.31	1.32	1,100

Investment Services

10.90	8.00	Nairobi Securities Exchange Ord 4.00	9.48	9.18	8.500
45.29	37.80	Halfmoon Ltd Ord 0.25	41.65	41.95	3,619,800
1.41	5.90	Half Moon 1 Bond Ord 20.00	7.04	7.04	20,300
700.00	1735.00	Alma - New Gold ETF	1993	1855.00	
NSE ALL SHARE INDEX (PERM) 01 Jan 2008=100 Down 0.96 to close at 174.89 NSE 20 SHARE INDEX					
1096-100 Dow 13.36 ytd to close 1058.66 NSE 25 SHARE INDEX 01st Sep 2015=1401.67					
Dow 17.32 ytd to close 3800.15					
0.70	0.23	Mumuk Sugar Co. Ord 2.00	0.27		
33.00	26.10	Unga Group Co. Ord 5.00	28.50	30.00	300

TELECOMMUNICATIONS & TECHNOLOGY

148.29	37.80	Halfmoon Ltd Ord 0.25	41.65	41.95	3,619,800
1.41	5.90	Half Moon 1 Bond Ord 20.00	7.04	7.04	20,300
700.00	1735.00	Alma - New Gold ETF	1993	1855.00	
NSE ALL SHARE INDEX (PERM) 01 Jan 2008=100 Down 0.96 to close at 174.89 NSE 20 SHARE INDEX					
1096-100 Dow 13.36 ytd to close 1058.66 NSE 25 SHARE INDEX 01st Sep 2015=1401.67					
Dow 17.32 ytd to close 3800.15					

COMMERCIAL BANK RATES

	Euro	£	CS	SF	IR	JY	ZR
ABC	buy 129.62	117.00	152.66	90.92	122.77	14.8	98.17
sell 129.57	115.50	153.36	90.85	122.11	14.7	98.43	
Alma	buy 128.92	117.20	151.78	89.72	122.33	14.8	97.68
sell 128.38	114.40	152.26	90.02	122.81	14.7	98.02	
Group	buy 129.00	116.15	151.83	89.75	122.20	14.8	97.77
sell 129.24	115.85	152.02	89.92	122.47	14.8	97.68	
Equity	buy 127.91	110.55	150.47	87.53	119.41	14.8	96.32
sell 128.29	110.85	150.91	88.20	119.77	14.8	96.62	
NBK	buy 128.56	110.80	151.23	89.47	121.74	14.7	97.24
sell 129.67	111.80	152.58	90.31	122.86	14.9	98.13	
NCBA	buy 129.00	111.20	151.90	89.03	121.80	14.8	97.29
sell 129.60	111.60	152.45	90.00	122.25	14.8	97.65	
NKCB	buy 129.00	111.30	152.00	88.50	122.18	14.8	97.89
sell 129.45	111.20	152.35	89.00	122.70	14.8	98.08	
Stanbic	buy 129.59	111.65	152.46	90.10	122.79	14.8	98.20
sell 129.18	111.85	152.71	90.26	123.03	14.9	98.38	
Ufa Africa	buy 127.81	111.20	152.20	89.82	121.78	14.8	97.35
sell 128.96	111.40	152.30	89.99	122.07	14.7	97.02	
FCB	buy 129.00	111.20	151.90	89.30	121.00	14.9	97.00
sell 129.00	111.40	152.20	90.30	122.00	14.9	98.00	
Prima	buy 129.00	111.20	151.60	89.75	121.10	14.8	97.20
sell 129.25	111.40	151.85	89.95	122.00	14.9	98.00	

CBK RATES

	Mean	Buy	Sell
US Dollar	111,241	111,241	111,241
Swedish Pound	152,263.8	152,230.0	152,297.6
Euro	128,988.5	128,866.5	129,110.5
South African Rand	7,202.2	7,195	7,209.3
Kuwait/US\$	31,917.4	31,917.7	32,061.0
Kuwait/US\$	20,659.0	20,659.5	20,716.5
Kenyan/US\$	31,966	31,966	31,971
Kenyan/US\$	17,767	17,767	18,066.6
US\$ Dirham	30,298.8	30,294.0	30,317.0
Canadian Dollar	60,607	60,561	60,653
Swiss Franc	127,083.3	127,048.8	127,219.9
OO Australian Yen	67,669.7	66,763.3	67,760.0
1 Swedish Kroner	13,039.3	12,791	12,873
1 Norwegian Kroner	12,580	12,480	12,780
1 Danish Kroner	17,340.5	17,338	17,372
Indian Rupee	14,858	14,844	14,872
Hongkong Dollar	16,261	16,252	16,269
Singapore Dollar	82,561	82,527	82,595
1 Saudi Riyal	29,670.5	29,641	29,680
Chinese Yuan	17,356	17,330	17,401
Australian Dollar	83,409.4	83,329.0	83,489.9

UNIT TRUSTS

Money Market Funds	Daily Yield	Effective Annual Rate
African Alliance Kenya Shilling Fund	Kenya Shilling	6.47%
African Alliance Kenya Enhanced Fund	Kenya Shilling	8.90%
Old Mutual Money Market Fund	Kenya Shilling	6.76%
British Money Market Fund	Kenya Shilling	8.20%
KICIA Lion Savings Fund	Kenya Shilling	7.48%
CIC Money Market Fund	Kenya Shilling	8.76%
CIC Wealth Fund	Kenya Shilling	8.00%
CIC Dollar Fund	USD	3.76%
Co-op Money Market Fund	Kenya Shilling	6.39%
Zimote Money Market Fund	Kenya Shilling	9.56%
Orion Kenya Money Market Fund	Kenya Shilling	7.99%
Mudson Money Market Fund	Kenya Shilling	8.85%
NCBA Money Market Fund	Kenya Shilling	8.02%
NCBA Dollar Investment Fund	USD	3.04%
KICIA Lion Money Market Fund	Kenya Shilling	6.00%
Santam Pesa Market Fund	Kenya Shilling	8.05%
Cyton Money Market Fund	Kenya Shilling	10.15%
Cyton High Yield Market Fund	Kenya Shilling	13.05%
Cyton Money Market Fund	USD	15.5%
Agip Money Market Fund	Kenya Shilling	3.10%
Nairobi Africa Money Market Fund	USD	3.85%
Nairobi Africa Money Market Fund	Kenya Shilling	9.26%
Nairobi Africa Fixed Income Fund	USD	3.05%
Dry Associates Money Market Fund	Kenya Shilling	4.07%
Dry Associates Money Market Fund	Kenya Shilling	8.19%
Old Mutual Kenya Money Market Fund	Kenya Shilling	8.39%
British Bond Plus Fund	Kenya Shilling	6.00%
Orion Health Fixed Income Fund	Kenya Shilling	9.30%
Equity Money Market Fund	Kenya Shilling	7.94%
Amara Shilling Fund Class C	Kenya Shilling	4.1%
Fixed Income Funds (Equity Funds/Balanced Funds)	Buy	Sell
African Alliance Fixed Income Fund	Kenya Shilling	11.68
CIC Fixed Income Fund	Kenya Shilling	8.27
Nairobi Africa Fixed Income Fund	USD	3.88
African Alliance Kenya Equity Fund	Kenya Shilling	17.634
KICIA Lion Equity Fund	Kenya Shilling	13.14
Agip Equity Fund	Kenya Shilling	17.74
British Equity Fund	Kenya Shilling	18.50
NCBA Equity Fund	Kenya Shilling	169.33
CIC Equity Fund	Kenya Shilling	7.82
Old Mutual Equity Fund	Kenya Shilling	384.50
KICIA Lion Growth Fund	Kenya Shilling	136.08
Mudson Equity Fund	Kenya Shilling	36.41
Amara Growth Fund	Kenya Shilling	160.90
Nairobi Africa Equity Fund	USD	198.64
KICIA Lion Capital Growth Fund	Kenya Shilling	136.45
African Alliance Kenya Growth Fund	Kenya Shilling	22.06
British Balanced Fund	Kenya Shilling	649.00
CIC Balanced Fund	Kenya Shilling	8.33
Nairobi Africa Balanced Fund	USD	96.33
Old Mutual Balanced Fund/Tobacco	Kenya Shilling	143.30
Santam Chama Fund	Kenya Shilling	16.79
Amara Balanced Fund	Kenya Shilling	11.27
Zimote Balanced Fund	Kenya Shilling	10.03
British Balanced Fund	Kenya Shilling	156.20
Dry Associates Balanced Fund	Kenya Shilling	1,398.65
Equity Balanced Fund	Kenya Shilling	140.22
Agip		

Completion Notice

SPECIAL ISSUE



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THE PHYSICAL AND LAND USE PLANNING ACT

(No. 13 of 2019)

NYANDARUA COUNTY SPATIAL PLAN (2020–2030)

COMPLETION OF COUNTY PHYSICAL AND LAND USE
DEVELOPMENT PLAN

PURSUANT to the provisions of section 40 (1) of the Physical and Land Use Planning Act, 2019, notice is given that the preparation of the above draft plan was on the 10th of July, 2023 completed.

The plan relates to the land situated within Nyandarua County.

A copy of the draft plan has been deposited for public inspection, free of charge at the Department of Lands, Physical Planning and Urban Development, Ardhi House, Ol'Kalou.

Any interested person who wishes to make any representation in connection with or objection to the above plan may within sixty (60) days send the same in writing to the County Executive Committee Member, Lands, Physical Planning and Urban Development, P.O. Box 701–20303, Ol'Kalou, by the 17th September, 2023 and such representations or comments shall state the grounds upon which they are made.

Dated the 17th July, 2023.

STEPHEN K. MBURU,

CECM, Lands Physical Planning and Urban Development.

GAZETTE NOTICE No. 10123

THE PHYSICAL AND LAND USE PLANNING ACT

(No. 13 of 2019)

OL'KALOU MUNICIPALITY INTEGRATED STRATEGIC
URBAN DEVELOPMENT PLAN 2023–2033

COMPLETION OF LOCAL PHYSICAL AND LAND USE
DEVELOPMENT PLAN

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Demonstrations Azimio la Umoja One Kenya has called for three days of protests—from Wednesday to Friday—to

Fear, tension and heavy police guard on Day 1 of protests

On the first of a three-day protest marathon called by Azimio leader Raila Odinga on the high cost of living, President William Ruto appeared to have had the upper hand after deploying the instruments of State violence under his command. The tension was palpable. Tangible, even. There might not have been a single tear gas canister thrown in the CBD, but the city still retained that unmistakable, ominous calm before the storm. Walking down the main streets of the city gave one that edgy assurance that comes from the uniformed presence of police officers on patrol, but the apprehension was conspicuous, hanging in the air like a musky, pungent fragrance from the underworld

BY BERNARD MWINZI

Three police officers sat inside their Ford Ranger pickup at the junction of Harambee Avenue and Kimathi Lane in the city a few minutes past 1pm yesterday. One was drinking yoghurt as they engaged in loud, animated banter. Under the benches lining either side of the truck were an assortment of anti-riot gear, including crates of tear gas, shields and batons.

They were all in civilian clothes, with one going completely under-

cover by wearing those long blue aprons beloved of traders and cart pushers in the trading district of the city east of Moi Avenue. A uniformed driver and another police officer, also uniformed, sat at the front, their eyes trained on the usually busy junction of Moi and Kenyatta Avenues.

This scene—of police officers armed to the teeth but sitting in their trucks, pickups, buses, vans and unmarked saloon cars at strategic sections—was repeated in various parts of the city. Their mission was simple, and it worked for the better part of the day: keep

protesters from pouring into the streets by acting as the first responders and quickly calling for backup should the situation escalate. As a result, the city was practically cordoned off from protesters from early morning yesterday. They were kept about five kilometres from the Central Business District on every main route leading into the city. That included heavy police presence on Thika Road just before the Survey area, another in the Mathara neighbourhood of Juja Road, at the Adams Arcade junction that links



AT A GLANCE
Protests shut down capital

All government offices and day primary and secondary schools remained closed throughout the day. In the Nyamakima area of the city, where traders sell all manner of wares, many shops remained open but the footfall was painfully far and wide between. The usually busy Kimathi Street, City Hall Way and Koimange Street were deserted, as shops remained closed.

of wares, many shops remained open but the footfall was painfully far and wide between. Compared to the CBD, however, the section of the city north of Moi Avenue retained a semblance of normalcy under heavy police guard.

At 11.48am, a lone man sat at the Kimathi Street branch of KFC having his meal. This restaurant, along with many others on what is perhaps one of the busiest streets in the Nairobi CBD, is usually packed with patrons all day. The Co-operative Bank banking hall on the street was empty too, as was the Safaricom Care shop next to it. About a kilometre away on University Way, virtually all businesses remained closed, as they did on Haile Selassie Avenue, City Hall Way, Loita Street and Koimange Street. In Kawangware, the protests

like a musky, pungent fragrance from the underworld.

All government offices and day primary and secondary schools remained closed throughout the day in the Nyamakima area of the city where traders sell all manner

National Government Constituencies Development Fund
Naivasha Constituency
P.O. Box 1918, Naivasha, Kenya. Tel: 011 2776600
Email: naivasha@ncdf.go.ke

TENDER NOTICE

The Naivasha Constituency (NC-CDF), would wish to acquire 1 No. 4*4 Motor Vehicle Toyota Land Cruiser 3 Seater for their official use. This is intended to make assessment and eligible bidders who meet all the conditions of tender as detailed in this advert and the tender document to apply.

ITEM	TENDER NUMBER	TENDER NAME	ELIGIBILITY	CLOSING DATE AND TIME
1	NC-CDF/RW/2/2023/2024	Supply and delivery of 1 No Special Duty Utility Passenger Caravan Vehicle, 4*4, L-191, 2000-2500cc Diesel	Open	21/07/2023 at 10:00 am

The tender documents bearing the tender number with detailed specifications may be obtained from Supply Chain Management Office, Naivasha Sub-County upon payment of non-refundable fee of Ksh.1,000 (One Thousand Only) payable in cash to Banker's Cheque to the address given below during normal working hours. Tender documents obtained electronically will be free of charge.

In addition to the conditions provided in the tender documents, interested bidders/tenders **MUST** meet the following tender conditions:

1. Certified copy of Certificate of Incorporation
2. Certified copy of PIN Certificate
3. Certified copy of Valid Tax Compliance Certificate
4. Certified copy of CR 13 Certificate from Registrar of Companies
5. Certified copy of Single Business Permit
6. Power of Attorney
7. Litigation history
8. MSST Attach copy of Manufacturers Certificate
9. Must obtain a Brokerage of the Motor Vehicle
10. 2% Bid Bond of the tender sum from reputable Commercial Bank or PPSA approved Insurance Company
11. Current Audited Financial Accounts for the last Three years as 2020, 2021 and 2022
12. Proof of previous performance/supplier executed for the last 3 years. Please attach copies of Local Purchase Orders, Recommendation letters from clients and any other proof.
13. The Bidders shall chronologically serialize all pages of the tender documents submitted including all attachments

Completed tender document in plain sealed envelope clearly marked "Tender No. ..." should be addressed to:
Fund Account Manager
NC-CDF-NAIVASHA CONSTITUENCY
P.O. Box 1918-20173, Naivasha

And be deposited in the tender box situated at the CDF Office Naivasha, on or before **27th July, 2023 at 10:00 am**

Tenders will be opened immediately thereafter in the presence of bidders and/or their representatives who choose to attend at the NC-CDF Boardroom.

Price quoted **MUST** be NET inclusive of all government taxes expressed in Kenya Shillings and must remain valid for 90 days after opening of the tenders. Please note that the Auctioneer/Office may terminate the procurement proceedings without entering into a contract in accordance with Section 80 of the Act

FUND ACCOUNT MANAGER
NC-CDF, NAIVASHA CONSTITUENCY

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF NYANDARUA
DEPARTMENT OF LANDS, PHYSICAL PLANNING & URBAN DEVELOPMENT

FORM PLUPA C-2
THE PHYSICAL AND LAND USE PLANNING ACT (No. 13 of 2019)

ADDENDUM
NOTICE OF COMPLETION OF COUNTY PHYSICAL AND LAND USE DEVELOPMENT PLAN
NYANDARUA COUNTY SPATIAL PLAN (2020-2030)

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Department of Lands, Physical Planning and Urban Development, ARDHI HOUSE - OL'KALOU

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THE COUNTY EXECUTIVE COMMITTEE MEMBER LANDS, PHYSICAL PLANNING & URBAN DEVELOPMENT
P.O. Box 701 - 20303 OL'KALOU

By 17th September, 2023 and such representations or comments shall state the grounds upon which they are made.

Dated this 17th July, 2023.

HON. STEPHEN KINYANJUI MBURU KK
COUNTY EXECUTIVE COMMITTEE MEMBER
LANDS PHYSICAL PLANNING AND URBAN DEVELOPMENT

REPUBLIC OF KENYA
COUNTY GOVERNMENT OF NYANDARUA
DEPARTMENT OF LANDS, PHYSICAL PLANNING & URBAN DEVELOPMENT

FORM PLUPA L-2
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ADDENDUM
NOTICE OF COMPLETION OF LOCAL PHYSICAL AND LAND USE DEVELOPMENT PLAN
OL'KALOU MUNICIPALITY INTEGRATED STRATEGIC URBAN DEVELOPMENT PLAN 2023-2033

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