REPUBLIC OF KENYA

KEHANCHA MUNICIPALITY

LOCAL PHYSICAL AND LAND USE DEVELOPMENT PLAN

(2023-2032)

ENDORSEMENT, CERTIFICATION AND APPROVAL

I certify that this Plan has been prepared and published as per the requirement of the Physical and Land Use Planning Act (No. 13 of 2019), and Physical Planning Standards Regulation and Guidelines

Signature: Date:

…… ……

Dr. Plan Moses Otieno Kola
Registered Physical Planner (No.0099), Principal, Geoplan Consultant ltd

RECOMMENDED BY:

Signature: Date:

…… ……

County Director of Physical Planning

CERTIFIED BY:

Signature: Date:

…… ……

County Executive Committee Member (CECM), Land, Physical Planning, Housing and Urban Development

APPROVED BY:

Hansard No. Date:

…… ……

County Assembly

ENDORSED BY:

Hansard No. Date:

…… ……

H.E The Governor of Migori County

EXECUTIVE SUMMARY

Kehancha municipality Local Physical and Land Use Development Plan (LPLUDP) 2023-2033 is a spatial development framework that will guide the urban area to its sustainable agro-industrial hub transformation for the next 10 years. The plan's preparation has been a collaborative effort of Migori County and Kehancha Municipality spearheaded by Geoplan Consultant ltd. Public participation has been central to the preparation of this Plan, pursuant to the provisions the Constitution of Kenya, 2010 and the County Government Act 292, both of which stress the involvement of communities in matters of public governance. Community consultations carried out in the course of plan preparation brought on board participants from diverse backgrounds, including National Government line ministries, departments and agencies; County Government officials, professionals, civil society organizations and other non-state actors; as well as Kehancha municipality households, business people, community groups and their representatives.

The planning area covers the four Wards that is Gokeharaka/Getabwega ward, Ikerege ward, Masaba ward and Bukira East ward. Only Bukira Central/Ikerege ward is covered entirely by the Municipality. It covers an area of about 171 Km2. delineated according to current development trends and the occurrence of physical features that mark the boundaries separating urban from agricultural land use.

The Plan addresses issues of sustainable urban development, economic investment, provision of social and physical infrastructure, and modernization of agriculture. It is expected to provide the necessary instruments for the Municipality of Kehancha administration to manage urban development, promote direct investment and to effectively interpret the recently-concluded County Spatial Plan at the level of Kehancha municipality and its environs. The Plan will also afford local policy makers and planners the opportunity to monitor the manner of utilization and development of land and other resources by various actors in order to ensure compliance with international, national and local level policies, standards and other development frameworks.

It is envisaged that through the diligent implementation of the Plan, a sustainable and vibrant Kehancha municipality will be realized. The LPLUDP outlines policies and proposals to guide how and where development will take place in the Kehancha over the lifetime of the Plan. The plan envisions Kehancha municipality and county government of Migori working together with various development partners, investors, developers and local inhabitants, to prioritize the implementation of this Plan so as to enable the achievement of orderly urban reconstruction and development, by remaining faithful in our collective pursuit of the strategies, designs and action plans proposed under the Plan. It is only then that we can hope to achieve the collective vision for Kehancha Municipality that is **A sustainable, vibrant and industrially driven municipality.**

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INTRODUCTION AND PLANNING CONTEXT

CHAPTER 1: INTRODUCTION

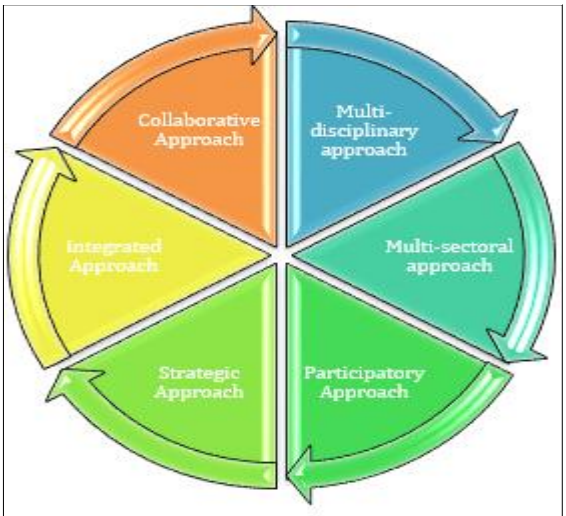
1.1. BACKGROUND INFORMATION AND TERMS OF REFERENCE

The Kehancha Local Physical and Land Use Development Plan (LPLUDP), 2023-2032 aims to create a sustainable and vibrant Kehancha Municipality by coordinating the spatial development efforts of all stakeholders to improve the quality of life for everyone. The Plan sets out policies and proposals to guide development in Kehancha over the next 10 years. It provides an integrated, coherent spatial framework to ensure an improvement in the quality of life for Kehancha residents, while also making the municipality an attractive place to visit, invest, and work.

The Migori County Government (Department of Land, Physical Planning, and Urban) decided to spearhead the preparation of this LPLUDP to provide a spatial framework that can guide Kehancha's transformation over the next ten years. Geoplan Consultant Limited, a registered physical planning, mapping, and surveying firm, was contracted to prepare this Local Physical and Land use Development Plan (LPLUDP) for a period of 12months.

The plan covers a wide range of planning issues, including urban sprawl and housing, environment and urban ecology, transportation, physical and social infrastructure and services, spurring economic growth, governance, rural development and agriculture, and land use and management. For sustainable urban growth, the plan also focuses on mass public transportation, recentralization, waste management, green energy solutions, and capital investment frameworks. To tackle the planning issues, the Consultant adopted the approaches illustrated in **Error! Reference source not found.**.

Figure1- 1: Approaches adopted in the planning process



Source: Kehancha LPLUDP ToR (2022-2032)

1.2. PROBLEM STATEMENT

Kehancha municipality as a robust urban area with unlimited opportunities, facing a number of development challenges including: uncoordinated linear developments, road encroachments, inadequate energy and support infrastructure, inadequate health infrastructure, education and recreational spaces and other public utilities; lack of land information management system; undeveloped road network; low levels of access to portable water and other basic services.

The high population density in the main area of the municipality has strained facilities and opportunities, leading to shortages of housing, unemployment, traffic congestion, pollution, land over-subdivision, and land dispute-related conflicts. To address these challenges, the municipality requires a Local Physical Land Use Development plan that will provide practical solutions and project a desired future state. The plan will also serve as a strategic approach to increasing opportunities for funding and investment, and provide a basis for decision-making on development priorities for both government agencies and the private sector.

1.3. OBJECTIVES OF THE PLAN

1.3.1. General Objectives

To prepare a spatial framework for Kehancha Municipality that will guide physical and land use development in accordance to all applicable statutes and best practices.

1.3.2. Specific Objectives

i. To prepare and submit GIS based thematic maps for Kehancha municipality
ii. To collect, analyze and present, physical, socio-economic and environmental data
iii. To analyze, pictorialize and illustrate the spatial and non-spatial data collected
iv. To give recommendations that will guide land use planning within the proposed planning boundary
v. To prepare land use zoning for Kehancha municipality
vi. To conduct and demonstrate public participation during the plan preparation
vii. To prepare development control framework and guidelines within Kehancha municipality and in accordance to the land use zones.

1.4. TIME-FRAME SCOPE

This LPLUDP shall cover an approximate area of 170 square kilometers. This area covers Kehancha town and its environs. The timeframe of the plans is set at 10 years (to be reviewed

periodically to reflect new visions and community aspirations), from 2023 to 2032. The plan is intended to cover the following thematic areas: land use patterns, socio-economic characteristics, natural resources, infrastructure, industry, economy and fragile areas.

1.5. VISION

The vision for the planning area was based on the terms of reference, the problem statement, and stakeholder engagement and involvement. Different aspirations were captured during these engagements which include:

Table 1- 1: Stakeholders' vision wishes

DEPARTMENTS	WISES
Housing	**Investment hub** – the people are welcoming and there is land available for investment
Agriculture	**Agricultural hub** – Agriculture is the main activity for the municipality **Business hub**-attracting investment in different land uses like Hospitality and Tourism, industrial and commercial
Tourism	**Hospitality and Tourism hub** – it is a transit route to Maasai Mara National Park.
Lands	**Agro-based Urban area** – value addition for agricultural produce.
ICT department	**E-governance** – Using the power of ICT to transform / increase accessibility of services delivery.
Physical Planning	To make Kehancha **a champion urban area** for Kuria region.
Civil-registerer office	Each subcounty to have a registration office. Or both sub-counties should have their **civil registration offices**. This is for services such as reporting and civic education.
Police OCPD	A bustling commercial hub, with zero insecurity.
Agriculture	A Municipality bustling with diverse population. A garden city or simply put a town like Nakuru.
Sub-county Administrator	**A vibrant:** town with opportunities for people from all races, cultures and tribes with adequate housing infrastructure for all income categories.
Trade department	A highly vibrant: and interconnected town linking with all regional towns through trade and commerce.
Forest department	A Municipality with lush **green tree and flower cover.**
Children department	A Municipality/**Society where children grow up, acquire skills and knowledge and become responsible adults.**

From the aspirations, as vision statement was coined which is: **A sustainable, vibrant and industrially driven municipality.**

Plate 1- 1: Stakeholder visioning forums

Source: Geoplan consultant ltd, 2023

1.6 JUSTIFICATION OF PLANNING AND DESIGN

Kehancha is currently experiencing rapid and uncontrolled urban growth. This growth is characterized by physical disorder, some of which is spilling onto rich peri-urban agricultural land, fragile environmental areas and road reserves. This disorganization is evident in the Kehancha Central Business District (CBD) (also known locally as Kehancha Kati) where roads are narrow and efforts to expand them face stiff criticism from the public, some citing lack of a plan while others citing favoritism. Kehancha Chini (area around the Hospital, Administrative Offices, Judiciary, Stadium and the Police Station, are on the other side affected by runaway mining in the underground. There is constant blasting of rocks in the sub-surface.

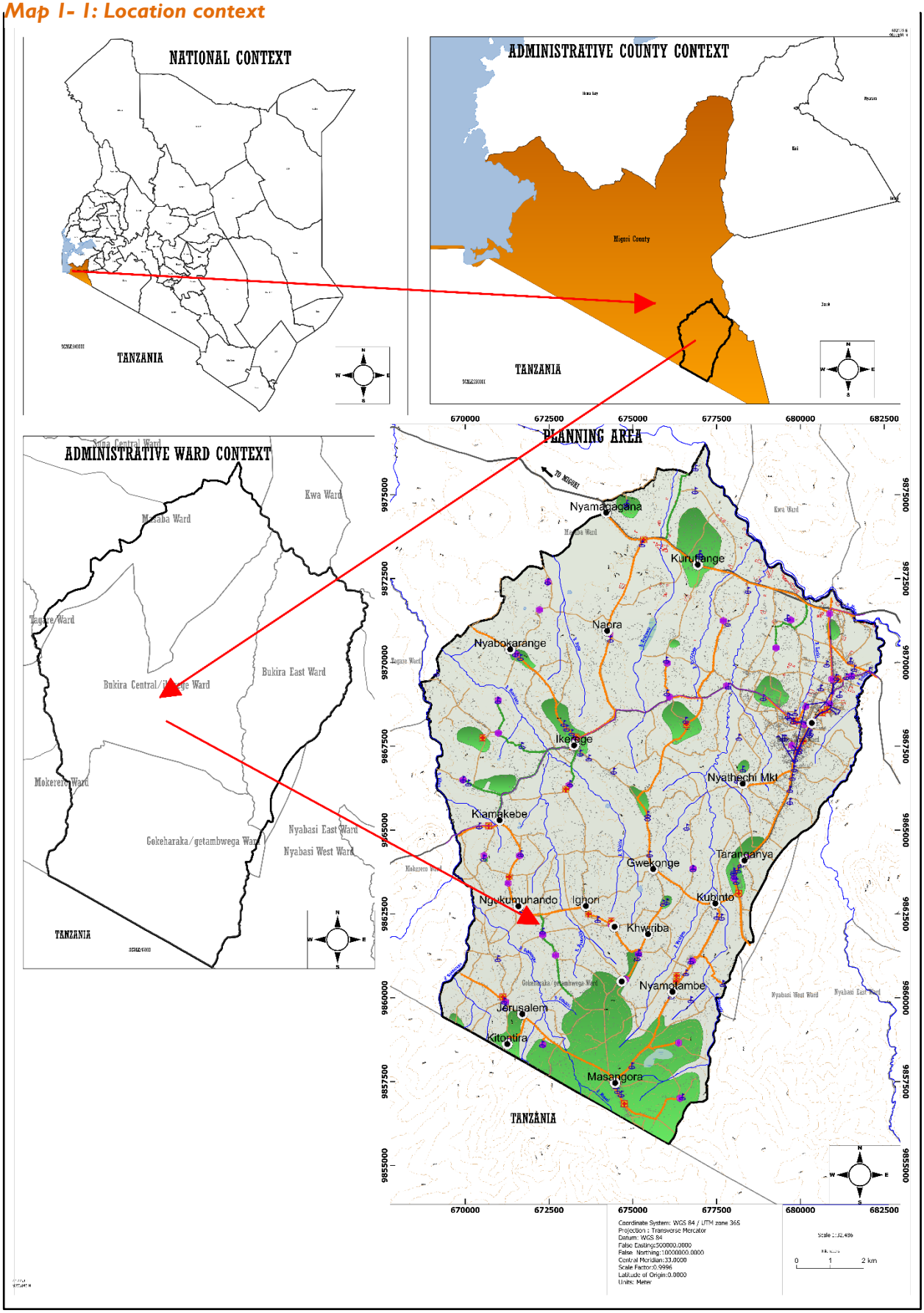
The market and bus stop area experiences heavy congestion with most vehicles parking on the Kehancha-Tarang'anya road shoulders. The large number of motorcycles lining the streets from the Cereal's Board entrance all the way to Sunrise Junction does not make the situation any better. It gets worse on market days when the trade volumes go up in Kehancha Municipality. This, coupled with narrow service roads where they exist make trade and living in Kehancha difficult. The Municipality also suffers a general lack of standard housing, portable water and sanitation system, issues which can be streamlined through proactive Physical Planning. The last attempt to plan Kehancha was back in 1998, but the plan was never implemented. To solve these challenges, the Municipality which has been recently chartered requires a plan to guide future development.

1.7. PLANNING CONTEXT

1.7.1 Regional and National Context

The municipality is located in South-Western part of Kenya off the Migori-Isebania road in Migori County. It is 309 Km West of Nairobi city (Kenya`s capital city) along the B3 and C13 road, 92.7 Km South of Kisii municipality and 203 km South of Kisumu city. The municipality connects to Tanzania through Isebania border. Located in Migori County, the municipality is interconnected to other urban areas and major centers such as Kegonga, Masaba, Isebania, Migori, Ntimaru and Rongo among others. The municipality also connects to Kilgoris and Logorian in Narok County and Nyangusu in Kisii County. In the neighboring Tanzania, the municipality connects to Tarime, Bwiregi and Borega, making it a strategic economic hub in the region as illustrated in Map 1- 1: Location context.

Map 1- 1: Location context



Source: Geoplan consultant ltd, 2023

1.7.2 Local Context

The Municipality covers an area of 170 square kilometers and extends from river Hibwa in the North Western extent and River Migori on the North-Eastern side. The Municipality straddles a number of wards including Gokeharaka/Getabwega ward, Ikerege ward, Masaba ward and Bukira East ward. Only Bukira Central/Ikerege ward is covered entirely by the Municipality. The other wards are partially within the Municipality boundary.

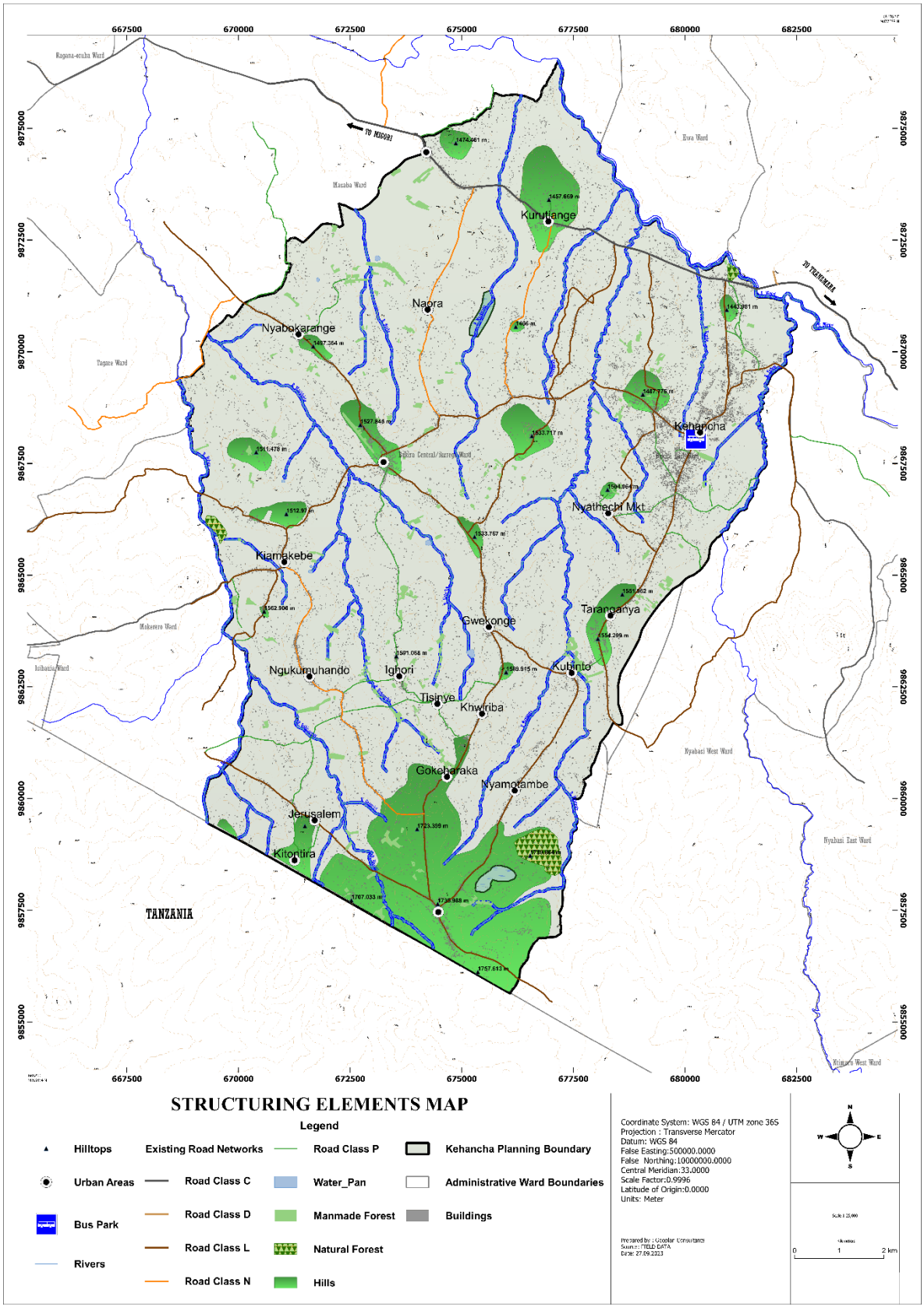
The location of the Municipality plays a major role in the local context since the neighboring wards will benefit from the developments that will take place in the Municipality in terms of the service provision and infrastructure. The urban centers within the Municipality include Ikerege, Nyamagagana, Gokeharaka, Tarang'anya, Naora, Ihore, Kurutiyange, Jerusalem, Naora, Kiamakebe, Kitontira, Tisinye, Ighore, Kubinto, and Nyatechi Market. These urban centers are nodes of activities are illustrated in Map 1- 1: Location context.

1.7.3 Structuring Elements

The key spatial elements that have played a role in determining the current structure of Kehancha municipality are the transportation nodes, modes, and different settlement Districts, as well as natural features such as rivers which act as main landmarks in the entire Municipality. The C727 and Kehancha- Isibania highway has played a key role in influencing the development trends of Kehancha municipality. Using the C727 as a structuring element, it is evident that more built up areas exist to the West of the municipality, with a majority of agricultural functions being reserved for the East.

Kehancha municipality landscape is traversed by a series of rivers and streams. Rivers Migori, Nyangoto, Tebesi and Hibwa are all part of an intricate network of rivers flowing towards the North-Eastern Side of the planning area. All the rivers typically are part of features determining the boundary of the municipality. Spatial, the rivers will influence development beyond the required restricted riparian area. Analysis of the development beyond the rivers illustrates illustrate a pattern of sparce development close to the river. There are urban grown nodes of the Municipality and are spread evenly across the entire planning area. These urban areas are pulling a bigger population which structures the municipality to spots of radial developments, see Map 1- 2: Structuring elements.

Map 1- 2: Structuring elements



Source: Geoplan Consultant ltd, 2023

1.7.4 History of The Planning Area

Kehancha as it is known set out as a mining municipality. During the Colonial times, a Briton by the name Mackrel settled in the area that was a vast pastureland. This pasture land that was initially a battlefield for the neighboring Maasai, Luo, Kisii and Kuria was turned into a gold mining site. The British set up camp and gold mining activities began at the site of the present-day District Commissioner's offices. Aside from mining activities, the British set up schools, hospitals and a police station. The police station was mainly to help beef up security around the settlement, as it had suffered sporadic attacks from local communities. Kehancha became one of the gold mining municipalities in the area among the Macalda gold mining site spread across Migori county.

The name Kehancha emanates from the local language, Kuria, referring to Unity and love. This comes from how the grass grew long and swayed in unison in the pastureland in what the locals saw as unity and love. This is termed *kuiihancha* in Kuria. The people that settled in the area also worked in the mines together in unity. To run his activities, Mackrell set up facilities at different places within the Municipality. He used the current police station as his personal security grounds since there was sporadic conflict between the neighboring communities and the British gold miners.

The municipality was located on the grounds of the District Commissioner's office, and the DC's offices were the residential place for the British. The mining activities used to take place at Karosi (Carlos mines). At Tarang'anya there was a high mast light that shone throughout. It irritated the locals. The name Tarang'anya cropped from that light to mean light that does not move, (taa ambayo haihami). After the First World War, veterans moved to the present-day CBD, and facilities started cropping up in the current state and position they are in today. The initial residents of Kehancha municipality were British colonists, but this has changed over time, and Kehancha is now a bustling municipality of heterogeneous lineages.

The town's development has been influenced in different ways by the history. The following thematic areas stand out:

i. Housing. Housing typology around the District Commissioner's offices is characterized by permanent housing made of concrete walling, concrete floors and iron sheet roofs. Staff housing in this area are row housing. There is order in this section of town.

ii. Water reticulation. The main water source of Kehancha is the has greatly influenced the network used for water reticulation.

iii. Urban structure. The settlement of the war veterans in Kehancha Kati designated that area as a residential and commercial center while domiciling administrative function to the lower part of town. Most of the development in the recent past has fanned out from this area towards Ikerege and Tarang'anya. The area around the administrative offices has very minimal activity except for institutional housing.

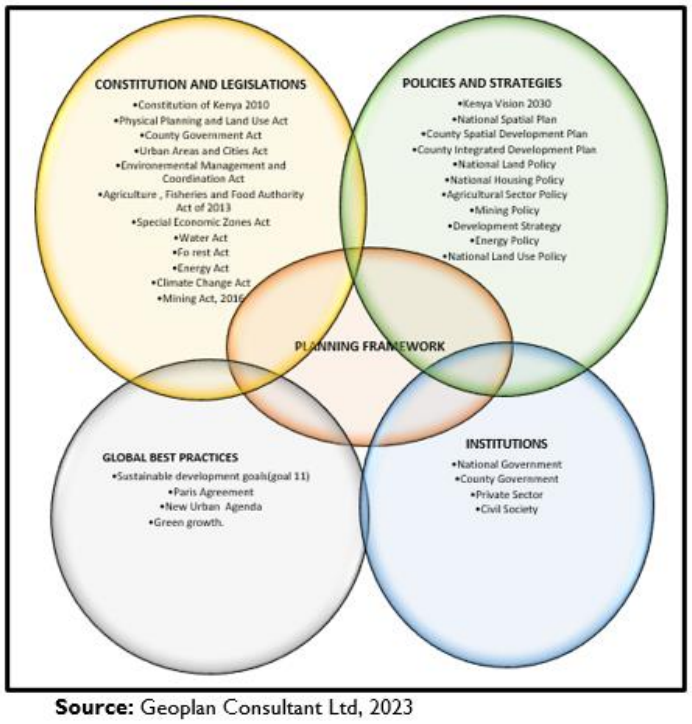
1.7.5 Functional Context

Kehancha is a mixed-use urban area combining agricultural activities, commerce, administration, education, service, transport and industrial uses in the whole landscape. The area within the Municipality's CBD (also known as Kehancha Kati) hosts a myriad of commercial activity, banking services among others. The CBD also hosts education facilities, major health facility and major administrative offices. Provision of high order goods ranks Kehancha CBD as a major functional urban area. There are other upcoming functional nodes such as Ikerege, Kurutiyange, Masangora and Taranganya which acts as commercial center second order goods. There are also notable market centers include; Komomange, Komasincha, Naora, Jerusalem, Getonganya, Nyametaburo, Nyamaranya, and Ngukumahando. They are centers of commercial activities in the neighboring agricultural land use.

1.7.6 Policy, Legal, And Institutional Framework

In this section, we'll explore the policies and strategies, legal frameworks, institutional frameworks and global best practices that guide the planning process. It is upon these that the planning framework borrows. A number of legal provisions mandate the County Governments, as the planning authority, to initiate and prepare plans that will guide development within their jurisdiction.

Figure1- 2: Planning Policy and Legislative framework



Source: Geoplan Consultant Ltd, 2023

POLICY AND STRATEGY	
Vision 2030	• The blueprint for Kenya's long-term national growth may be found here. It is supported by the economic, social, and political foundations. The document aims to make Kenya "a newly industrializing, middle-income Country providing a high quality of life to all its citizens in a clean and secure environment" by enhancing important thematic sectors like infrastructure, energy, security, tourism, agriculture, wholesale/retail trade, manufacturing, financial services, and business process outsourcing. The preparation and execution of strategic development and investment strategies for unique border townies is also covered in this development blueprint. • Creating physical and land use plans for better urban planning. • Building more homes to accommodate the need for housing. • Strengthening of planning bureaus' capacity
The National Spatial Plan	• The National Spatial Plan is designed to provide a national spatial planning framework for integration of social, economic and environmental policies • The NSP establishes a framework for improved national coordination and connections between various activities occurring within the national space, defining the overall trend and direction of spatial development for the nation and guiding the usage and distribution of activities in the future. • Kehancha is a potential growth area for resources, as well as a regional and industrial hub (mining and agro-processing), according to the NSP. The NSP encourages the construction of amenities and services, including a dependable mass transit system, the growth of sewage systems, and waste disposal facilities, as well as the definition of local urban-rural development systems, in order to carry out its functions.

Integrated National Transport Policy, 2012	• 'Moving a Working Nation' is the central theme of the policy paper. It identifies issues that the Kenyan transportation industry as a whole is facing. Transportation is a problem in Kehancha Town and its surroundings. • The policy's objectives and goals will guide in developing a functional transport strategy for the municipality.
The National Land Policy (2009)	• The National Land Policy directs the nation toward a just and sustainable use of the land. It strives to provide a framework for land use planning and development regulation at all levels of government, including the national, county and municipal levels. Additionally, it urges swift action to solve environmental issues that have a negative impact on the land, such as pollution, soil erosion, and deterioration. • National land policy will help in developing economic, environmental and land management strategies focusing on the vision and aspiration of the community.
The National Land Use Policy (2017)	• Establishes a framework of law, administration, institutions, and technology to ensure that land-related resources are used as productively and sustainably as possible at the national, county, and municipal levels. • Provides for the classification of land uses across the nation. • Supports the creation of land use plans for the nation with the active involvement of all stakeholders and the stringent enforcement of those plans. • Supporting the preservation and conservation of the environment
National Urban Development Policy 2016	• Establishes a framework for competitive, sustainable, and orderly urban development that promotes the physical, social, and economic growth of urban regions.
Poverty Reduction Strategy Paper (PRSP), 2005	• Priorities and vital actions for reducing poverty and boosting economic growth are laid forth in the PRSP. • It specifies steps that will be prioritized for implementation in order to lower the incidence of poverty among Kenyans (Kehancha residents in this case) and measures aimed at enhancing economic performance. • PRSP will be important in drafting implementation matrix and economic investment plan for the municipality.

The Energy Policy (2004)	• This policy encourages the use of renewable energy sources to increase Kenya's capacity for electricity delivery while reducing climate change caused by fossil fuels.
The National Housing Policy	• In accordance with Article 43 of the Constitution, this policy aims to ensure the progressive realization of everyone's right to accessible and adequate housing, as well as reasonable sanitation standards. It also promises to halt the deterioration of housing conditions across the country and bridge the housing stock gap caused by demand that significantly outstrips supply, particularly for low-income housing in urban regions.
The Agricultural and Fisheries Policy	• The Fourth Schedule of the Constitution of Kenya provides for the Agricultural Policy as a function of the National Government. It transfers key components of agriculture including crop and animal husbandry, fisheries development and control of plant and animal diseases amongst others to the County governments. The Constitution also affirms the right of every person to be free from hunger and to have food of acceptable quality and quantity.
The Mining and Minerals Policy	• This Policy is to set out frameworks, principles, and strategies to provide for exploration and exploitation of mineral resources for socio-economic development. The principles and strategies in the policy will guide in development of economically viable gold mining in the municipality.
Physical Planning Handbook (2008)	• This manual provides simple and easy-to-follow rules and basic requirements for the process and practice of physical planning. It has served as the foundation for estimating expected demand for various facilities, including land. The handbook will guide in suitability and gap analysis in infrastructure and facilities and service provision in the municipality.
National Environment Policy	• The policy's goal is to incorporate environmental considerations into national development planning. It provides detailed instructions for attaining sustainable development in terms of the environmental implications of development. The provisions are essential for the establishment of environmentally viable human communities.
CONSTITUTION AND LEGISLATIONS	

The Constitution of Kenya	• According to Article 60 (1), land in Kenya must be held, used, and managed in accordance with the following principles: equitable access to land, security of land rights, productive and sustainable management of land resources, open and cost-effective management of land, sound conservation, and protection of ecologically sensitive areas. This article also promotes the involvement of people in the decision-making process.
	  ○ In Kenya, land ownership and categorization are outlined in Article 61(1) and (2).
	  ○ The rights of communities to their lands and territories are guaranteed by Article 63 of the Kenyan Constitution. It specifies that community land comprises ancestral lands and lands that were customarily used by hunter-gatherer communities as well as land that is legally possessed, maintained, or used by certain communities as community woods, grazing areas, or shrines.
	  ○ According to Article 66 (1), the state may control how any land or right over land is used if it serves the interests of public order, health, or land use planning.
	  ○ Article 174 provides guidelines for fostering socioeconomic development and the provision of nearby, conveniently available services, both of which depend on effective resource management, planning, and development.
	• Kenya's progressive Bill of Rights is included in Chapter Four of the constitution, which also provides protection for minorities and oppressed groups and ensures that all citizens have the right to a clean and healthy environment.

The Physical and Land Use Planning Act (PLUPA) No. 13 of 2019	• The act regulates Physical and Land Use Planning activities in Kenya • It gives power to County Governments to regulate the developments and empowers County Executive Member (CEC) in charge of Physical Planning to prepare Local Physical and Land Use Plans and other plans. The preparation of this plan was under that mandate that County Government of Migori initiated the process by publication of a 'notice of intention to plan' • PLUPA provides the objectives, the content and the procedure of preparation of all the physical and land use plans • PLUPA establishes institutions such as County Physical and Land Use Planning Forum; office of the County Director of Physical and Land Use Planning among other office that are important in the preparation of the plan.
The County Governments Act No. 17 of 2012	• This Act establishes the authorities, functions, and responsibilities of County Governments, which are charged with county planning under Kenya's Constitution. • The Act requires county governments to develop plans without which no public funding would be appropriated. (See Section 104(1).). • Furthermore, the Act requires that all plans created for a county be authorized by the county assembly. • The act outlines type of plans to be prepared by county government that is; County Integrated Development Plans, County Spatial Plans, Urban areas plans as provided in UACA.
The Urban Areas and Cities (Amendment) Act, No 3 of 2019	• The Act sets a legislative framework for classifying places as urban areas or cities, governing and managing urban areas and cities, and allowing inhabitants to participate in the government of urban areas and cities. • It provides threshold for classification of urban area into municipalities one being a population of more than 50,000 • The act establishes the legal foundation for the formation of urban areas Management Boards to manage the affairs of urban areas.

The National Land Commission Act No. 5 of 2012	• Outlines the NLC's functions and powers, such as monitoring and overseeing responsibilities for land use planning across the country. Furthermore, this Act establishes land policy guidelines for the management and administration of public, private, and community land. It connects the commission, the county administration, and other land-related agencies.
Land Act, No. 6 Of 2012, amended 2016	• Provides for the revision, consolidation, and rationalization of land laws. • Provides for the sustainable administration and management of land and land-based resources. • The act provides the procedure of conversion of land from one form of tenure to the other. • The provision in this act will be echoed in developing land management strategy.
Environmental Management Coordination (Amendment) Act, 2015	• EMCA calls for the construction of a suitable legal and administrative framework, as well as environmental management processes. It establishes regulations for the conservation and sustainable use of resources on wetlands, river banks, and land for the benefit of local residents and communities. Preliminary measures are also included in this Act for the regulation of solid waste, industrial waste, hazardous wastes, pesticides and poisonous compounds, biomedical wastes, and radioactive substances. • The provision in the act will be important in developing environmental protection strategy in the plan.
Water Act 2002	• This Act establishes sustainable water resource management, conservation, usage, and control.
Agriculture Fisheries and Food Authority Act, 2013	• The Agriculture Fisheries and Food Authority is established by this Act. It also calls for the authority to produce policy guidelines on the protection, exploitation, and development of agricultural land, among other things. It specifies the functions of the national and county governments in agriculture (excluding livestock).
Climate Change Act of 2016	• The Act advances climate change governance, institutional frameworks, and climate change integration into sectoral planning, budgeting, and implementation at all levels of government.

Energy Act 2006	• This Act promotes the generation and use of renewal energy and energy efficient technology. • The provision in this act will be guiding in developing infrastructure development strategy
The Land Registration Act No. 3 of 2012	• The Acts revises, consolidate and rationalizes the registration of title to land. This grants the devolved Governments powers in land registration and compulsory land acquisition for development purposes.
Public Health Act (Cap 242)	• This Act authorizes local governments to appoint a Medical Officer of Health or a Health Inspector to conduct appropriate inquiries and inspections on matters pertaining to public health. The Act authorizes county governments to provide health care facilities and hospitals, to enact bylaws governing development and sanitation, and to demolish, remove, or alter buildings that are unfit for human occupancy.
Public Finance Management Act (PFMA), 2012	Stresses what the County Government Act provides while emphasizing planning in a slightly different way. Whereas the County Government Act mandates a five-year county integrated development plan, the PFMA requires both a long-term and a medium-term plan under Section 125(1) (a).
The Survey Act (Cap 299)	• The provisions of this Act govern the conduct of land surveys in Kenya. The Act provides rules for aerial surveys for mapping or other comparable purposes, as well as procedures for conducting such surveys. This project's survey work will be carried out in compliance with the terms of this Act.
Mining Act	• This Act gives effect to Articles 60, 62(1)(f), 66(2), 69 and 71 of the Constitution in so far as they apply to the minerals; provide for prospecting, processing, refining, treatment, transport and any dealings in minerals and for related purposes. • **Section 6(1) establishes that all minerals under Kenya's territory is property of the Republic and is held by the national government in the trust of the people of Kenya.** • Section 10 establishes restrictions on the Acquisition of mineral rights to licensed individuals while Section 11 states the conditions for the acquisition of mineral rights. • The provisions in this act will guide in developing economy strategy in Kehancha.

Crop Production and Livestock Act of 2012	• An Act of Parliament to make provision for the control and improvement of crop production and livestock, and the marketing and processing. • Article (4)(a) of the Act gives some local authorities powers to make by-laws pertaining to crop production and rearing of livestock in their jurisdictions. • Kehancha Township which is a major agricultural area will operate on premises of this Act.

1.7.7 Previous Plans

Initial effort to plan Kehancha was made in 1998 and a Physical development was made by the then Physical Planner in accordance to the defunct Physical Planning Act 1996 (Cap 286) but its implementation was not done. Another plan was developed in 2010 but was not approved. Since devolution, there has not been any effort to develop a plan for Kehancha up until now.

1.8. METHODOLOGY

To ensure that stakeholders understood the emerging issues and the scope of the plan, the consultant applied a comprehensive methodology that consisted of the following key stages and components:

1.8.1. Inception

a) Initial Client Contact Meeting:

An initial contact meeting between the consultants and the County Government of Migori Physical Planning Department staff allowed for a review of the specific terms of reference, the development of a monitoring procedure, the outlining of achievement indicators, and a refinement of assumptions and risks.

b) Notice of Intention to Plan:

In compliance with the Constitution, Physical and Land Use Planning Act of 2019 and the County Government Act 2012, the public was informed and allowed to participate in all stages of planning preparation process. A Notice of Intention to Plan was publicized as a statutory requirement to create public awareness, sensitization, and involvement in the planning process.

c) Literature Review:

This stage involved a comprehensive review of all published and unpublished literature on the planning area related to the previous planning processes. This review helped identify data gaps, such as the use of an up-to-date aerial map, which needed to be addressed during the field survey stage. The sources of secondary data reviewed were as diverse as the scope of this study itself. They included Kenya Population Census (2019), County Integrated Development Plan, Policy/Legislative Documents, Independent Reports and Reviews of the study area, Previous plans of the study area.

d) Reconnaissance Surveys:

This was the second stage in data collection. It created a platform for verification and ground truthing of the literature review information and provided an understanding of the area that desk research could not effectively provide.

e) Stakeholder participatory visioning:

This was the third tire of data collection. It created a platform for Kehancha municipality residents, county official and other stakeholders to give their inputs in terms of aspirations, key planning challenges, opportunities and constraints. The information from the forum shaped the structure of the questions for key informant interviews, household questionnaires, focus group discussion and observation checklist.

1.8.2. Data Collection Process

The LPLUDP planning process required the assimilation of massive amounts of information (both quantitative and qualitative). For these reasons, the adopted mixed method of data collection covering; spatial, quantitative, qualitative and pictorials. The following data collection methods were adopted for a comprehensive coverage:

a) Household

In 2019, Kenya National Bureau of Statistics estimated Kehancha Municipality population as 89,590 persons. Using the data as base population we estimated municipalities as 95,633 persons. With the large population size, and used 95% confident level and a margin of 4% error, Yamane's formula: n = N/(1+N(e)2 estimates 620 households as the sample size.

The variables in the formula are: 95,856

n = the sample size

N = the population of the study

e = the margin error in the calculation

Calculations:

$$=95633/ (1+95633(0.04)^2)$$

$$= 620.94 \approx \textbf{620 households}$$

The sample size population for the municipality was then distributed as per population distribution in the wards; 30.6% (190 household) (Gokeharaka/Getambweka Ward) and **69.4**% (430) in Ikerege ward, Masaba ward and Bukira East.

b) Key Informant Interviews:

This phase of data collection was the interviewing of key informants, which used the purposive sampling method. The key informants were cross cutting between county government of Migori staff and national government staff. Open ended questions were administered inform of interview discussion. The key informants that were identified include:

- County Physical Planning Officer
- County Lands Officer
- County Housing Officer
- County Environmental Officer & NEMA
- Sub-County Forest Officer
- Sub-County Education Officer
- Sub-County Energy Officer/Kenya Power
- Sub-County Public Health Officer
- County Medical Officer
- Water and Sanitation Company
- County Engineer/Roads Officer
- Boda-boda Association
- Sub-County Administrator
- County Registrar of Persons
- County Immigration Officer
- Officer In-Charge of the Police Division (OCPD/OCS)
- County Information Communication and Technology Officer
- Sub-County Revenue Officer
- Sub-county Agricultural Officer – Livestock and Fisheries
- Co-operative Officer
- County Trade and Industry Officer/National Chamber of Commerce and Industry
- Municipal Manager
- Mining officer

c) Focus group discussions

We identified three areas that required special attention and involved representative sample to have an in-depth understanding of key priorities in solving the planning problems and also in coming up with a vision for the special planning area. Groups identified were; Ikerege Focus Group Discussion held at Ikerege County Assembly Offices Board room, Kurutyange Focus Group Discussion held at Grace Bible Ministry (GBM) church, Kehancha Focal Group Discussion held at the Kehancha Municipal Board grounds and Mining Group Focal Group Discussion held at the same venue for visioning and objective setting.

a) Traffic Surveys:

Traffic surveys were conducted at selected transport corridor points at various junctions from 6:00am to 6:00pm. The selected corridor points were located at Christian guest junction (Kehancha-Tarangaya road), Municipal Office Junction (Kehancha-Migori road) and St. Kizito primary school (Kehancha Ikerege road).

1.8.3. Data Analysis and Presentation Process:

The data collected is presented through various methods as outlined below:

- Thematic discussions in report writing.
- GIS maps of various thematic issues
- Statistical Package for Social Sciences (SPSS) analyses of household and business data.
- Use of gap analysis, which involved the comparison of actual performance with desired or potential performance. The technique was used to determine steps needed to be taken in order to move from the current state to a desired future state. The steps consisted of:

- Listing of characteristic factors of the present situation
- Listing factors needed to achieve future objectives
- Highlighting the gaps that exist or need to be filled

1.9. EXPECTED OUTPUTS

The expected outputs of the planning process are: An Inception reports, situation analysis reports, stakeholder analysis and engagement reports, Maps, figures, photographs, tables, charts, GIS based Shape files, technical meetings reports and proceedings observation checklist and Workshop, work session and Validation reports. The final output expected from the whole process is the Physical and Land Use Development Plan for Kehancha Municipality which will come with the following components;

- Structure plan indicating desired land use pattern in maps and a report
- A technical report containing;
  - Analysis
  - Plan proposals (policies, strategies and measures)
  - Projects and programs
  - Development strategies/models
- GIS output report for all maps generated by the consultancy
- Capital Investment Plan
- Action Plans

1.10. URBAN GOVERNANCE

The Urban Areas and Cities Act (UACA)of 2011 has vested governance and management of urban areas and cities to county governments and administered on its behalf by board of management, a manager, other officers as county public service board my apply. Kehancha Municipality has a Municipal Board, a manager, municipal planner, municipal surveyor and other support staff. The board and all the technical team are accorded functions as stipulated in section 20 of UACA. In accordance with the County Government Act of 2012, the Urban Areas and Cities Act of 2011 and Kehancha Municipality by-laws the committee is granted express or implied general and special, governmental, and proprietary rights under the Municipal charter.

1.10.1. Assessment Of Governance Capacity

Kehancha Municipality has a Municipal Board that acts as a municipality management committee, municipal manager, municipal planner, and municipal surveyor. The municipality is still understaffed and sub-county planner still runs development control section of the municipality. This doesn't give the municipality power to control developments taking place within its jurisdiction.

1.11. POC ANALYSIS

POTENTIAL/ OPPORTUNITIES	CONSTRAINTS
• Available of municipal board • Financial support for county government	• Weak planning and enforcement capacities. • Poor interdepartmental linkages and operations.

SITUATIONAL ANALYSIS

CHAPTER 2: PHYSIOGRAPHIC ANALYSIS

2.0. OVERVIEW

This section describes the general physical environment of Kehancha Municipality. It also details topographic features, ecological conditions, climatic conditions, and wetlands all found in Kehancha municipality.

2.1 BASE MAP

Kehancha base map is the graphic representation depicting background reference information at a specified scale which include landforms, roads, landmarks, and political boundaries, onto which other thematic information is displayed. A digital aerial map was acquired from space during data collection showing the infrastructure within Kehancha municipality. The aerial map was then digitized to process all base map information as illustrated in Map 2- 1: Base map.

2.2. Geographical characteristics

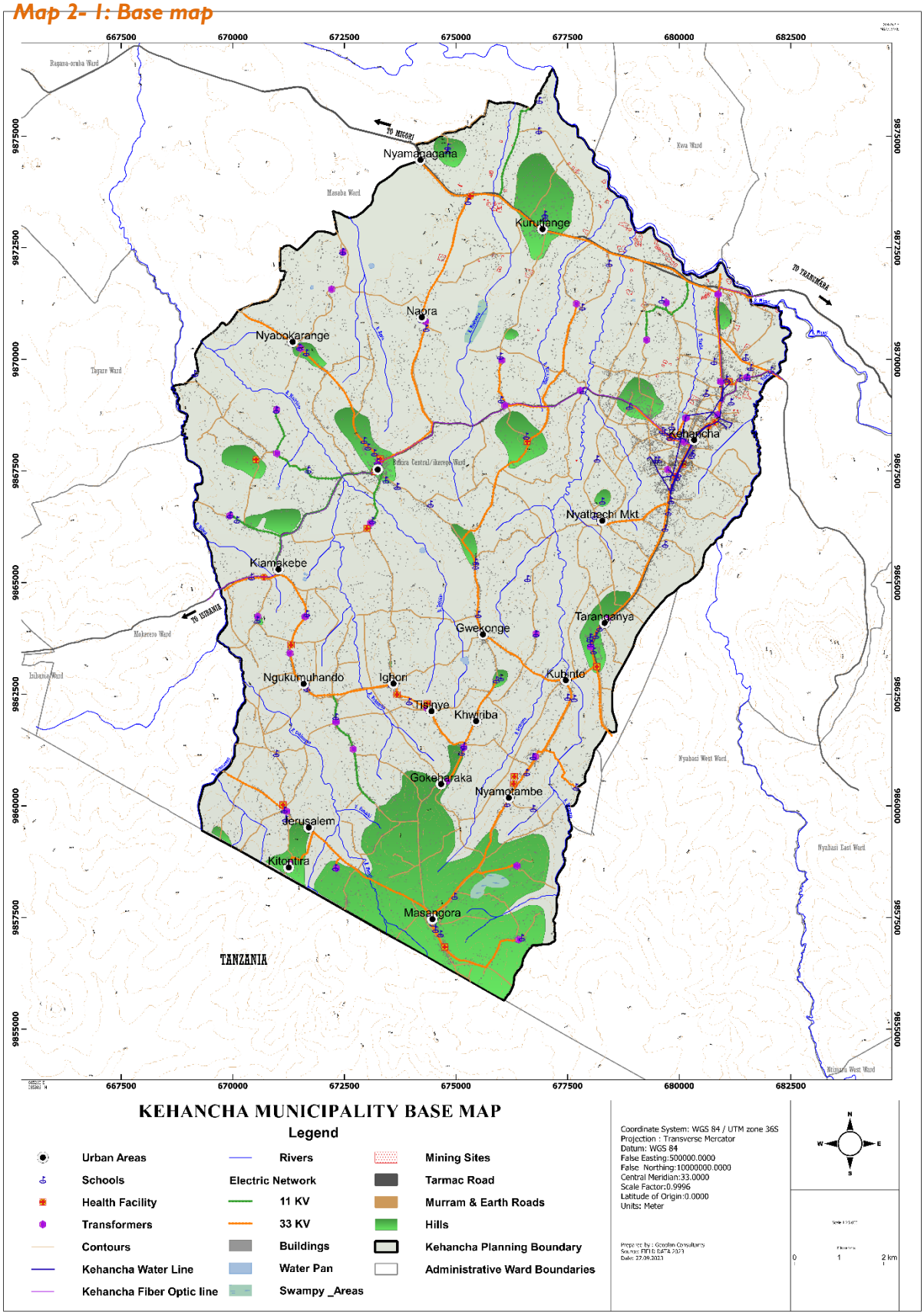
These include landforms such as hills, valleys, and plains, as well as climate, vegetation, and other natural resources within Kehancha Municipality, which are shaped by the geological history and processes of the area. The geographical characteristics are important for understanding the natural history and ecology of a particular area, as well as for human activities such as agriculture, resource extraction and cultural activities which will inform and shape strategies developed in this plan.

2.2.1. Topography and Slope

The terrain of Kehancha Municipality is composed of a mixture of gently sloping lands to the northern side and flat lands to the southern side of the municipal boundaries. It is hilly towards the northern side of the municipality and gently slopes downward toward the southern side. The highest point is approximately 1710 metres above sea level, whichdescends to 1,470 metres on the lower south-western part of the boundary Kehanchaas illustrated in Map 2- 2: Topography map. This state brings about some advantages and disadvantages of the topography, increase in scenery development and increase in development cost respectively.

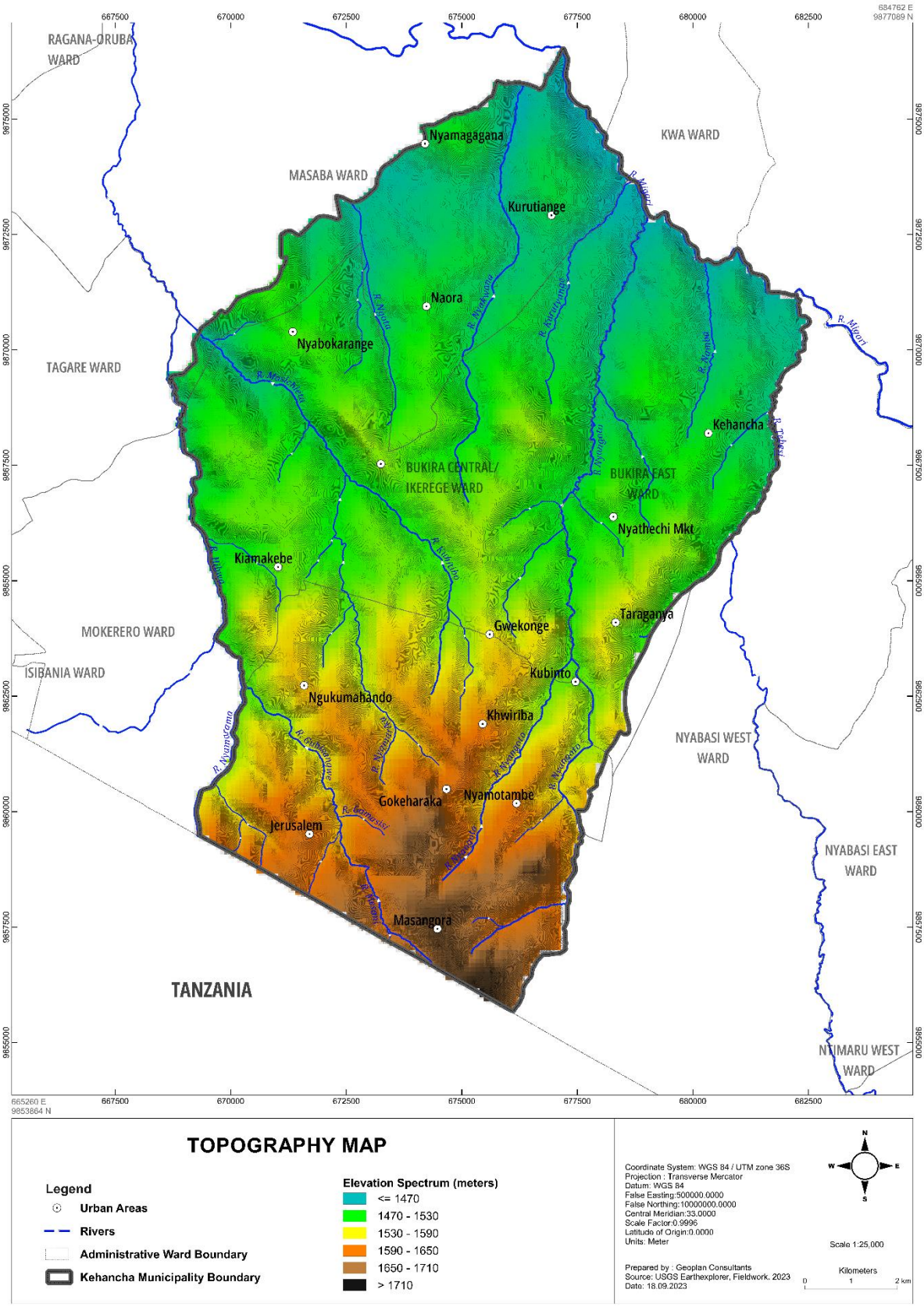
The areas topography determines the direction of water flow from precipitation. Due to the nature of land in the municipality, all rivers and the drainage channels flow towards the North-western side of the municipality. The low areas have poor infrastructure and are prone to flooding during heavy rains. In areas such as Ngukumahando, Kiomakebe and Gokeharaka, farmers prefer doing farming across the slope to avoid soils from being carried away by surface run-off. Soil erosion is prevented through planting of nappier grass across the sloppy areas in terraces form for example in Ihore and Ngukumahando.

Map 2- 1: Base map



Source: Geoplan Consultant ltd, 2023.

Map 2- 2: Topography map



Source: Geoplan Consultant ltd, 2023.

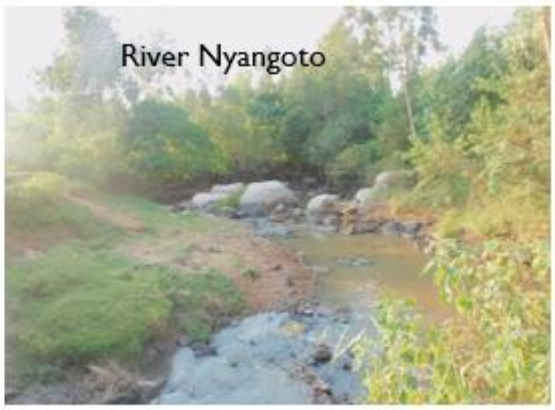
2.2.2 Hydrology, Drainage, And Water Resources

The hydrological system and water resources of the Kehancha Municipality lie within the Nyanza Region and consist of several streams and rivers. Kehancha municipality is bordered by Rivers on the boundary; these rivers are mostly seasonal except R. Migori and Tebesi that can serve even during the dry seasons while most of the borehole drilled in the community end up drying leaving the people in the scarcity of water. The main river in the municipality is Migori which originate from the highland regions of Narok Counties while the smaller and mainly seasonal rivers Tebesi and Nyangoto. River Migori eventually drains into River Kuja while Nyangoto and Tebesi drain into river Migori which in turn finally drains into Lake Victoria.It is important to understand the hydrology of the area, as this guides in the placement of storm water drainage and sewer system facilities in the town.

In addition, there are a few swampy areas in the municipality that provide a natural form of drainage to the Kehancha, these include; Guitete, Remosana, Stadium (Kwa Machage),
The areas around the rivers have an added disadvantage because their clay soils do not drain water and increase the likelihood of flooding. It is important to understand the hydrology of the municipality because it guides the farmers and construction companies. The municipality also has moderate potential of tapping underground water. Underground water forms part of the major sources of water used in the Municipality in the form of boreholes and springs. (Map 2- 3: Drainage map).

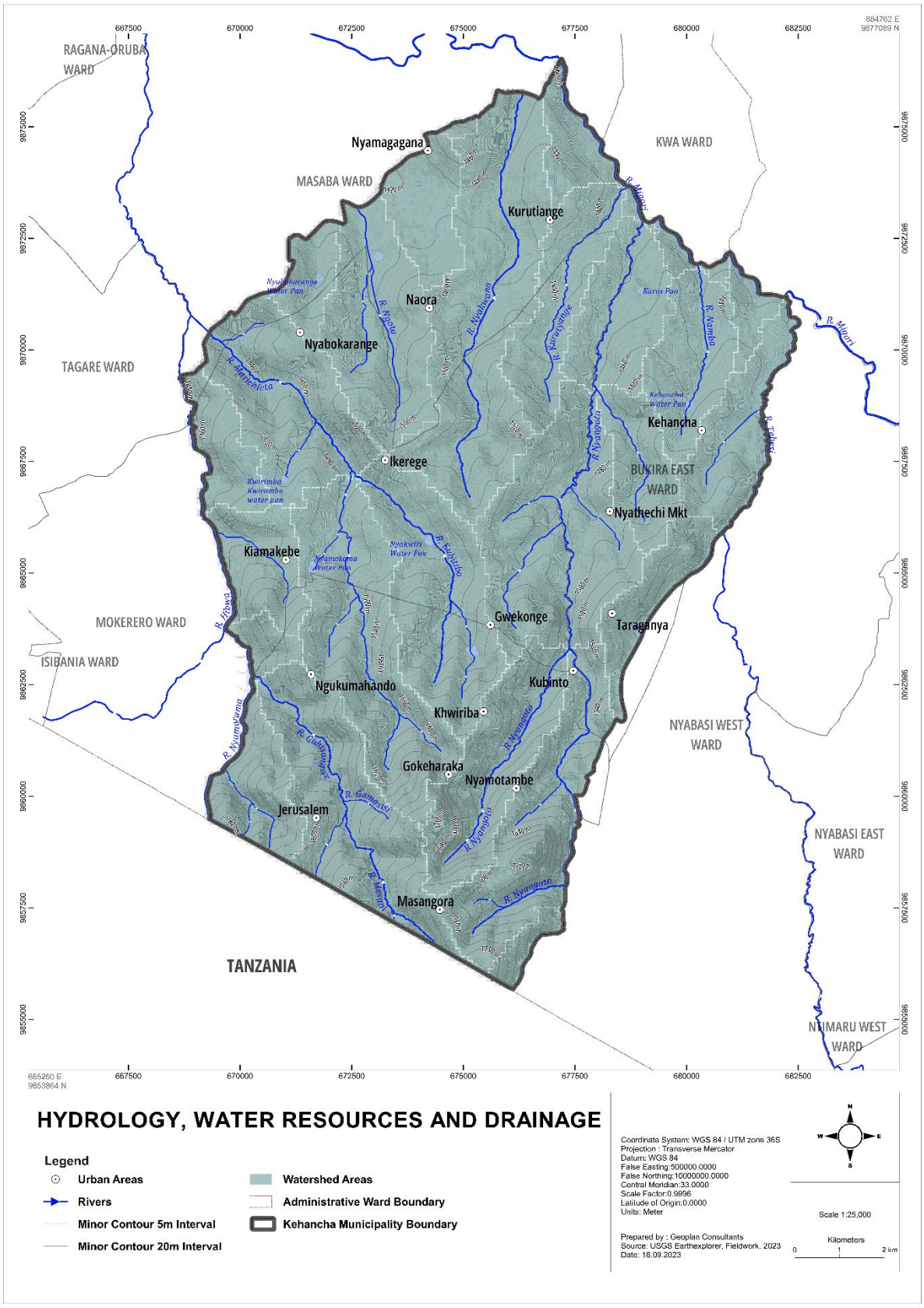
There is potential for Sand harvesting, irrigation, fish farming and many other human activities. The river reserves that are within Kehancha Municipality are facing encroachment and pollution due to human activities. The rivers have also limited the growth extent of the municipality. There is poor drainage in areas like; Naora, Ihore, Komasincha and some parts of Nyaigutu where most of the Agricultural farms must be dug trenches to channel water out, roadside trenches to prevent flooding on roads.

Plate 5- 1: Water sources



Source: Geoplan consultants ltd, 2023

Map 2- 3: Drainage map



Source: Geoplan consultant ltd, 2023.

2.2.3. Environment

The natural vegetation of the planning area has been greatly affected by agricultural pressure, the need for human settlement and mining activities. The bulk of the land in the municipality is under crop cultivation. Furthermore, Kehancha Municipality lacks adequate forest cover, and the existing forested areas require reforestation.

Forests within Kehancha Municipality are planted by either individuals or government programs which in most cases are covered by pine, Eucalyptus and Accacia These forests are dominated by trees and other woody vegetation and likely found on the Northern side of the Municipality where it is hilly. These trees do well in these areas and also act as water catchment areas for most seasonal streams. Forest communities are characterized by several interactions such as woody and herbaceous flora, fauna, and soils (Map 2- 5: Vegetation cover).

Woody vegetation includes forests, woodlands, bush land and wooded grasslands. Planted forests in the municipality includes: Kehancha forest, Tebesi river plantation, Ngukumahando area, Masangora planted forests and Mahuntutu river plantation (Map 2- 5: Vegetation cover). The natural vegetation of Kehancha Municipality has been greatly affected by agricultural pressure and the need for human settlement. Large portions of land are under crop cultivation. Furthermore, the municipality lacks adequate forest cover, and the existing forested areas require reforestation(Map 2- 4: Environmental fragile and forest).

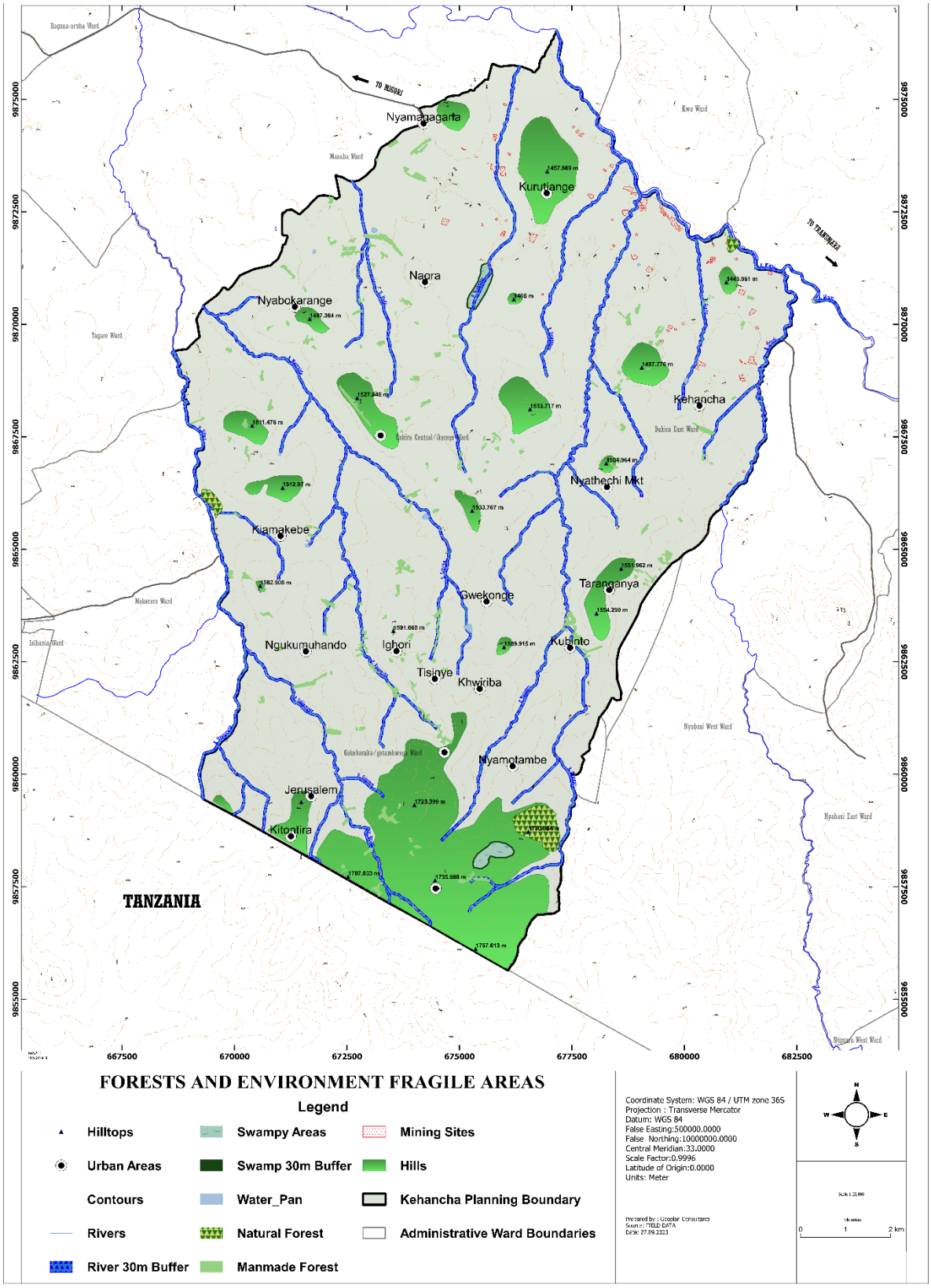
Plate 5- 2: Environmental status

Source: Geoplan consultant ltd, 2023

a) Mining

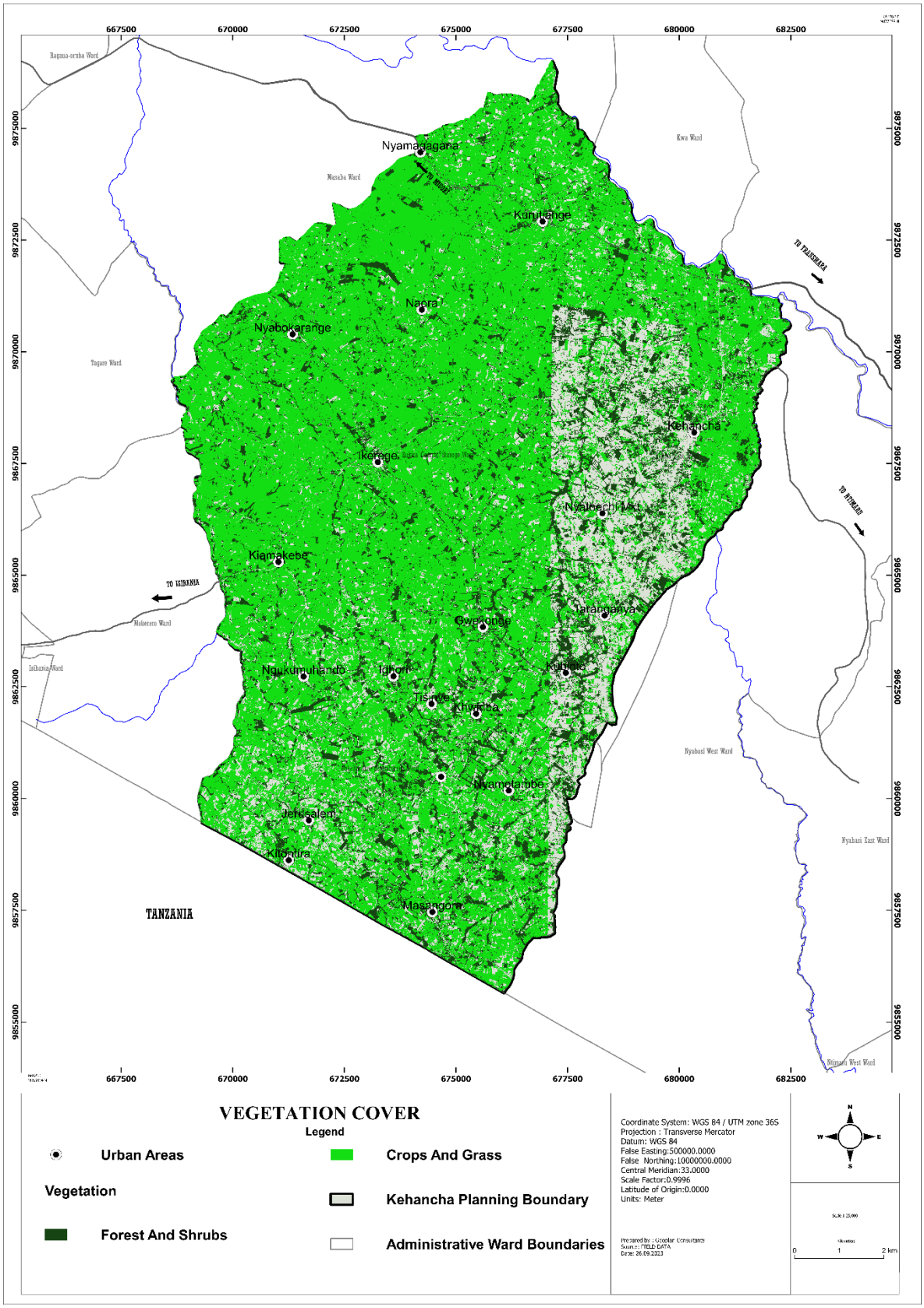
Kehancha municipality is within Gold blet and a number of the residents depend on extraction of gold mineral (Mining) in one way or the other. The process of gold extraction in Kehancha involves; quarrying at the mining site, crushing with hammers to reduce the stone sizes, drying and machine crushing to powder form, washing through hand work by use of mercury, collection of sainnet for sale to leaching plant owners who extracts 80 – 90 percent of gold leaving the soil heaps for later use. Gold mining operations can create a negative environmental impact, both during the mining activity and after the mine has closed. This plan will be guided by existing laws to develop environmentally friendly mining strategies.

Map 2- 4: Environmental fragile and forest



Source: Geoplan consultants ltd, 2023.

Map 2- 5: Vegetation cover



Source: Geoplan Consultant ltd, 2023.

Plate 5- 3: Mining activities

Source: Geoplan consultants ltd, 2023

2.2.4. Hills

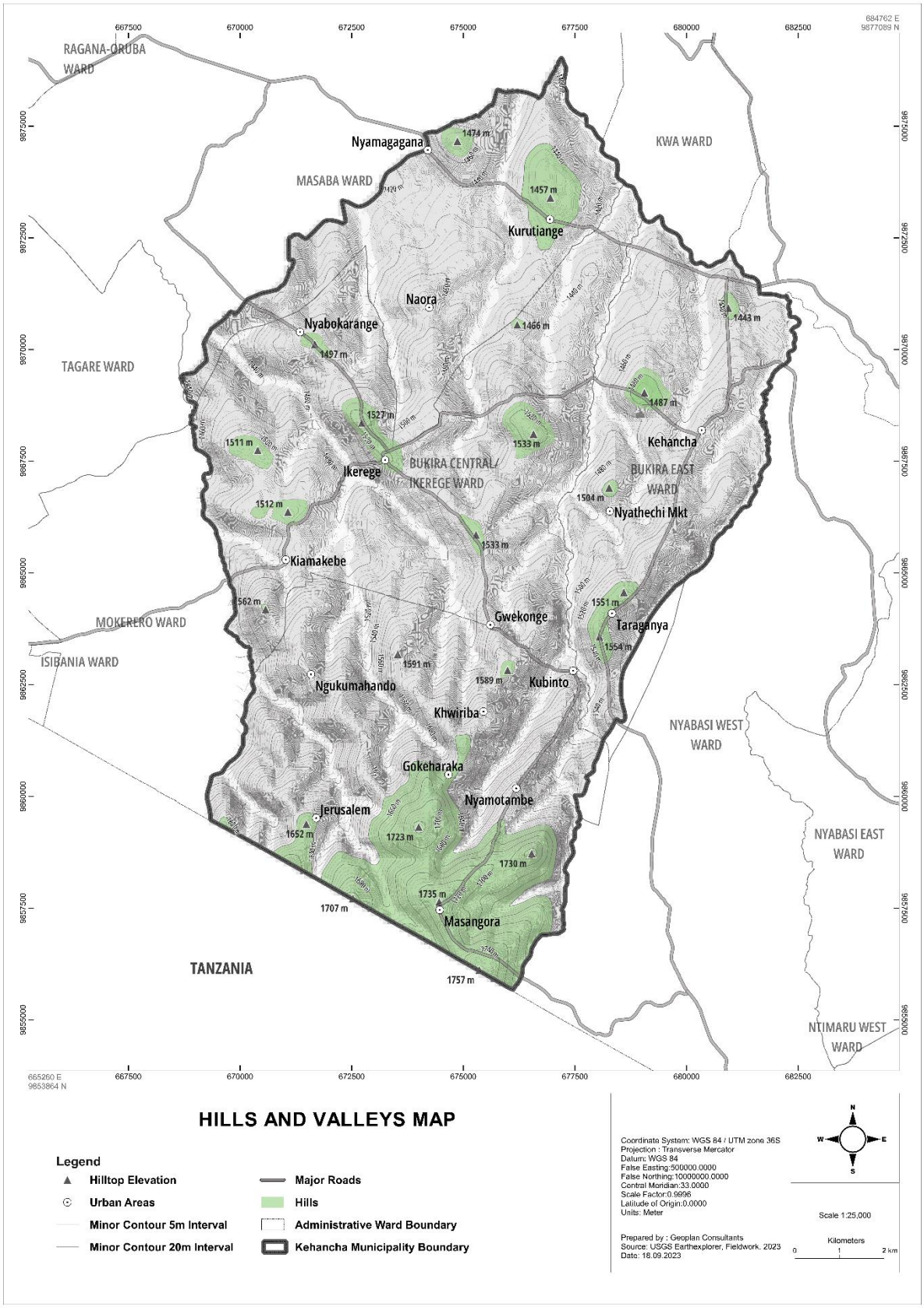
The hills are very important for their scenic natural features and their major role in determining the wind direction in the municipality. The highest points on the hills support forest vegetation, while low-lying areas to the south host wetlands that support grass vegetation and reeds. The hills found within the planning area are Kugitibo hill along Ikerege road, Gokeharaka hill towards Masangora and Ihore towards Ngukumahando. Kehancha municipality has hills that are within the boundary of the municipality and many to the neighbouring municipalities. Hills play a major role in the environment hence the need for the conservation and protection of its ecosystem (Map 2- 6: Hills and valleys).

2.2.5. Geology And Soils

a) Rock Characteristics

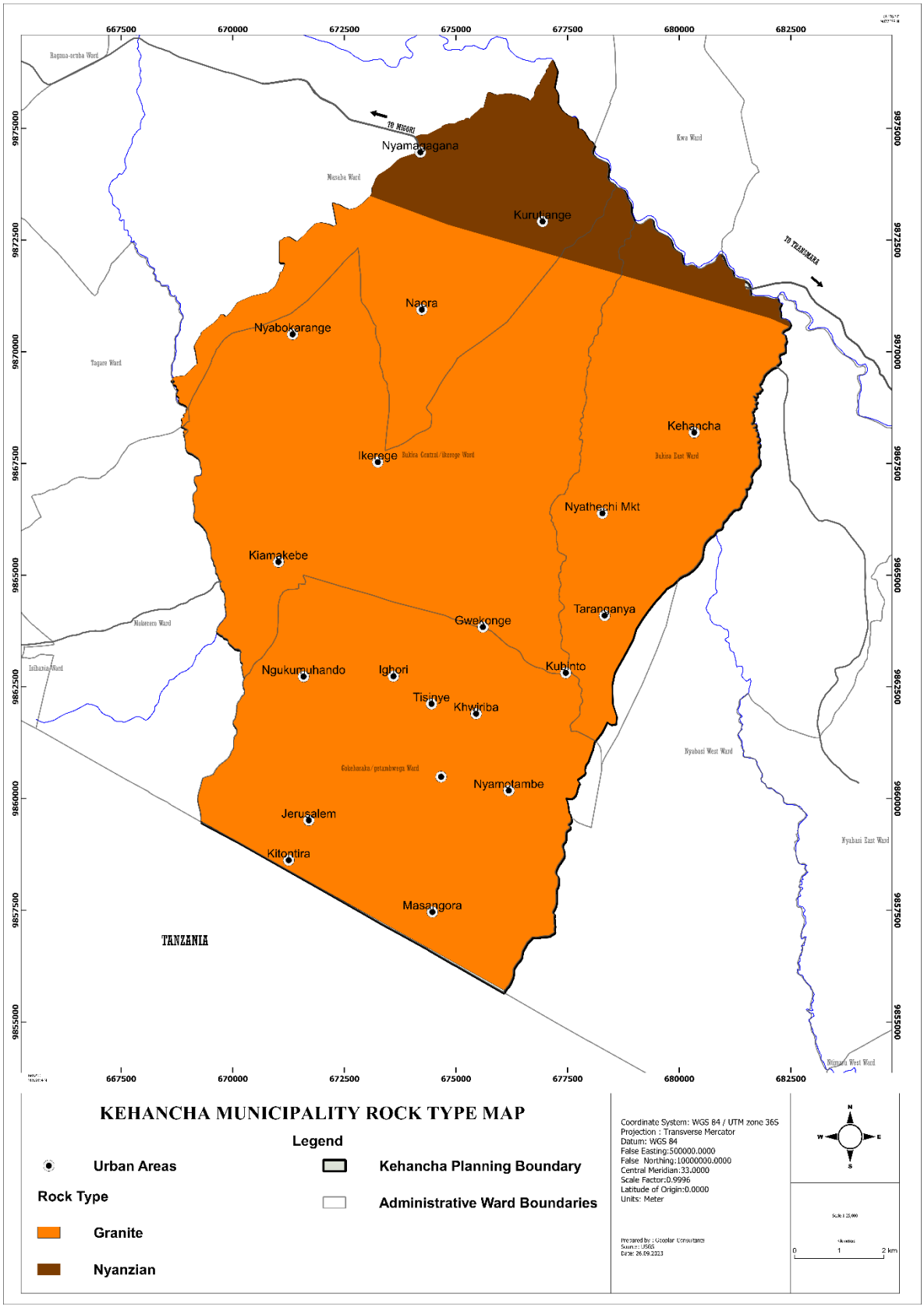
The geological pattern found in the grounds of Kehancha municipality comprises of tertiary Precambrian rocks, the Nyanzian and Kavirondian which lies within the boundaries of the Gold Belt. During the formation of these rocks and sediments there is a huge time span during which the area was eroded to its base level. Soils resulting from Precambrian rocks are dark reddish brown, well drained, friable and very calcareous. The composition of these rock has contributed to soil distribution within the Municipality. These types of rocks are believed to be strong for construction industries thus requires machinery during extractions mostly found in areas such as Ngukumahando, Karosi, Kehancha and Tarang'anya. Rock outcrops that are scenic in nature also hold potential for tourism in places such as Ngukumahando (Nguku cave) (Map 2- 7: Geology map).

Map 2- 6: Hills and valleys



Source: Geoplan Consultants ltd, 2023.

Map 2- 7: Geology map



Source: Geoplan consultant ltd, 2023.

b) Soil Characteristics

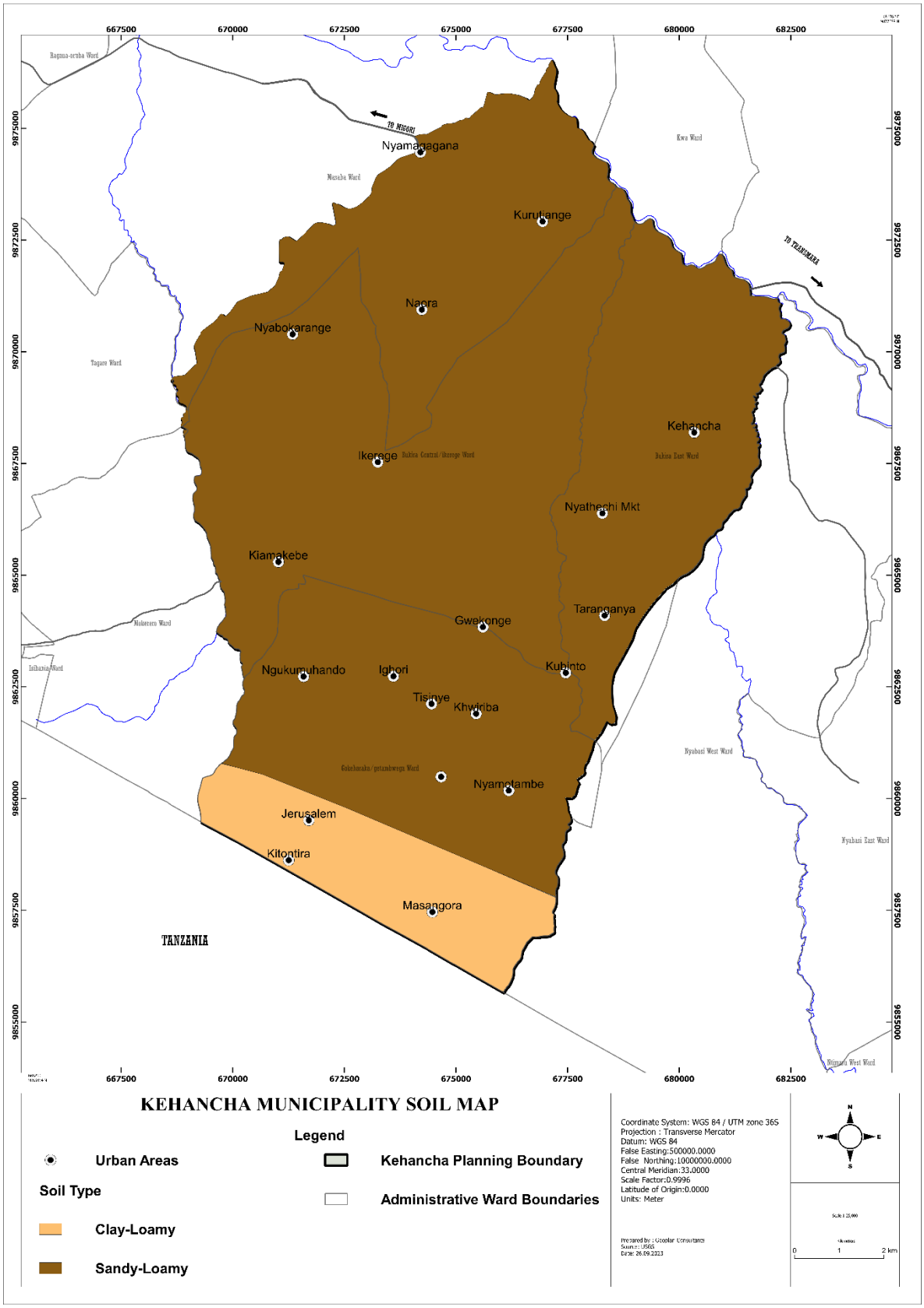
The soils are a mixture of red loamy soils with black cotton soils. The red soils are in the elevated well-drained areas while black cotton soils are mainly along the surface water bodies along the rivers. The soil profile ranges from red friable clays to shallow loam soils. In geological terms, these are youthful soils formed after removal of the top black clays by the wind and erosion process mostly found in Naora area. However, there are patches of loamy soils. The planning area has very fertile soil that is suitable for agriculture hence support crops production like maize, beans, cassava, groundnuts and potatoes but poor mechanization methods, mining activities and a high population growth rate have resulted in declining yields, deforestation and soil erosion. Therefore, addition of fertilizers is required in order to improve yields of crops. (Map 2- 8: Soil type map).

Source: Geoplan consultant ltd, 2023

2.2.6. Temperature and precipitation

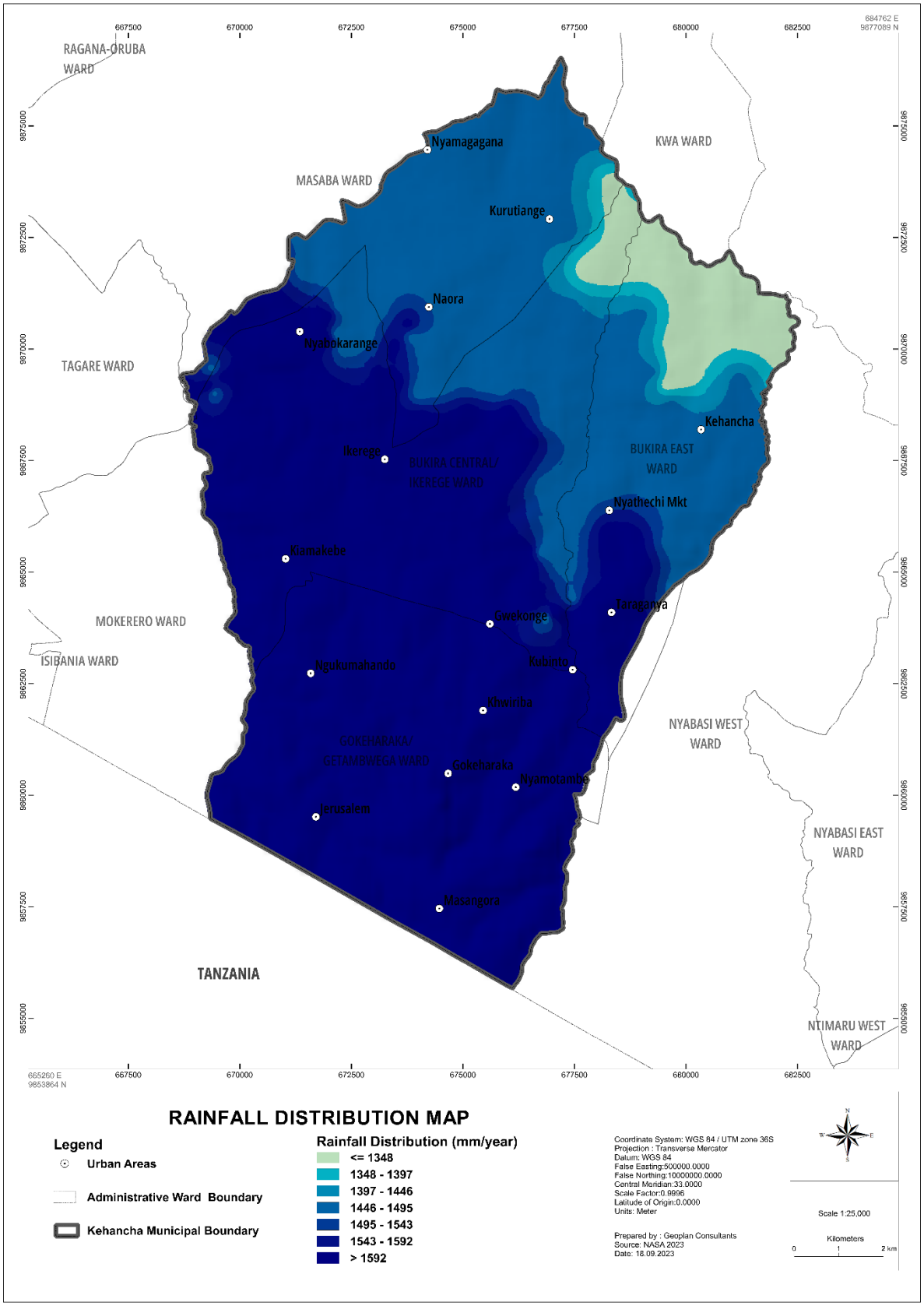
Kehancha Municipality has a tropical climate mostly found within the highland areas and modified by the effects of altitude, relief and the influence of the large water bodies in the neighbouring. The existence of this type of climate supports agriculture for the growth of Tobacco, sweet potatoes, cassava, maize and a variety of other food crops and cash crops. Rainfall is generally continuous with little distinction between first and second rains. Kehancha municipality has two rainy seasons; long between March and May and short rains between September and November. The average rainfall is 1418 mm to 1800mm per annum, see Map 2- 9: Rainfall distribution. Average temperature is 12^0C lowest and 20.2^0C highest (Map 2- 10: Average temperature). Temperature and precipitation statistics of Kehancha municipality proves of an agricultural potential urban area. Consequently, development of urban food systems strategy will be driven by community aspiration and temperature distribution as illustrated in Map 2- 10: Average temperature

Map 2- 8: Soil type map



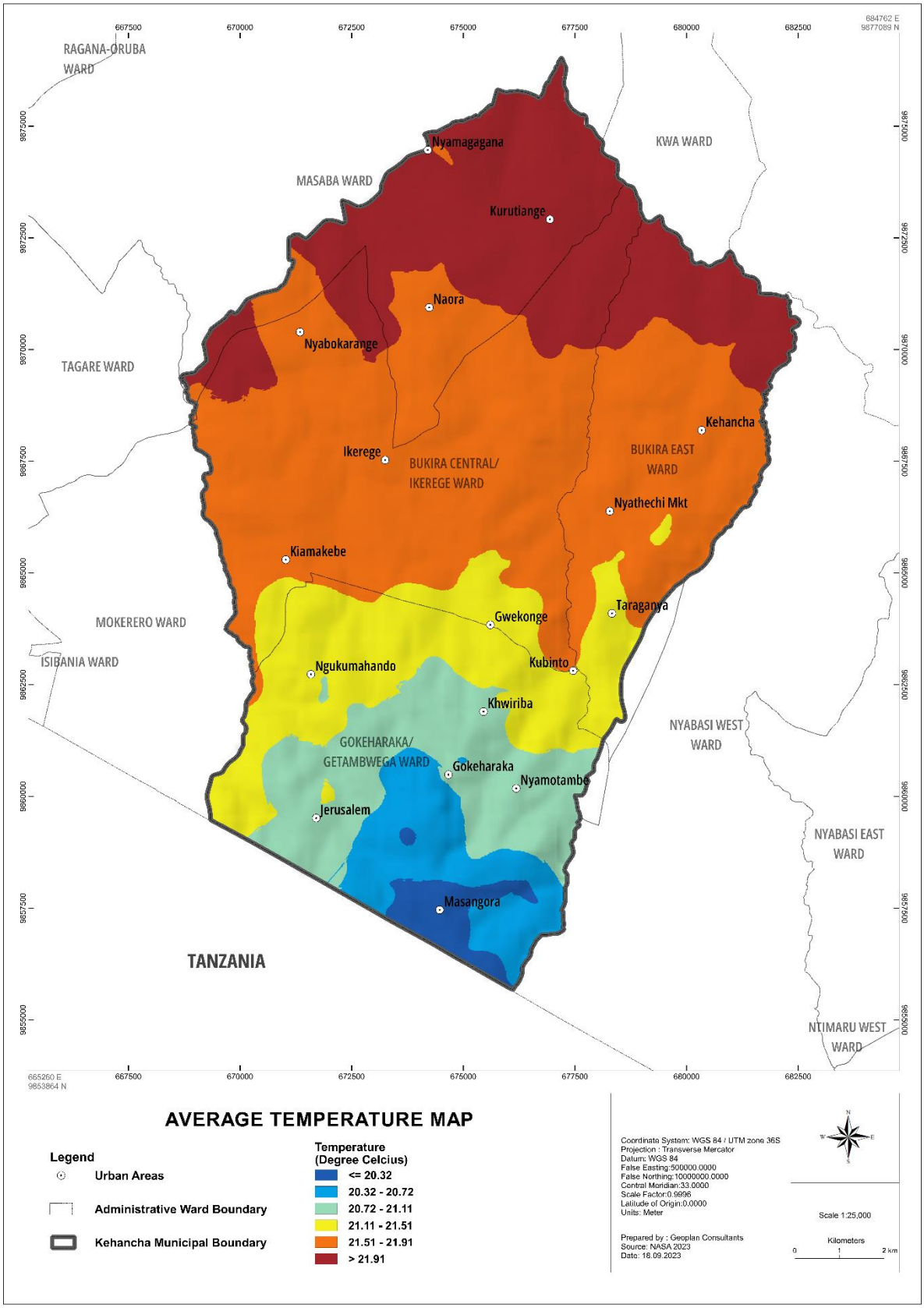
Source: Geoplan Consultant ltd, 2023.

Map 2- 9: Rainfall distribution



Source: Geoplan Consultant ltd, 2023.

Map 2- 10: Average temperature



Source: Geoplan consultant ltd, 2023.

2.2.7. Ecology

The planning area is within Migori County which has two agro-ecological zones, namely upper midland and lower midland. The observed vegetation cover includes a mixture of indigenous and exotic plants species. The middle and lower parts of the valley were and are characterized by large tracts of grouped-tree grassland; this type of vegetation is predominant in the lower parts of the valley and to the southern parts.

a) Ecological Conditions

The Municipality has one agro-ecological zone that is the Upper Midlands (UM 1-4). This ecological zone covers parts of Kuria East, and Kuria West sub-counties. These zones determine the types of agricultural activities undertaken in each area and crops grown. Some parts in the municipality experience harsher climatic conditions compared to the rest of areas in the municipality. Kuria West sub-counties are used for food and cash crop production, thanks to their fertile soils and favourable conditions.

b) Ecological zones

Ecological zones in Kehancha municipality include Kehancha, Kurutiyange, Ikerege, Nyabokarange, Masangora, Tarang'anya, Naora and Kubinto. These zones have different crops grown and in different seasons as follows. (Map 2- 11: Ecological zones)

zone	Division	Crops Grown
UM1-2	Ikerege	Maize, Beans, Tobacco, Finger Millet, Sweet Potatoes.
	Masangora	Maize, Beans, Finger Millet, Sorghum, sweet potatoes.
	Nyabokarange	Sunflower, Sorghum, Cassava, tobacco and maize.
UM2-3	Kehancha	Maize, Beans, Tobacco, Coffee, Sweet Potatoes, Cassava and Vegetables.
UM3-4	Gwikonge	coffee, maize, sweet potatoes and cassava.
	Kiomakebe /Ngukumahando	Beans, Tobacco, Finger Millet, Coffee, Sweet Potatoes and maize.

2.3. URBAN NATURE INTERFACE

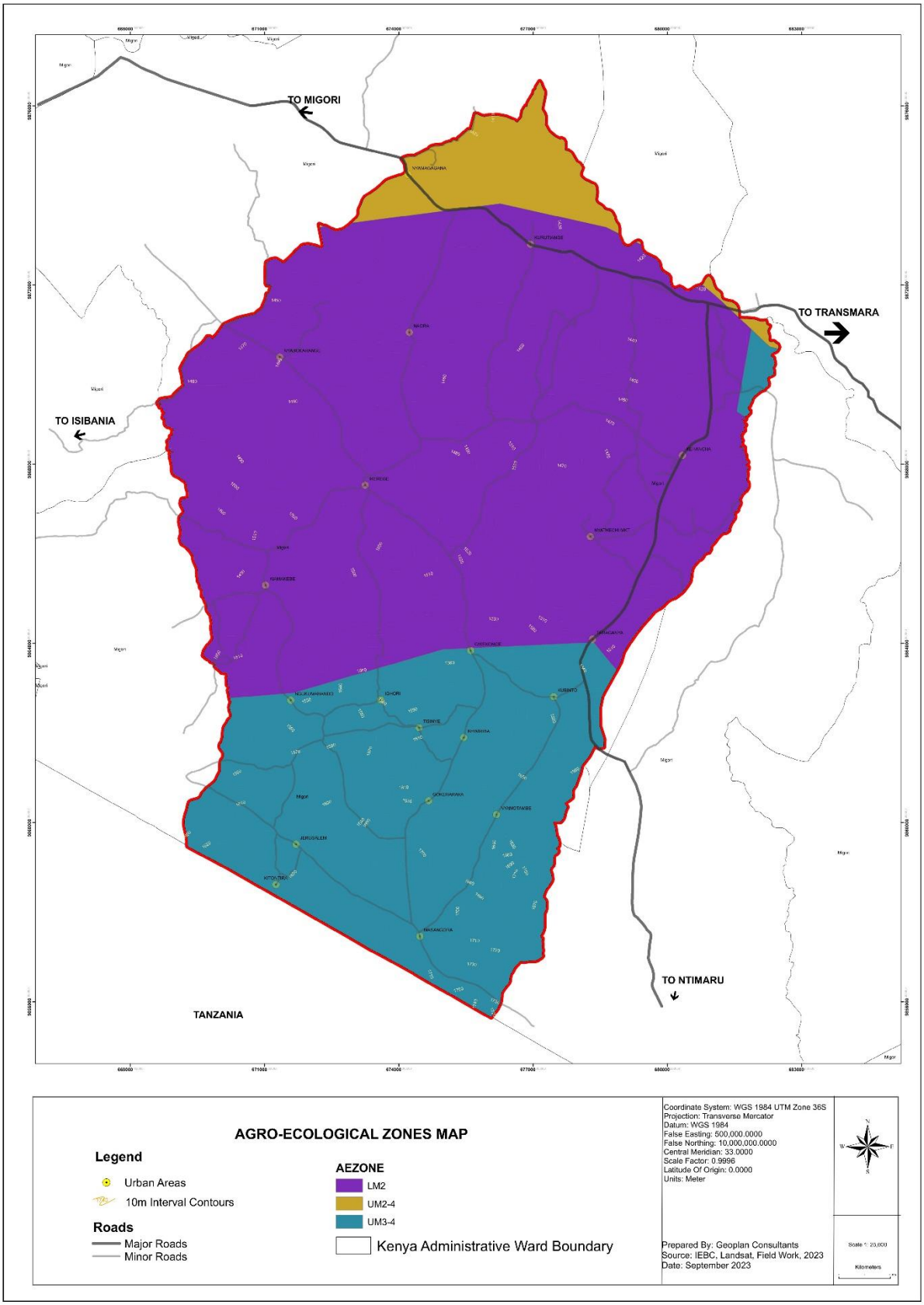
The urban nature interface is the relationship between urban areas and natural features like hills, forests, and rivers. The natural features in Kehancha Municipality (like the rivers, swamps, minerals and the hills) have dictated the settlement patterns within the municipality and have been obstacles to development of the municipalities since they affect the growth and expansion of the municipality areas and centres. Examples of an urban nature interface are the rivers which form the boundaries of the municipality thus bringing a distinction of the

municipalities. Uncontrolled mining activities taking place within the municipality cause environmental degradation and leaves the land infertile for agricultural use.

2.4. POC ANALYSIS FOR PHYSIOGRAPHIC DYNAMICS

Sector	Potential / opportunities	Constraints
Topography	• The Nguku caves, rocks outcrops and hills make the municipality a scenic beauty. • Geological analysis is important in order to predict geological hazards.	• The nature of the topography in Kehancha municipality makes it costly for infrastructure development.
Geology and soils	• Availability of arable good soils that support agriculture. • The geological base rock act as a water catchment area for many sources. • The rock outcrops in the municipality are scenic in nature and are potential tourist attractions e.g. Ngukumahando caves. • Availability of stones for construction that attract developers to the region.	• Rock outcrops object developments e.g., roads, building and farms. • Excavations of rock leaving behind heaps of quarries causes pollution on land.
Hydrology and drainage	• The rivers Migori, Hibwa, Tebesi and Nyangoto are a source of water for domestic use and industrial processing. • The rivers also aid in provision of construction materials.	• Causes Encroachment on riparian areas and river banks. • Poor access to water resources due to pollution and drainage patterns. • Soil erosion from surface run-off.
Forest and environment	• Encroachment and deforestation of forest area	• Deforestation occurring at a fast rate due to population pressure.
Climatic conditions	• Availability of the two ecological zones helps farmers to understand the season. • Experiences high rainfalls favouring agricultural production	• Harsh climatic conditions causing drought in the area. • High rainfall has contributed to flooding and soil erosion.

Map 2- 11: Ecological zones



Source: Geoplan Consultants ltd, 2023

CHAPTER 3: POPULATION AND DEMOGRAPHICS

3.0. OVERVIEW: POPULATION AND DEMOGRAPHY

An analysis of population and demography is vital in any municipality planning endeavor since it provides a threshold on which allocation, dissemination and management of resources and infrastructure is done. This chapter will delve into the demographic characteristics of Kehancha Municipality and its environs.

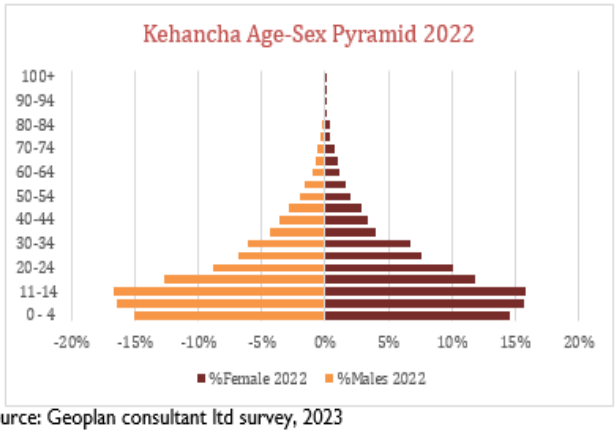
3.2. DEMOGRAPHIC CHARACTERISTICS

The age set in this pyramid represent data collected from household surveys done in July 2023, which is a representation of the population with in the municipality. The population pyramid shows the structure of the population:

- 0-14 years (48%)
- 15 -64 years (40.5%)
- 65+ years (11.5%)

This implies that young people make up most of the population. The basic driver of Kehancha municipality growth and development will be the creation of employment activities for the youth (Chart 3- 1: Population structureMap 3- 1: Population distribution map).

Chart 3- 1: Population structure



Source: Geoplan consultant ltd survey, 2023

3.2.1. Population Size

According to the 2019 Census the Population of Kehancha Municipality had a population of about 89590 people. The female population was slightly higher than the male population. Additionally, Kehancha CBD has the largest number of inhabitants per square kilometer at more than 600, followed by Masangora. Karutiyange area, is least populated with approximately 300 – 400 residents per square kilometer. (Map 3- 1: Population distribution map).

Population Projection 2022

$P = P_1[1+(r/100)]^n$

Where P_1= population of base year in this case 2019,

r= annual population growth rate of 2.2% per annum

n=number of years

P (year 2022) = $89590[100+(2.2/100)]^3$

P 2022=95633

Subsequent, population projection over the next 15 years is as shown below;

Table 1- 2: Population projection from 2022 to 2023

YEAR	2022	2027	2032	2037
POPULATION	95633	106625	118881	132546

The estimate indicates a 23,248 people cumulative population growth within the plans' period (2023-2032). The population growth projection is necessary in order to predict future needs for resources such as housing land demand, water, and energy as well as for services like health and education. This will be the basis used to inform the planning decisions going forward.

3.2.2. Fertility Rate, Age-Sex Ratios, And Household Size

The fertility rate in Kehancha Municipality stands at 3.9 as compared to the natural human replacement level of 2.1. Consequently, this dictates the overall population to be largely youthful. According to the projected population figures of 2032, the number of people aged between 0-14 years account for about 48% of the total population. This could be attributed to the current high percentage of females in the child bearing age bracket of 15-44 years which stands at 43 %. This calls for more planning efforts geared towards provision of better health services and ECDE facilities. The female-to-male gender ratio in Kehancha Municipality is 54:48 based on the socio-economic survey. Generally, females outnumber males in all the wards that make up the municipality's boundary. (See Figure 3- 1). The socio-economic survey revealed that the average household size is 3 people per household. The modal household size is 5. Among other factors, this will be a key guide to base the decision on the housing typologies and sizes to be provided for the people of Kehancha.

3.2.3 Population Growth Regarding Land Use

Kehancha is experiencing population growth while most necessary resources such as water, land, green spaces, and quality air remain relatively intact. If left as it is, there is a risk of strain on these limited natural resources within the environment. As such, some observations will manifest:

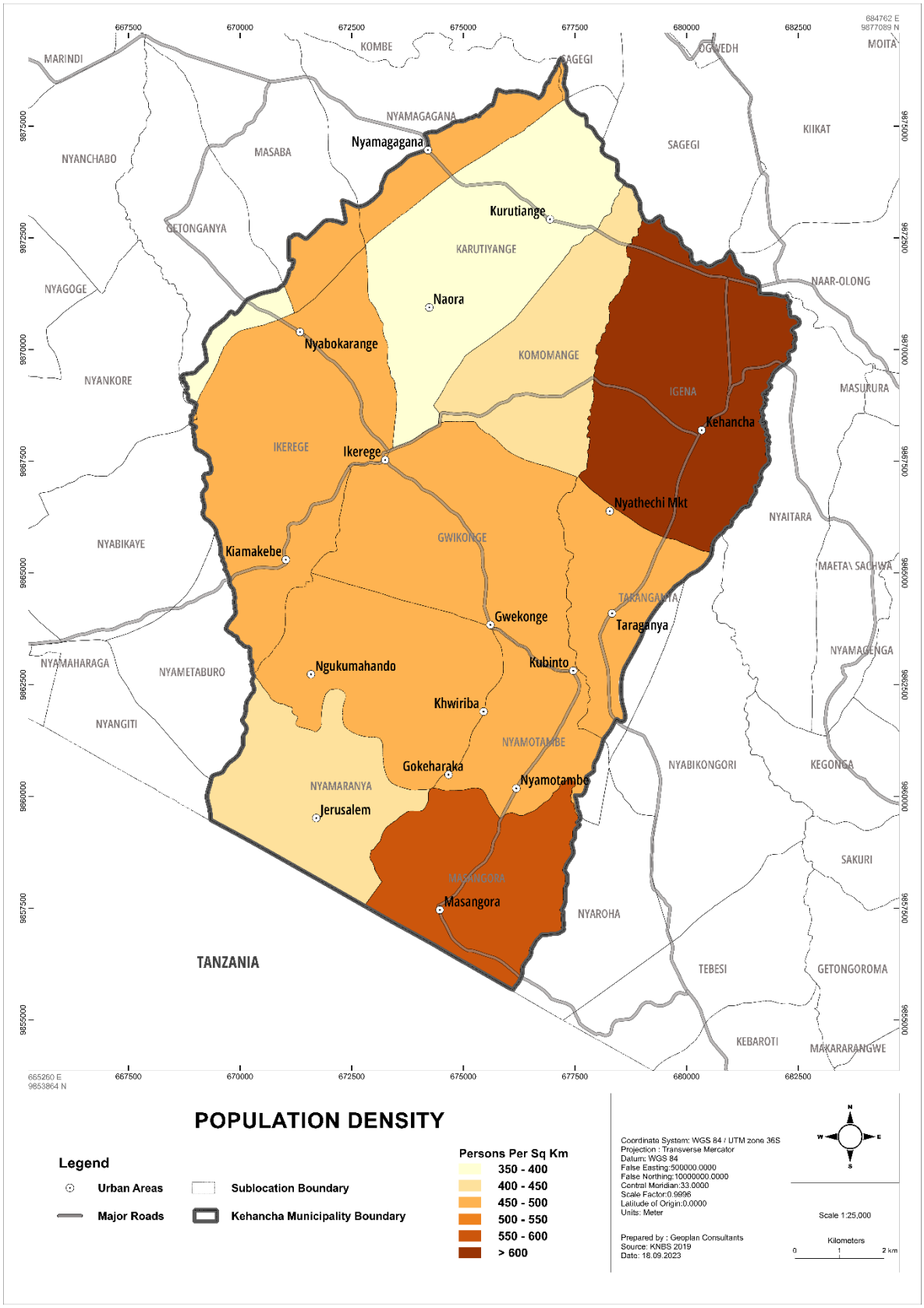
- Loss of fertile agricultural land to residential, commercial and industrial land uses. With increased population in the municipality and the need for land to settle, more land sub-divisions have resulted in smaller portions suitable only for intensive agriculture as opposed to the current extensive agriculture.
- Deforestation and degradation of the environment due to higher demand for energy. Based on the socio-economic survey, 53.9% of residents uses firewood for cooking, the rest use charcoal and paraffin at 29.7% and 0.6% respectively, which pollutes the environment (see table 3-1).

Table 3- 1: Energy for cooking

Energy for Cooking		Responses		Percent of Cases
		No	Percent	
Energy for Cooking	Gas	136	14.5%	20.8%
	Charcoal	279	29.7%	42.7%
	Paraffin	6	0.6%	0.9%
	Electricity	11	1.2%	1.7%
	Firewood	506	53.9%	77.4%
	Solar	1	0.1%	0.2%
Total		939	100.0%	143.6%

Source: Geoplan Consultant Ltd survey, 2023

Map 3- 1: Population distribution map

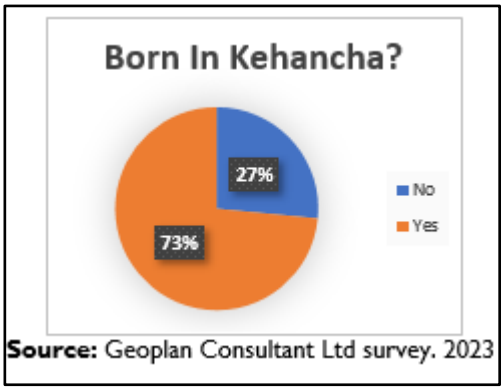


Source: Geoplan Consultant ltd, 2023

3.2.4. Migration Patterns

The socio-economic survey carried reveals that, 73 percent of the population are born in Kehancha while 27 percent immigrated into Kehancha from different places. To encourage vibrancy, the plan should focus on attracting more population to the Municipality(Chart 3- 2: Migration pattern).

Chart 3- 2: Migration pattern



Source: Geoplan Consultant Ltd survey. 2023

a) Pull Factors

Socio-economic survey illustrates that most of people who moved to Kehancha municipality was as a result of marriage which stands at 62%. Despite that 19% individual that migrated into the municipality were due to employment reasons. Kehancha municipality is gradually pull population for job opportunities (Table 3- 1: Push and pull migration factors).

Table 3- 1: Push and pull migration factors

Factors	IMMIGRATION	EMMIGRATION
Marriage	62%	4%
Employment	19%	15%
Health reason	2%	19%
Education	1%	11%
Conflict	5%	1%
Other reasons	11%	48%
Administrative	0%	4%

Source: Geoplan consultants ltd, 2023

b) Push Factors

The main factors that push people out of Kehancha are the search healthcare at 19%. This can be attributed to the lack of specialized treatment, insufficient health facilities or poor health services within Kehancha municipality. This is followed by search for employment at 15%, education at 11%, administrative services marriage, and conflict at 4%, 3% and 1% respectively. From the socio-economic survey other factors were the greatest push factor for migration out of Kehancha town (Table 3- 1: Push and pull migration factors).

3.2.5 Morbidity, Mortality, And Life Expectancy Rates

a) Morbidity

Malaria stands out as the most popular disease in Kehancha Municipality in the year 2022/2023. The mobidity rate for malaria in Kehancha is at 95% of the total population. this is closely followed by URTI at 66% . pnuemonia and UTI come in third at 9%. The country average morbidity stands at 7.8%. Other diseases also affect the locals. The data should help plan for interventions targeted towards specific diseases in the planning area.

Table 3- 2: Disease prevalence in Kehancha municipality (2022-2023)

CONDITION	Male	Female	% OCCURRENCE
Malaria	22710	89733	92%
(Upper Respiratory Tract Infection) URTI	14770	44352	45%
(Upper Respiratory Tract Infection) URTI		20231	21%
Urinal Tract Infection (UTI)	648	8685	9%
Disease Of Skin	1963	6921	7%
Pneumonia	3553	8417	9%
Human Immune deficiency Virus (HIV)Infection	221	3622	4%
Sexual Transmitted Infection (STI)		1811	2%
Renal Tubular Acidosis (RTA)		1097	1%
COVID-19	113	458	0%
Tuberculosis (TB)		219	0%
Diarrhea		4187	4%
Eye Infection		621	0%
Intestinal Worms		213	1%

Source: Kehancha Sub- County Hospital annual report

b) Mortality

The main causes of under-5 mortality in Kehancha Municipality are Uterine Fetal Hypoxia, followed by Intra-Uterine fatal death and Birth Asphyxia respectively. To ensure survival at birth, the health department has to plan for interventions in case of the main causes of under-five mortality, including acquisition of equipment for a nursery.

Table 3- 3: Causes of under-5 deaths in Kehancha municipality (2022-2023)

DISEASE	UNDER 5 MORTALITIES	% MORTALITY
Uterine Fetal Hypoxia	9	27%
Intrauterine Fetal Death	7	21%
Path Asphyxia	5	15%
Pneumonia	3	9%
Dehydration	3	9%
Severe Malaria	2	6%
Anemia	2	6%
Meningitis	1	3%
HIV	1	3%
Total	**33**	**100%**

Source: Kehancha Sub-County hospital annual report

c) Life expectancy

Life expectancy refers to probable average number of years that a person may anticipate to live. According to the results of the 2019 Census, the life expectancy at birth in the county of Migori was 50.5 years for men and 60.6 years for women. This was less than the national life expectancy for men and women, which was 60.6 years and 66.5 years, respectively. It is an indicator of health in this community. Knowing how the population will age is important

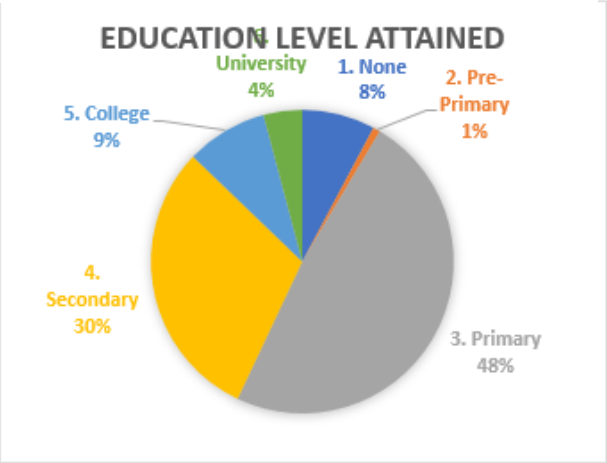
as it helps in the planning for social services for the old in the case of Kehancha, government remittances for the old.

3.3. HUMAN RESOURCE DEVELOPMENT AND UTILIZATION.

3.3.1. LITERACY LEVELS AND SKILLS DEVELOPMENT

Socio-economic survey conducted throughout the planning area reveals that most residents of Kehancha have attained primary school education. This accounts for 48% of the sample. 30% of the population has attained secondary school education, 9% have college education, 4% have university education, 1% attained pre-primary education while only 8% percent of the population had no education whatsoever (Chart 3- 3: Level of education). The analysis depicts a low rate of transition from one level of education to the other. The plan will set out the education strategy based on this data and make an area action plan that ensures transition to other levels of education.

Chart 3- 3: Level of education



Source: Geoplan Consultants ltd, 2023

3.3.2. HOUSEHOLD INCOME AND EXPENDITURES

Kehancha Municipality, from results of the household survey is a moderately earning urban area. 32% of the population's households earn between KES 5001 to KES10,000 per month. The average income of Kehancha residents is KES 10,000. The population income thin downs as the income brackets rises as shown in Table 3- 4: Average household income. The mean and median per adult equivalent consumption in this Municipality is KES 5,019 and KES 4,339 respectively. The consumption rate increases with the quintiles. The difference between income and expenditure reveals that most adult residents of Kehancha have some disposable and can therefore have buying power. This explains the commercial robustness of Kehancha town. Planners and decision makers will tailor financial strategies around this information.

Table 3- 4: Average household income

Household Income	Frequency	%
1. < 5000	196	30%
2. 5001 - 10,000	211	32%
3. 10,001 - 15,000	120	18%
4. 15,001 - 20,000	70	11%
5. Over 20,000	58	9%

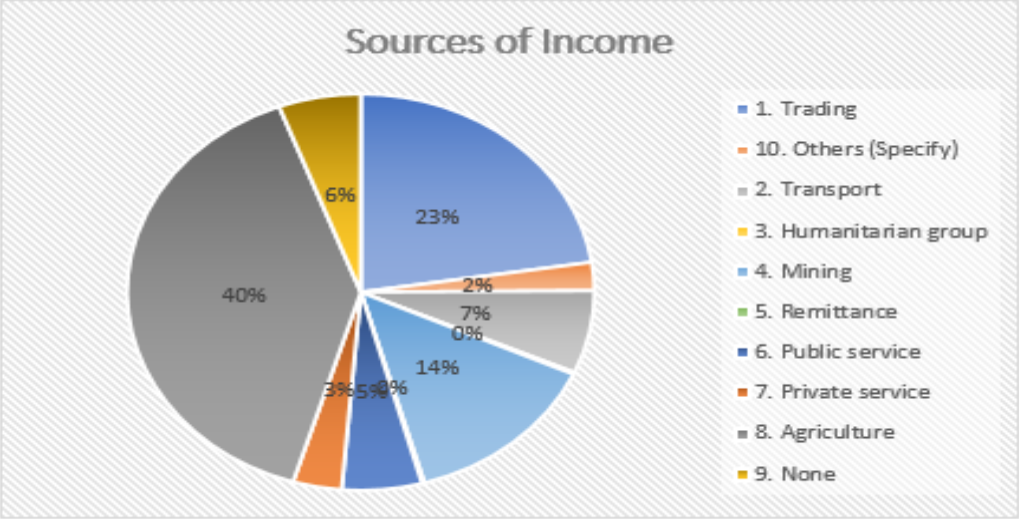
Source: Geoplan Consultant ltd, 2023

a) Sources Of Income and Employment

Household survey results revealed that agriculture at 40% is the leading source of income and employment in Kehancha Municipality. This is as shown in figure 3-4: Sources of income. Trade

at 23% and mining at 14% follow as the two other major sources of income and employment. Cumulatively, they account for 77% of the population's source of income in Kehancha Municipality. In agriculture; maize, sweet potatoes and poultry farming are a major source of income. In trade, both formal and informal traders earn a decent living from trading. Mining employs numerous people at different levels starting from miners, gold washers, crashing plant operators up to traders. Other sources of income are as illustrated in.

Chart 3- 4: Sources of income



Source: Geoplan Consultant ltd survey, 2023

3.3.3 EMPLOYMENT LEVELS

Socio-economic survey of Kehancha LPLUDP reveals that at least 94% are involved in gainful source of income while 6% of the respondents had no source of income at all. (Chart 3- 4: Sources of income. Socio-economic survey reveals that cumulatively 8% of the urban population are absorbed in the formal job market that is; public service (5%), private (3%) service and humanitarian group (0%). The analysis portrays a picture of an urban area that heavily relies of informal sector than the formal sector. This should inform planning efforts geared towards strengthening the informal sector of Kehancha Municipality.

3.4. POVERTY RATES

Health, education, insecurity, access to safe water and sanitation, and opportunities for earning a livelihood are just a few of the areas where poverty has an impact. According to the Migori County CIDP, 2018-2022, the County's poverty rate is at 46.7%. The figure is slightly larger than the 45.9 percent national poverty rate. KNBS poverty indicators are; overreliance on agriculture, a rapid urban population growth, and a lack of employment opportunities which is relevant to Kehancha municipality.

3.5. COMMUNITY AND CULTURE

Kehancha municipality has a Cosmopolitan population as the residents come from diverse heritage. Kenyans from far and wide commune, live and work in Kehancha town. The dormant community in the town is Kuria, Luo, Kisii and Maasai. In light of planning, these different communities have different layouts of constructing homes and settlements. In the CBD most

settlements take the general outlook of commercial developments similar to other Kenyan towns. Moving out of town, the outlook changes as it acquires the Kuria way of construction that focuses heavily on securing the settlements by enclosing everything centrally including livestock surrounded by the different buildings. The farmland lies outside the settlement on either side leaving passage for the entrance.

Kehancha municipality residents have different religious believes ranging from Christianity, Muslims, Hindus among others. The community is tightly knit as churches, schools and the administrators such as the chiefs playing critical roles in ensuring peaceful coexistence through civic education and outreach programs. The churches also help in community development through provision of educational facilities from ECDE to tertiary training institution. Some also have Faith-based organizations as subsidiaries helping curb vices such as FGM and other gender related violence issues.

3.6. POC ANALYSIS FOR POPULATION

SECTORS	OPPORTUNITIES	CONSTRAINTS
Growing Population	• Planning development initiatives and successful resource mobilization are made possible.	• A high population growth could put pressure on the resources that are available.
Migration	• By boosting both supply and demand for goods, it strengthens the socioeconomic sector. • Additionally, new ideas and better business practices are brought about by a growing population.	• Diversity of culture results from migration. Bad culture as a result corrupts the good one. • Rapid population growth places a pressure on infrastructure and services.
Community and Culture	• The protection and enhancement of heritage and identity. The acceptance of modern planning due to traditional home design. • Because it is an Adventist community, the town experiences economic development over the weekend.	• Some cultural customs that are backwards interfere with advancement in line with global trends.
Literacy and skills development	• High population that requires advancement in education level	• Ready informal economy that encourages school dropouts
Employment	• The municipality's population is largely employed, which is essential to the expansion of its economy.	• When job opportunities are limited and population growth is rapid, crime rates rise.
High fertility rate	• A young population that contributes the talent and drive needed for economic development.	• High crime rate as a result of high rate of unemployment

CHAPTER 4: HUMAN SETTLEMENTS STRUCTURE

4.1. SPATIAL STRUCTURE

Kehancha Municipality spatial structure is influenced by road transport corridors and urban nodes within the municipality. Kehancha Municipality has a number of urban areas that influences human settlement which include: Kehancha CBD which is the major urban growth node; Kurutiange and Ikerege as small urban growth nodes and Nyabokaranga, Naora, Kiamakebe, Gwikonge, Kubinto, Nyametaburo, Jerusalem, Masangora, Nyamotambe and Taranganya as the peri-urban areas and the vast rural area that surrounds the urban growth node. The Municipality has a mixed land uses pattern but the urban growth nodes majorly have commercial, residential, public purpose, and transportation land uses while the peri-urban and rural areas mainly have mixed agricultural and residential land uses. The main industrial land use is Mining which is done in both urban and peri-urban areas of the Municipality, see **Error! Reference source not found.**.

4.2. SETTLEMENT PATTERN

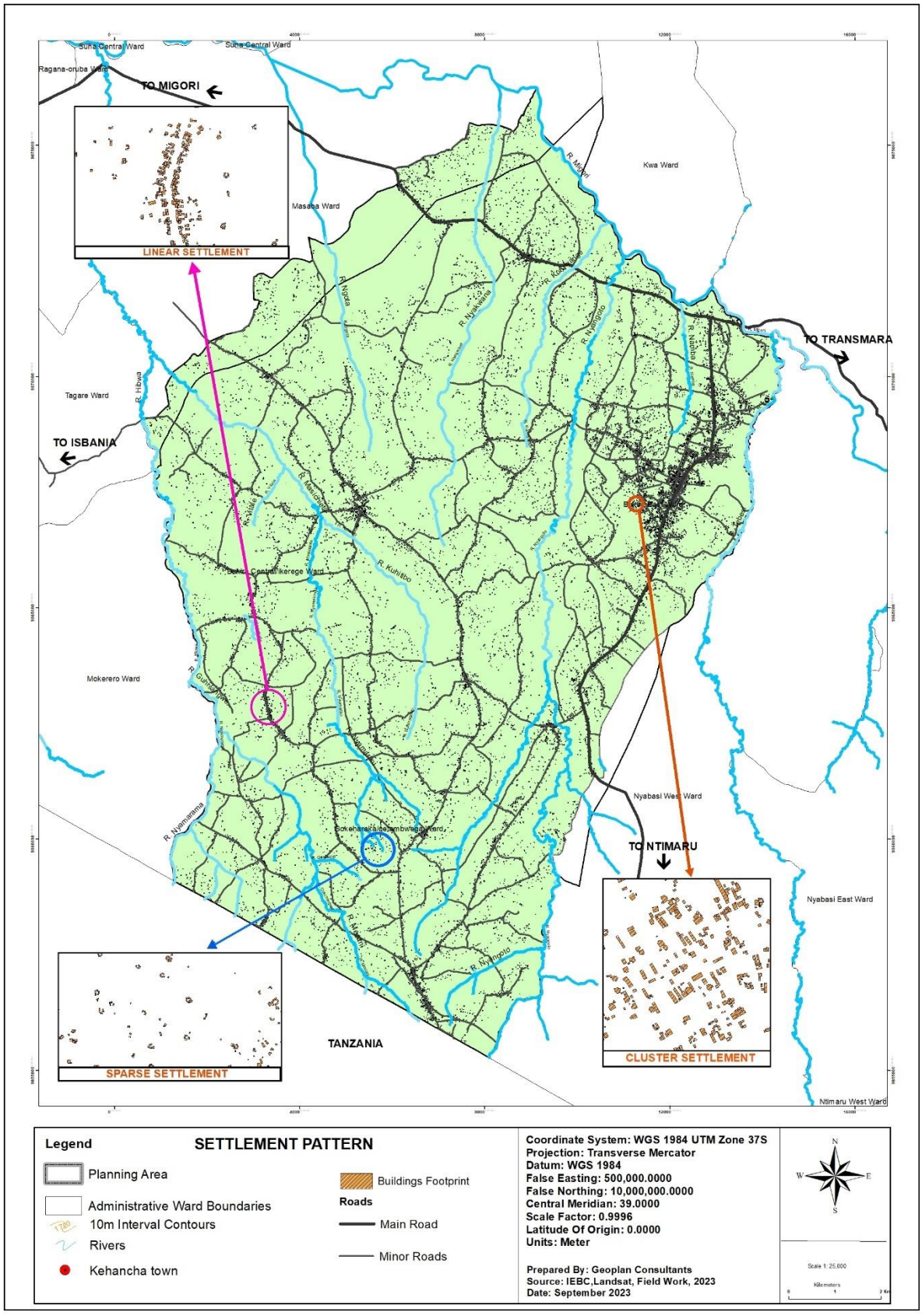
The Settlement patterns in Kehancha Municipality can be mainly classified into linear settlement pattern in urban growth nodes and sparsed settlement pattern in the surrounding agricultural land in the peri-urban and rural areas. Kehancha CBD has radial settlement pattern with settlements radiating from the CBD along the major road transport corridors including the along Kehancha CBD-Taranganya, Kehancha-Ikerege and Kehancha-Kurutiange road. The settlement pattern within Kehancha CBD is also has historical influences associated with the colonial era when the white men settled and began mining activities in the now urban area. Kehancha Chini (lower area) is majorly administrative, this was established during the colonial era. Therefore, the natives were forced to settle in Kehancha Kati (central area) and Kehancha Juu (upper area) including Igena area. The settlement patterns for the Municipality are as shown in the Map 4- 1: Settlement pattern.

4.3. MUNICIPALITY GROWTH PATTERNS

Kehancha is a rapidly growing municipality characterised by mainly commercial and residential developments. The growth is majorly linear along the major road networks and around the CBD. The major road networks that the urban growth follows include Ikerege road, Taranganya road and the road towards Migori municipality through Kurutiange. Kehancha Chini houses both the national and county government offices, including Kehancha Sub-County hospital. There are also mining activities taking place in the area, limiting urban growth towards Northern side.

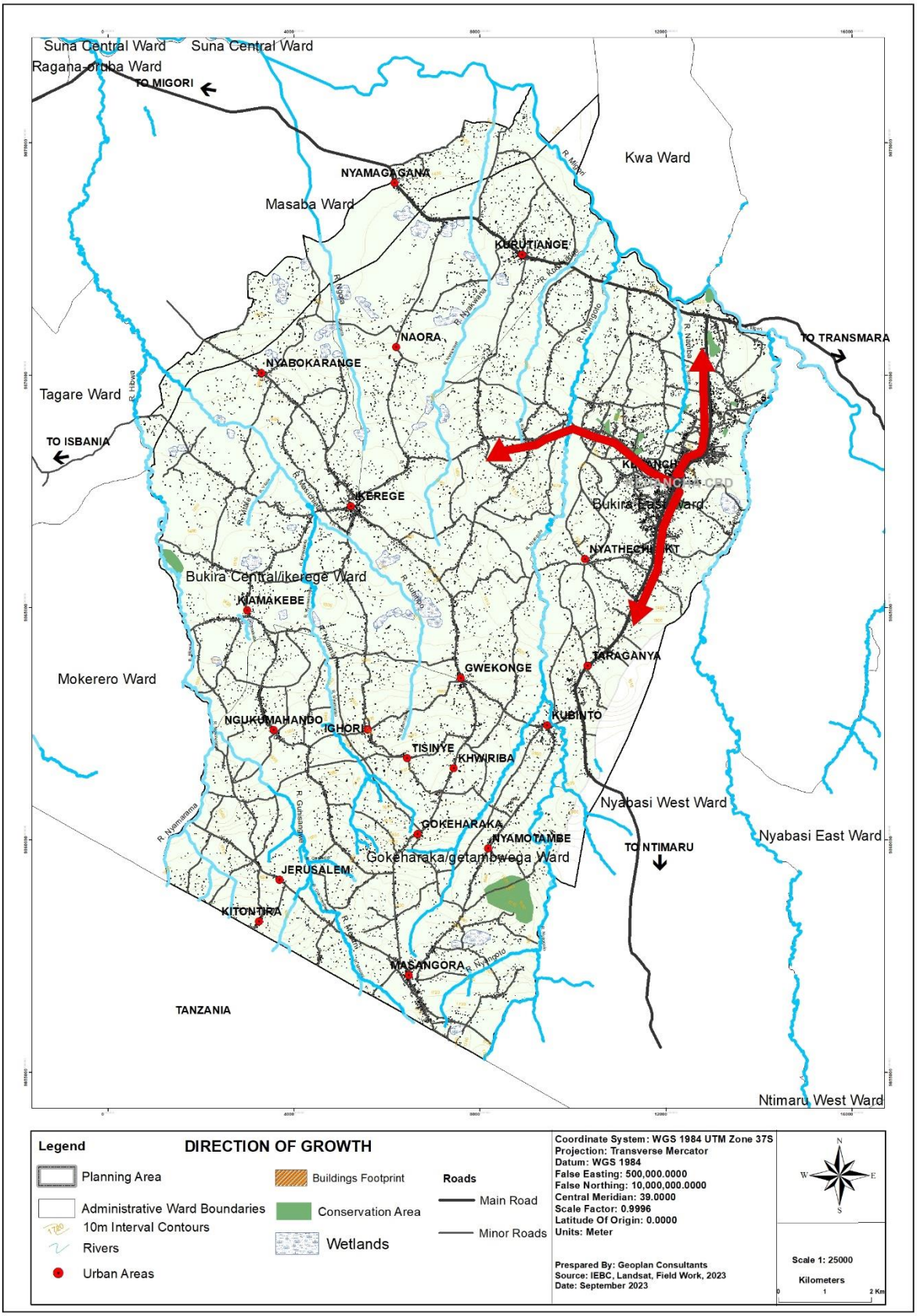
Therefore, most of the urban growth takes place along the road to Taranganya including Igena area, and along the road to Ikerege. The urban development around the municipality mainly composed of residential buildings, commercial buildings including hotels and guest houses but also public purpose land uses such as learning institutions.

Map 4- 1: Settlement pattern



Source: Geoplan Consultant ltd, 2023

Map 4- 2: Direction of growth



Source: Geoplan Consultant ltd, 2023

4.4. SPATIAL RELATION BETWEEN THE MUNICIPALITY (CORE) AND ITS PERIPHERY

Kehancha is experiencing urban sprawl driven by population growth and a rising demand for urban services. As a result, the municipality's boundaries are expanding outward, leading to a blend of land uses in the rural-urban fringe. Here, agriculture coexists harmoniously with commercial and residential activities, forming a unique cultural mosaic. This expansion, however, poses challenges that necessitate sustainable practices to balance development with environmental preservation. While urban areas offer superior facilities, rural residents are drawn to Kehancha for improved transportation, healthcare, and access to markets. This urbanization presents economic opportunities that enrich lives on both sides of the urban-rural interface, but thoughtful urban planning is crucial to ensure that progress is achieved with compassion, equity, and sustainability.

Kehancha's urban core has emerged as an economic beacon, attracting rural residents in search of administrative services, healthcare, commerce, and other amenities. The municipality now serves as a vital center of economic activity, transactions bridge urban and rural realms. Conversely, urban marketplaces within the municipality provide a platform for local farmers to showcase their agricultural produce, fostering economic opportunities in rural areas. These urban growth nodes serve as sources of employment, enriching the lives of residents across the municipality, see Map 4- 4: Urban growth relation

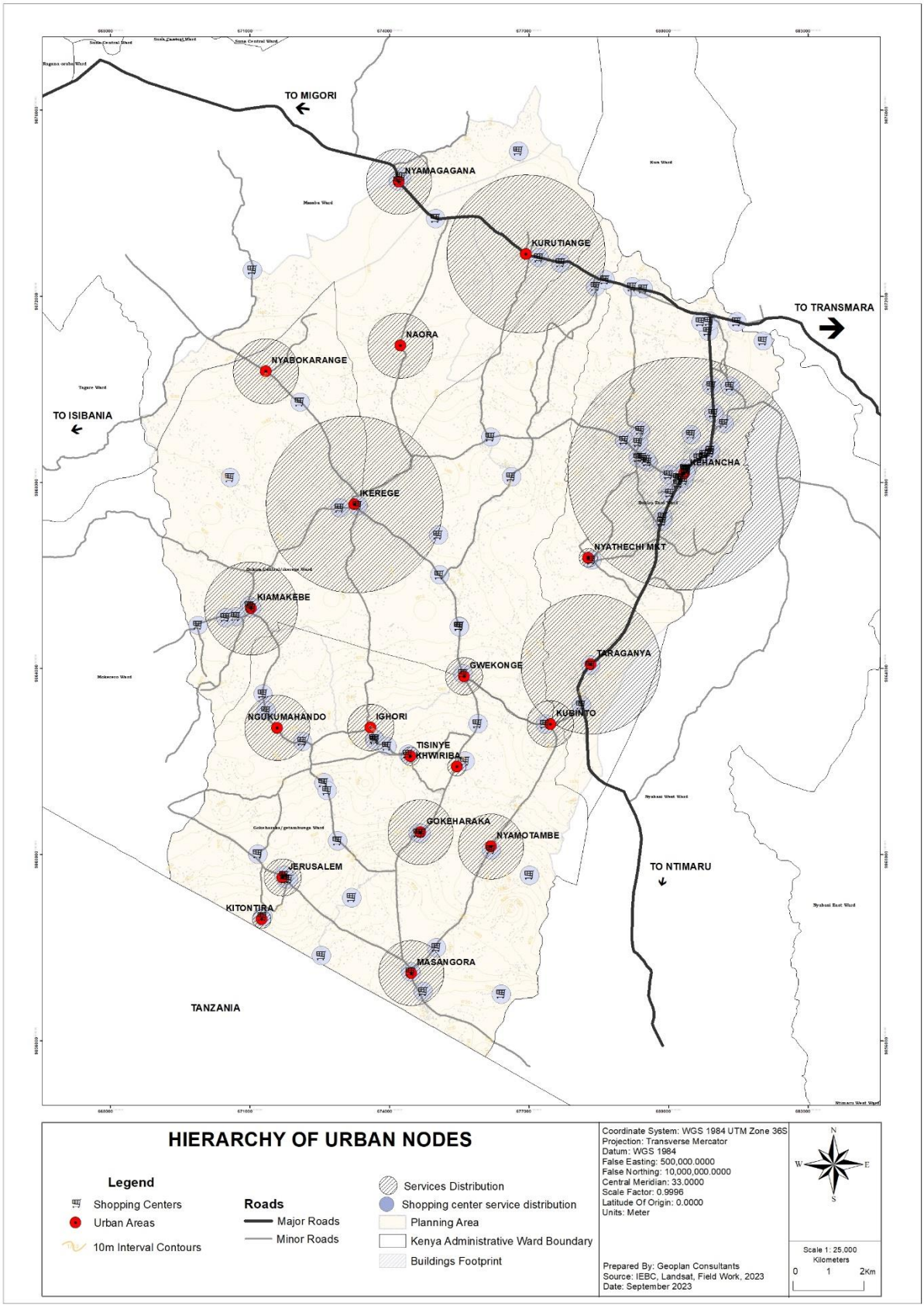
4.5. HIERARCHY OF DEVELOPMENT NODES

Kehancha CBD is the largest urban development node in the Municipality, it is characterized by thriving commercial activities and the densest human settlement within the Municipality. Kehancha CBD has the largest market with vendors and traders offering a diverse array of goods and services. The second tire of urban development nodes are major upcoming urban areas that are located along the major road network within the Municipality. These are Ikerege, Kurutiange, Masangora and Taranganya. There are 8 main market centers which acts as urban development nodes within the Municipality. The notable market centers include; Komomange, Komasincha, Naora, Jerusalem, Getonganya, Nyametaburo, Nyamaranya, and Ngukumahando. They are centers of commercial activities in the neighboring agricultural land use and are for their agricultural produce (Map 4- 3: Urban growth nodes).

4.6. URBAN -RURAL INTERFACE

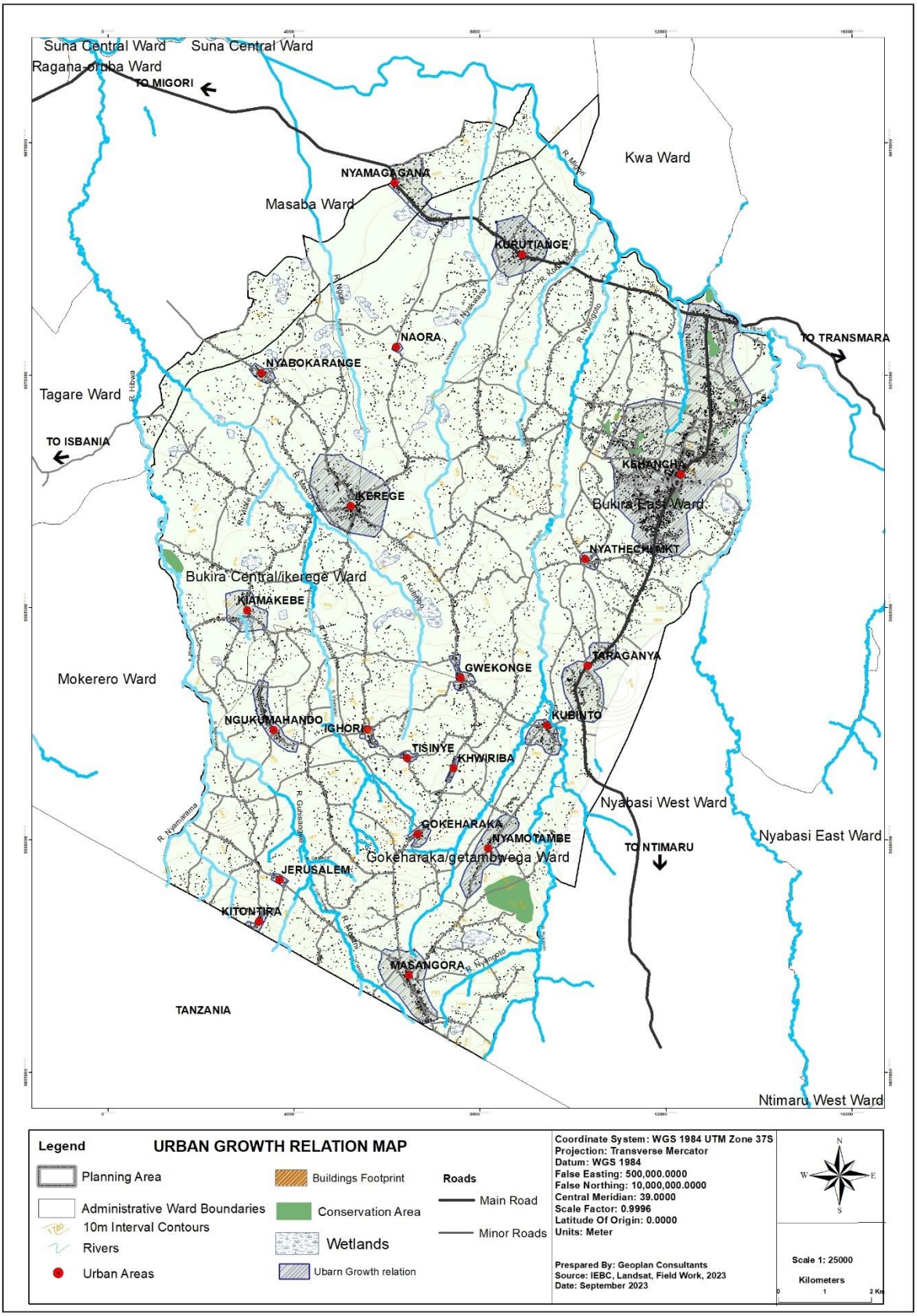
Kehancha's urban core has emerged as an economic beacon, attracting rural residents in search of administrative services, healthcare, commerce, and other amenities. The municipality now serves as a vital center of economic activity, transactions bridge urban and rural realms. Conversely, urban marketplaces within the municipality provide a platform for local farmers to showcase their agricultural produce, fostering economic opportunities in rural areas. These urban growth nodes serve as sources of employment, enriching the lives of residents across the municipality.

Map 4- 3: Urban growth nodes



Source: Geoplan Consultant ltd, 2023

Map 4- 4: Urban growth relation



Source: Geoplan consultant ltd, 2023

4.7. KEHANCHA IN FUTURE

Kehancha Municipality envisions a future of transformation from its current state into a well-planned, sustainable, and economically diverse municipality. The urban sprawl, blending of land uses in the rural-urban fringe, and the draw of rural residents seeking urban services and opportunities all serve as catalysts for change. The municipality's commitment to conscious urban planning, cultural preservation, and economic growth sets the stage for a future where Kehancha thrives as a model municipality, fostering social equality and improving the quality of life for all its residents. It's a vision that seeks to harmonize urban development with community values and environmental preservation, ultimately carving a destiny where progress is intertwined with identity, dreams, and inclusivity.

4.8. URBAN HOUSING

Adequate housing contributes directly to human health, security, and productivity, which altogether are essential to both the quality of life and the socio-economic development of any given society. Housing is also a major instrument for creating a better environment in urban areas.

4.8.1 Housing Providers in The Municipality

A look at the providers of housing helps to inform on the state of housing ownership and the potential for real estate companies to venture into the municipality. According to results of the field survey, approximately 85.2% of the people in the municipality own their own homes while 14.8% do not own homes. As such, the municipality does not have a shortfall in housing units. The following are housing providers in the planning area:

- Private providers – these include individuals, financial institutions, and other private entities that have built their own houses as well as rental as a source of their incomes.
- Public providers –All the government MDAs that establish housing quarters for its employees, and provide affordable housing such as Police Quarters, Health Workers Houses, Judiciary Houses and Kenya Forest Service Houses.

Table 4- 1: Type of house ownership

Type of House Ownership	Percent
Owner occupied	85.2
Employer	1.1
Rental	13.0
Squatter	0.2
Others (specify)	0.6
Total	**100.0**

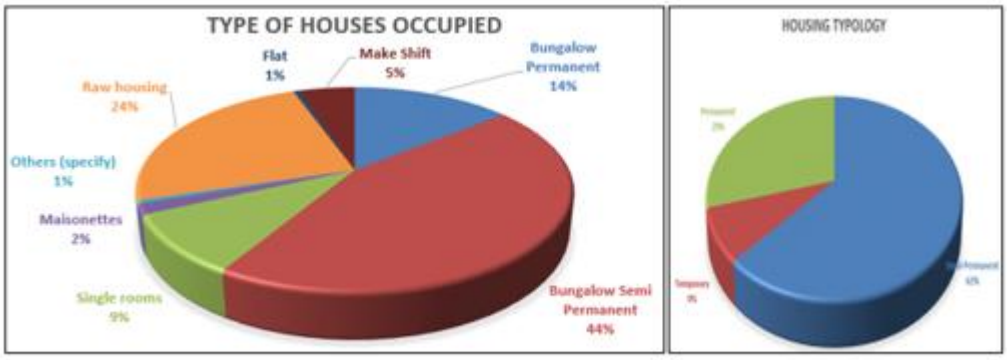
***Source**: Geoplan Consultants Ltd, 2023*

4.8.2 Urban Housing Densities

Housing in the planning area is divided into high, medium and low density depending on the population and according to the type of prevailing building typologies. Most housing units in the municipality were constructed horizontally (low rise) and thus take up a lot of space. The main

Chart 4- 1: Type of houses occupied

types of houses within the municipality are semi-permanent bungalow structures build of mud and iron sheets at 44% (see chart 4-1).



Source: Geoplan Consultant Ltd, 2023

Plate 4- 1: House typologies in Kehancha municipality

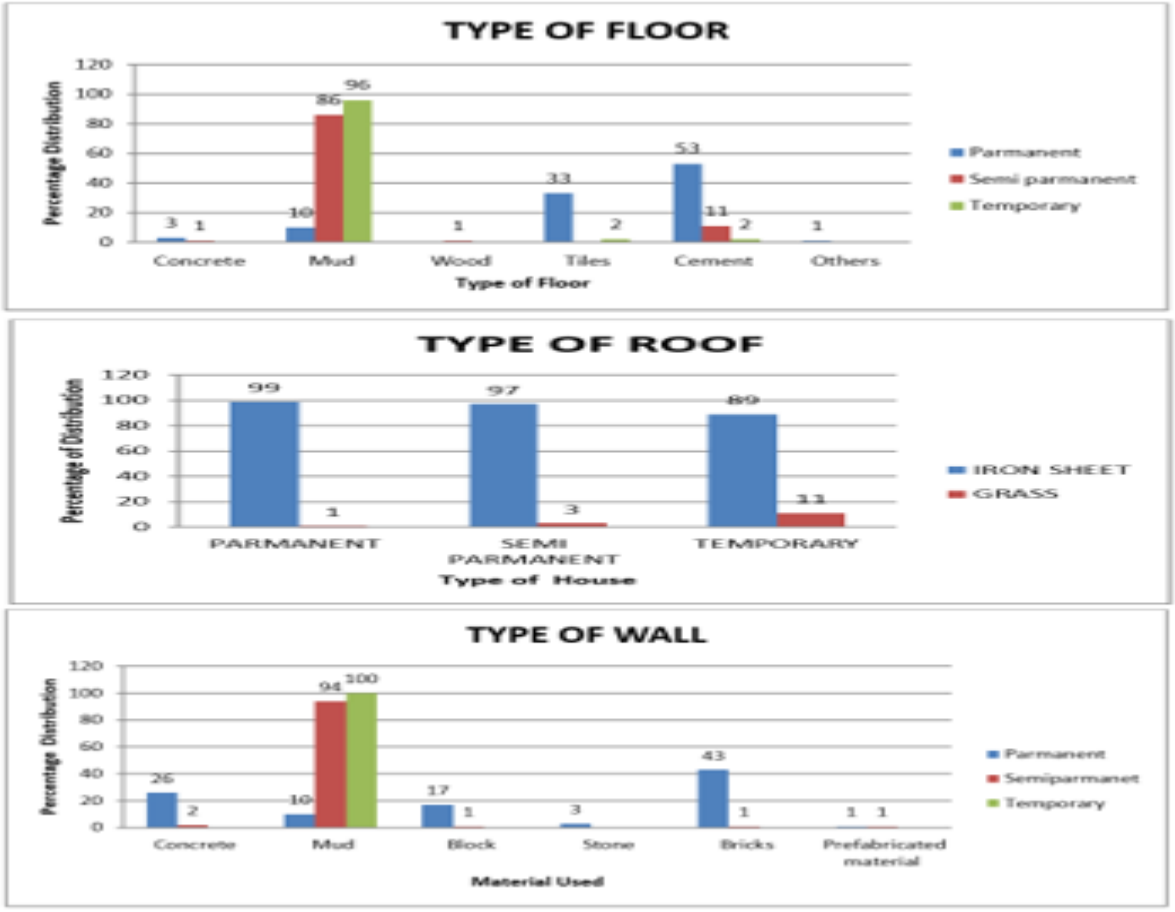
Most of the houses in the Municipality are semi-permanent with some few temporary houses mainly found in the informal settlement areas.

Source: *Geoplan Consultants Ltd, 2023*

4.8.3 Housing Materials

The most common housing materials used for housing construction in the Municipality include stones, cement, sand, bricks, interlocking blocks, iron sheets, timber, mud, animal waste, and grass. Sand is fairly cheaper since there is sand harvesting done locally along the rivers flowing through the Municipality. Generally, the cost of constructing a house in the Municipality is relatively high due higher cost of housing materials imported to the Municipality form other areas across the country. The dominant materials for the roof, floor and wall of permanent, semi-permanent and temporary houses within the Municipality are as shown in chart 4-2;

Chart 4- 2: Building materials



Source: *Geoplan Consultants*

4.8.4 Plot Coverage, Setbacks, And Plot Ratios in the Municipality

In the heart of Kehancha, specifically within the central business district (CBD), plot coverage is at its highest, reaching 100 percent. This indicates that the entirety of the land is utilized by buildings and structures. In areas on the periphery that are predominantly dedicated to agriculture, plot coverages drop significantly, hovering at levels below 20 percent. This distinction underscores the priority given to preserving agricultural land in these peripheral zones, which are essential for agricultural activities and the overall harmony with natural environment.

4.8.5. Housing Demand Analysis

According to the 2019 Housing and Population Census, Kuria East and Kuria West has an average household size of 5.6 and 5.2 respectively. According to the socio-economic survey done by the planning team, the average household size of Kehancha municipality is 5.6. The housing need is therefore projected to grow from 15,999 in 2019 to 21,229 households in 2032 showing an increasing of 35.6% through the planning period. According to the socio-economic data survey the average housing unit per household is 1, therefore, the number of households is the same as the number of housing units within the planning area.

Table 4- 2: House demand analysis

Year	2019	2022	2027	2032
Population (Existing and Projected	89,590	95,633	106,625	118,881
Household Size	15,999	17,078	19,040	21,229
Inter-censual increase in HH	-	1,079	3,041	5,230

***Source**: Geoplan Consultants Ltd, 2023*

From Table4- 2 above, it is estimated that the current total urban housing supply in the municipality is 17,078 (both permanent and temporary). The municipality will need to develop or ensure supply of an additional 5,230 housing units by 2032, based on the current supply and the projected demand over the ten-year period for the plan.

The Table 4- 3 describes the demand for housing units for each residential zone. According to the Physical Planning Handbook 2008, the average residential land use cover for low density residential zone is 28% of the land earmarked for residential land use, medium density takes 30% while high density holds 42%. By the year 2032, low density residential zones will require 5,944 housing units, medium density (6,369) and high density (8,916).

Table 4- 3: Analysis for Urban Residential Land Use Percentage Cover and Demand

Residential Zone	Average Residential Land Use Cover (%)	Housing Demand 2022	Housing Demand 2027	Housing Demand 2032
Low Medium	28	4,782	5,331	5,944
Medium Density	30	5,123	5,712	6,369
High Density	42	7,173	7,997	8,916
Total	**100**	**17,078**	**19,040**	**21,229**

***Source:** Adopted from Physical Planning Handbook, 2008*

According to the Table 4- 4, the total land demand for residential land use by the year 2032 will be 1,742.9Ha. This is approximately 25% increase from the current residential land demand of 1,402.2Ha (2022). The low-density residential land use will require 1,188.8Ha by the year 2032, medium-density (286.6Ha) while high-density will require 267.5Ha.

Table 4- 4: Analysis for Land Demand for Each Residential Zone

Residential Zones	Minimum Plot Size (Ha)	Land Demand 2022 (Ha)	Land Demand 2027 (Ha)	Land Demand 2032 (Ha)
Low Density (Bungalow, Maisonette)	0.2	956.4	1,066.2	1,188.8
Medium Density (Bungalow, Maisonette, Muilti-family dwelling)	0.045	230.6	257.0	286.6
High Density (Row housing, detached, semi-detached)	0.03	215.2	240.0	267.5
Total Land Demand		**1,402.2**	**1,563.2**	**1,742.9**

***Source:** Adopted from Physical Planning Handbook, 2008*

4.8.6. Informal Settlements

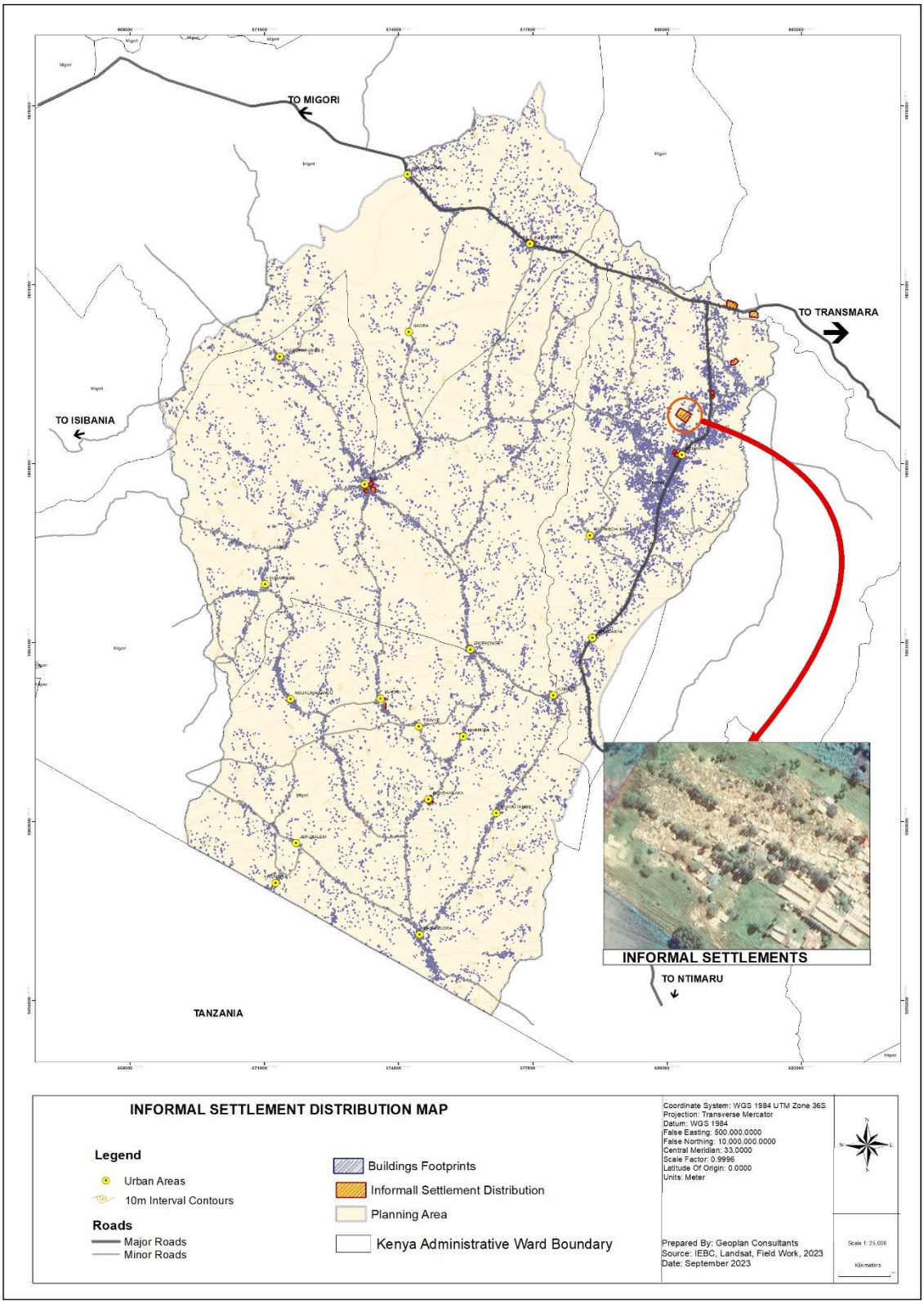
In Kehancha Municipality, there exist pockets of informal settlements (at Kehancha Chini next to the sub-county hospital, at Ikerege etc.) characterized by their makeshift houses, predominantly constructed from mud and iron sheets as shown in the picture. These temporary housing structures, though affordable and accessible, often lack basic amenities such as proper sanitation facilities and clean water sources. This absence of essential services can result in health and hygiene challenges for the residents living in these settlements.

Source: *Geoplan Consultants Ltd, 2023*

Some of these informal settlements are around the mining sites. They serve as homes for miners employed in or around these mining areas. Their close proximity to the mining activity offers the residents direct access to livelihood opportunities, while concurrently giving rise to a local economy that caters to the needs of the miners and their families. This economic ecosystem, albeit informal, plays a vital role in supporting the daily lives and sustenance of these settlements' inhabitants.

Recognizing the role of the informal settlements in fostering local economies, particularly in mining contexts, is pivotal. Strengthening residents' livelihood opportunities can contribute to their economic stability and overall well-being. Integrating these settlements into broader urban development strategies involves a two-fold approach: formalizing and improving their infrastructure, and concurrently ensuring access to necessary services and enhanced housing conditions, see Map 4- 5: Informal settlement distribution.

Map 4- 5: Informal settlement distribution



Source: *Geoplan Consultants*

4.10 POC ANALYSIS FOR HUMAN SETTLEMENT STRUCTURE

Potentials/Opportunities	Constraints
i. There is a ready housing market for real estate developers to meet the housing demand ii. Enhancing the quality of life for residents by investments in infrastructure like roads, sanitation, water supply, and public amenities leading to improved living conditions and urban sustainability. iii. The existence of locally available building materials (bricks, sand and building stones) lessen the cost of housing construction iv. The presence of banks and Sacco's within the Municipality offers an opportunity for residents to access housing finance easily. v. The increasing population in the Municipality represents a substantial and readily available market for housing stock	i. Residential areas and neighborhoods in the Municipality are constrained by the absence of fundamental infrastructure and services. ii. High land prices, especially in the core and peri-urban areas, hinder affordable housing development and potentially lead to housing inequality. iii. The absence of residential zoning plans and regulatory controls results in uncontrolled subdivisions and haphazard development. This can lead to inefficient land use and inadequate access to services. iv. The demand for decent housing surpasses the available supply. v. The presence of informal settlements highlights issues related to housing inequality, poor urban planning, and the need for interventions to uplift living conditions. vi. Presence of residential houses on or near mining sites poses high potential for disaster risks when subsidence occurs.

CHAPTER 5: ECONOMY.

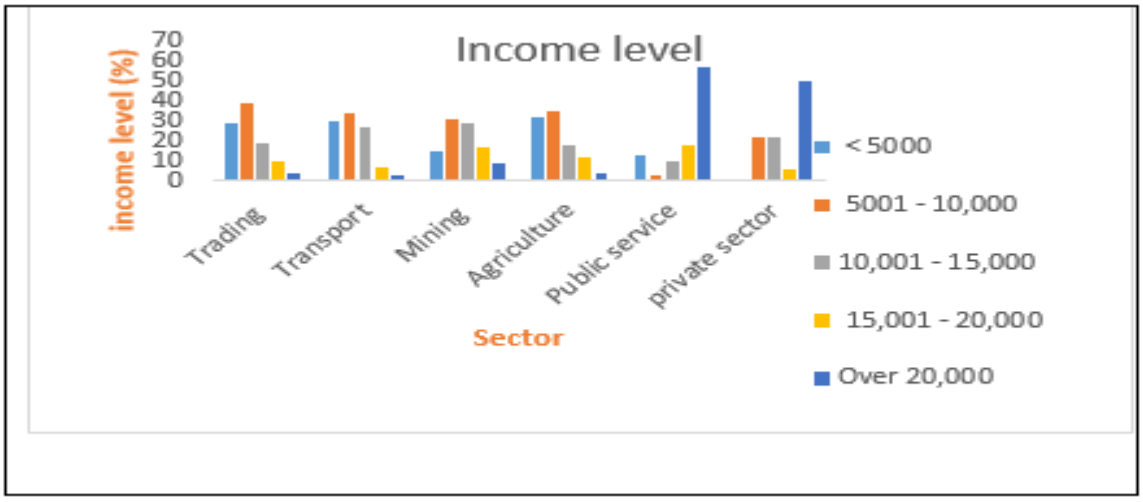
5.0 Overview

This section pronounces the distribution of economic activities in the planning area, Economic analysis is an important aspect in planning as it identifies important indicators of level of growth and development of a town. Economic performance of the residents influences their standards of living of a people and environmental impact. For planning to be sustainable, it must respond to the existing economic activities which must be friendly to the environment.

5.1. HOUSEHOLD INCOME

Socio-economic survey releas residents involved in various activities for source of income. Household activities' source of income include: Agriculture, mining, informal commerce, formal commercial activities, tourism transport and service sectors as illustrated in Chart 5-1: Household income levels.

Chart 5- 1: Household income levels



Source: Geoplan consultant ltd, 2023

The existing scenario depicts underutilized opportunities and considerably below optimum earnings. 37% of the population are living below the urban poverty line of Ksh.5, 995 per adult person, 39 % of households have income levels of between Kshs (5000-10000), which can hardly meet their basic needs. 13% earn between Kshs. (10,001-20,000) and only 11% have monthly household earnings of above Ksh.20, 000.

5.2. TRADE AND COMMERCIAL ACTIVITIES

Trade and commerce are the second main economic activity in Kehancha municipality. It is characterized by both formal and informal commercial activities. These commercial activities are found within the CBD and at the periphery, where small market centers are found (**Error! Reference source not found.**). Traces of few retail shops are located within the residential areas; away from the core market establishments. Informal commercial activities are found mainly along the road and the bus park area. 23.1 % of the Municipality dwellers rely on trade and commercial activities. About 39% of the commercial activities are formal while 61% are informal commercial arrangements.

5.2.1 Formal Commercial Activities

The formal commercial activities are operated under law and are regulated by the government licensing. The operations are in various scales ranging from small, medium and large scale 70% of the municipality dwellers who engage in formal commercial activities are in possession of the business premises. 98 % of the total ownership is through freehold while 2 % are through leaseholds. The formal business premises are located around the main bus park, at the CBD, at the markets and along the roads. Wholesale trade, retail trade, hotels, restaurants, boutiques, agrovet, hardware shops, filling stations, fresh farm produce sales as well as butcheries, electronics shops, auto spare part shops, video libraries, mobile phone and phone accessory shops, computer accessory shops and Pharmacies are the major formal commercial set ups available at the municipality

The major trade enablers in the municipality include: -

- Existence of a major road linking it to the County Headquarter, Migori;
- Good road network within the municipality which has enhanced accessibility by the actors;
- Existence of financial service providers;
- Unlimited demand from the institutions, municipality dwellers and neighboring communities;
- Proximity of the actors to the business premises and the fact that majority of the actors are land and premise owners under free lease titles.

Plate 5- 4: Commercial activities

Source: Geoplan consultants ltd, 2023

5.2.1 Informal Commercial Activities

The informal sector operates mainly from along streets in both commercial and residential areas. Informal activities are unregulated and typically small-scale. The informal commercial sector in Kehancha municipality constitutes 61% of the total commercial activities. This is a result of the high levels of unemployment among youths and women due to limited capital. The informal commercial activities include but are not limited to: - selling fruits and vegetables in markets, and along the road reserves, kiosks in residential areas among others.

Plate 5- 5: Informal commercial activity within

Source: Geoplan Consultant ltd, 2023

5.2.2 Service Industry

The informal sector operates mainly from along streets in both commercial and residential areas. Informal activities are unregulated and typically small-scale. The informal commercial sector in Kehancha municipality constitutes 61% of the total commercial activities. This is a result of the high levels of unemployment among youths and women due to limited capital. The informal commercial activities include but are not limited to: -selling fruits and vegetables in markets, and along the road reserves, kiosks in residential areas among others

5.2.3 Markets

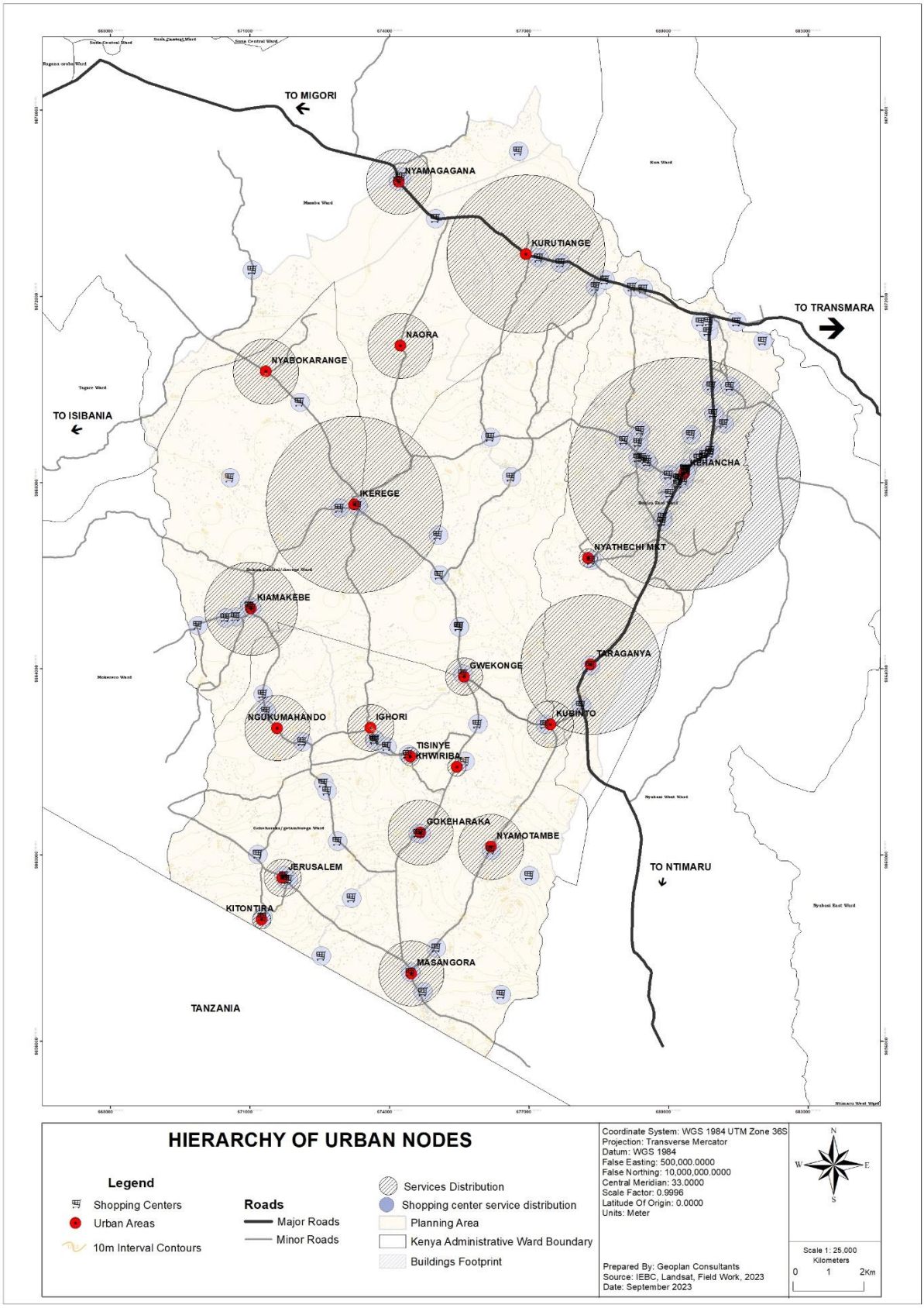
The municipality has both permanent and temporary markets. The markets are spatially distributed within the municipality. From the survey results analysis, 54.1 % of the respondents are close to the market and cover 2km or less moving from their residential areas to markets. 15.9 % cover between (2-3) Km while 32% are far away from the markets and cover more 3km to reach the markets .53 % of the respondents walk to the market while 44% use public motorcycles. The remaining 3% depend on private/ public vehicles to reach the market. The markets have limited facilities and the majority of sales are within open areas, with a few erected shades. The markets within the municipality include: Ikerege, Kehancha, Kiamakeba, Kubuntu, and Masangora (Map 5- 1: Urban growth nodes and shopping centers)

The main challenge affecting market operations in the municipality is the lack of shades or the deplorable state of the existing ones. Markets are also few and are inadequate to serve the residents. The dumping of solid and liquid waste from the markets is also a major challenge that leads to pollution of the environment and poor sanitation facilities. Generally, inadequate market infrastructure such as parking, lighting and stalls are potential causes of safety and health risks among residents.

5.2.4. Business Environment in the Municipality

Trade in the municipality is predominantly based in the CBD. The municipality serves as a trading hub for farm produce and a supply chain to trade with other parts of the county and country at large. Opportunities that exist include the strategic location of the town in Migori, making it an attractive business center for the region. It also connects to Tanzania border through Isebania town/ border point. It therefore serves as a business hub for cross-border trade. The municipality's economy is diverse, with several different industries offering investment opportunities in agriculture, mining industry and tourism.

Map 5- 1: Urban growth nodes and shopping centers



Source: Geoplan consultants ltd, 2023

The prevailing business environment that negatively impacts the municipality's economy are as outlined

- Illegality of business sites; a considerable number businesses are operated in informal structures leading to fear and uncertainty of anticipated demolitions by the relevant authorities.
- Limited access to financing and limited access to land has prohibited the development of formal business sites
- Inadequate business premises within the municipality
- Inadequate power supply has also affected business in the municipality
- Some business sites do not have the necessary infrastructure, hence compromising on matters of hygiene and increasing the cost of doing business while seeking toilet services.
- The business sites do not have designated areas for waste disposal, which poses a health hazard. Most of the MSE associations have their own waste collection initiatives which is costly.

5.3 INDUSTRY

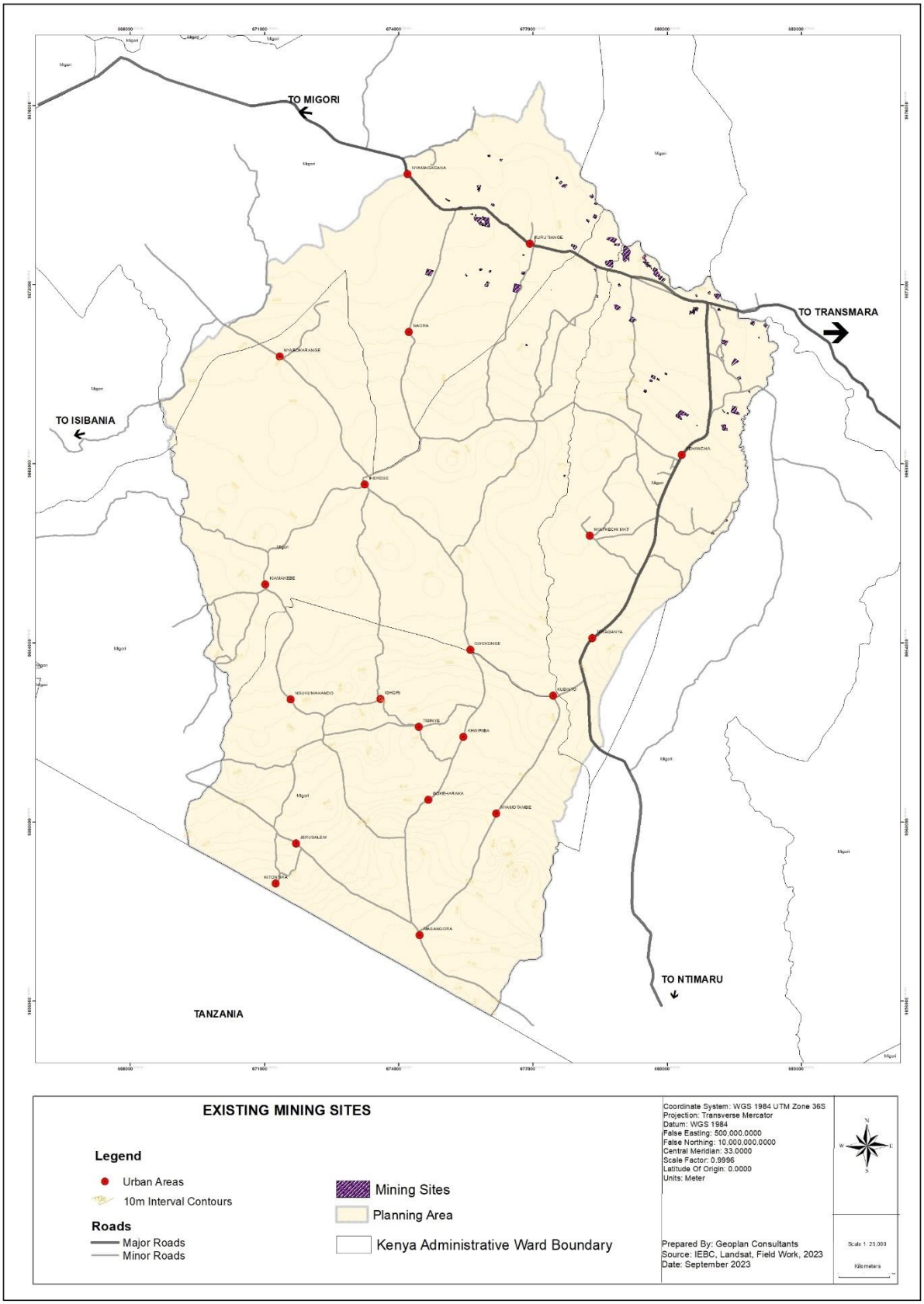
The processing and manufacturing sector in the municipality is mainly light manufacturing at Jua Kali workshops. Coffee processing and livestock slaughtering for meat and hides are also presented. All the industrial activities done are in small-scale and are privately owned and operated under government law and regulations (Map 6- 3: Existing land use map). Mining and agricultural activities are also presented.

5.3.1. Mining

Municipality's population of about 14.2% relies on small-scale gold and sand mining. There exist ten (10) gold mining sites and seven (7) sand harvesting sites within the municipality. The gold mining sites include; Nyamagagana Naora (Mwengezeko),Kurutiyange, Nyaigutu, Karosi, Namba, Kehancha, Stadium, Kwa Machage,and Igena (korosaro) (Map 5- 2: Gold mining sites). The gold mines and the pits within the mines are privately owned and managed. Both surface (alluvial) and underground (machine) mining techniques are used. The majority of these sites, use modern gold mining and processing technologies including crushers, mills, and concentrators. A few still burn mercury-gold amalgam.

The processed gold is sold to other entrepreneurs in their semi-processed forms. Most of the gold entrepreneurs are non-residents of the municipality. The gold leaching plants in Kehancha municipality include: - Daika Gold Company Limited, One Touch Leaching Company, Mucharia's leaching plant, Machera's Company, Chomba's plant, Priemer site, Toplife and Moi 1 company. Income from mining is majorly wage-based and is pegged on workload by the casual workers as well as those engaged in primary processing/ cleaning. Informal structures and businesses such as food kiosks also exist around the mines. The sand harvesting sites in the municipality include River Tebesi, River Migo, River Hibwa River Nyangoto, Kubinto area, Masangora and Ihore.

Map 5- 2: Gold mining sites



Source: Geoplan consultants ltd, 2023

5.3.2 Agriculture and Livestock Production

Agriculture partially offers a solution to economic sustainability in the municipality. Growing crops and breeding animals near the consumer bases, save on cost and time in the transport of products and goods to the market. The municipality residents obtain their food from a variety of sources from the urban and peri-urban markets. The food products include, fresh food, milk, and milk products. Agriculture is the mainstay of the economy. 40.62 % of the Municipality's residents derive their income from agriculture. Crops produced comprise mainly vegetables, both subsistence and commercial purposes, sweet potato, maize, millet bananas and beans. Livestock reared are mainly chicken and cattle with very few cases of pig and sheep being reared. These are reared at semi-commercial level and the produce is utilized locally within the municipality and its environs. See Map 6- 3: Existing land use map.

Primary production occurs within residential dwelling areas and is spatially distributed within the municipality. The majority of residents still practice semi-intensive production systems. Agricultural soils are degraded and this has affected productivity. Agriculture practice in the municipality is mainly rain-fed agriculture while there also exists some seasonal streams and rivers with great opportunities and potential for irrigation. A few farmers already practice bucket irrigation which can be enhanced for increased crop acreage. The other agricultural value chain actors within the municipality include aggregators, agro-dealers, agro-traders, transporters, and small scale agro-processors. Major issues affecting agricultural activities in the Municipality is gold mining. Other issues include the continuous conversion of agricultural land to commercial plots.

5.3.3. Tourism

The tourism sector in the municipality is under-exploited. There exist a few tourist attraction sites namely Chinatu crying stones and Ngukumahando Caves. Kehancha municipality serves as a transit route to Masai Mara National Park and this offers an opportunity that can be exploited to enhance hospitality and tourism. Exploiting the municipality's tourism potential can generate a lot of revenue, as well as income to the hotel industry within the CBD. Kenhanchas proximity to Lichota air strip can be an added advantage to visitors and tourists. The major threats to tourism in the municipality include: -Fading culture, limited and underdeveloped tourist attraction facilities, inaccessibility of the sites, non-gazettement of tourist attraction sites, unclear, status of land ownership at the tourist attraction. Most site have not been identified and some are privately owned with insecurity and poor marketing strategies acting as a hindrance.

Plate 5- 6: Tourist van along Kehancha Ikerege road

Source: Geoplan consultant ltd, 2023

5.4. POTENTIAL, OPPORTUNITIES AND CONSTRAINTS

In order to accelerate economic growth within the municipality, the existing opportunities must be explored and potential areas optimized. Survey results presented a number of opportunities as well as the potential areas that would stimulate and accelerate economic growth in the municipality. The underlying issues that may constrain the economy and affect the economy's progress are also presented as indicated below.

Sector	Potential /Opportunities	Constraints
Trade and commerce	• There e exists a diverse, dynamic and vibrant entrepreneurial culture in the municipality • Kehancha municipality is the Kuria West sub-county headquarters and the main hub of business in the sub-county • The good state of roads has enhanced trade and other economic activities in the municipality	• Majority of the small and medium businesses have limited access to finance for investment and growth. • The high cost of capital hinders formal commerce • Heavy taxation leading to low reinvestment rates •
Service sector	• Renewable power source through mini grid installations and solar systems can be exploited to ensure uninterrupted and affordable power supply	• Unreliable and unaffordable electricity •
Markets	• Accessibility to most of the markets and shopping centers has increased the potential growth and network of commerce and trade in the municipality	• Most of markets lack shades and are in bad state • The markets are few and are inadequate to serve the residents
Agriculture	• The municipality can be aggregation point for most of the agricultural produce from both Kuria west and Kuria east sub-counties. • The area is well-known for its agricultural output, which includes maize, sweet potato and horticulture. This opens up prospects for enterprises in agricultural, food processing, and allied industries. • The existence of permanent water sources is a clear potential for irrigation hence increased agricultural production and productivity.	• Lack of sufficient irrigation infrastructure to support continuous supply of agricultural commodities. • There exist agricultural Value chain gaps • Low agricultural productivity • Increased food insecurity
Industries	• Growth of jua kali industries to cottages and large-scale industries; enhancement of markets at market facilities	• Industrial sector not fully exploited
Tourism	• The municipality is a gateway to Maasai Mara game reserve for tourist approaching it from the western part of Kenya • The municipality's proximity to Lichota air strip is an opportunity that can be exploited to enhance the economic activities especially tourism.	• Tourism sector not fully exploited •

CHAPTER 6: LAND SECTOR

6.1. OVERVIEW

Land is a key resource in production and its utilization influences socio-economic activity of the residents. This chapter delves into land use structure of Kehancha municipality, land tenure, land use temporal change and urban land suitability and capability analysis.

6.2. EXISTING LAND USES

The land use structure in Kehancha municipality can be classified into several categories, namely commercial, residential, public purpose, transportation and public utility and agricultural use. The dominant land use in the planning area is agriculture practiced primarily in the peri-urban and rural areas of the planning area as shown in Map 6- 1: Existing land use.

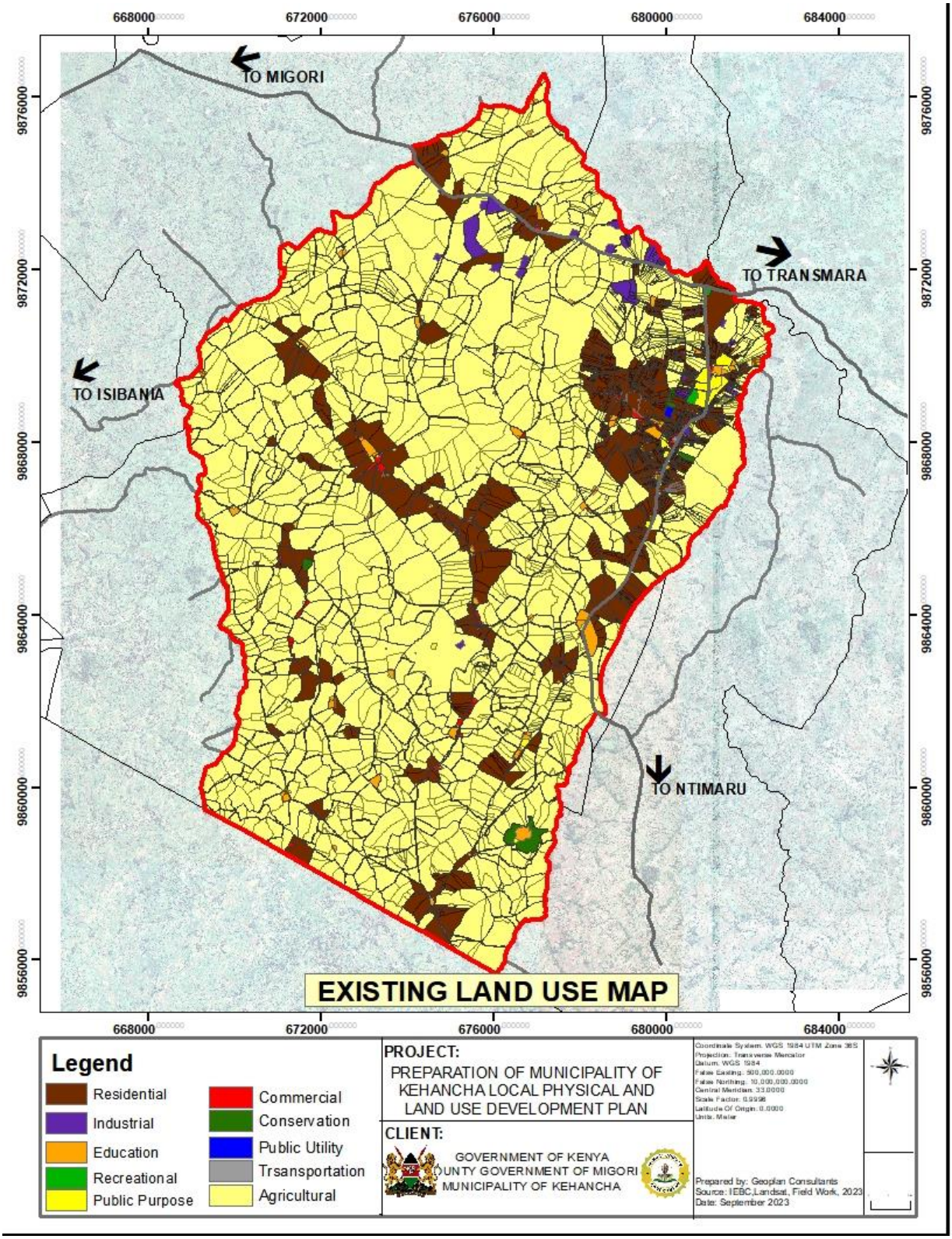
Table 6- 1: Kehancha municipality existing land use acreage

LAND USE	AREA (HA)	%PERCENTAGE
Residential	2168.83	12.85
Industrial	136.02	0.81
Educational	178.56	0.01
Recreational	9.89	0.06
Public Purpose	99.27	0.59
Commercial	74.31	0.44
Public Utility	4.08	0.02
Transportation	382.32	2.27
Agricultural	13770.04	81.60
Conservation	52.20	0.31

Source: Geoplan consultant ltd, 2023

Regarding land as a sector and resource, this Local Physical and Land Use Development Plan for Kehancha municipality aims to ensure that it develops a land use system that will provide lasting benefits to local citizens. It is also important to promote land use activities that ensure sustainable utilization and management of environmental, natural and cultural resources towards future development. Based on the analysis of the existing land use functions within Kehancha municipality, some issues of under-performance in the current land use structure will have to be addressed to identify the optimality of current use and the potential for future uses.

Map 6- 1: Existing land use



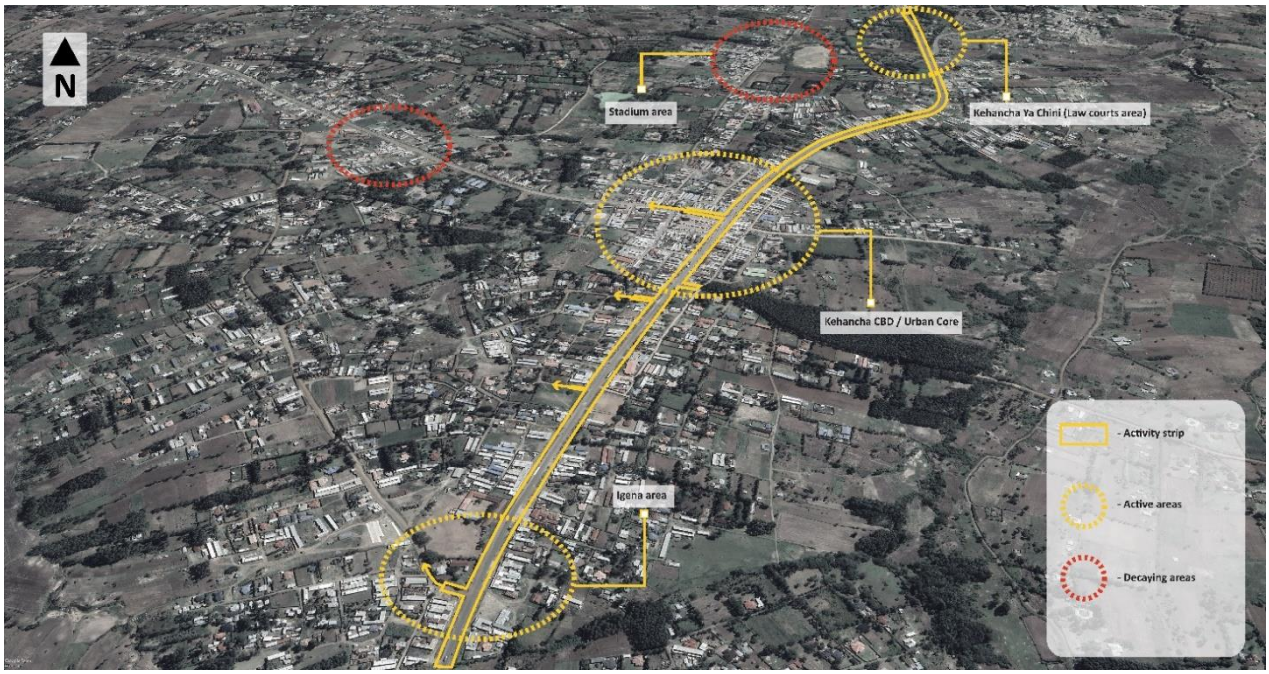
Source: Geoplan Consultant ltd, 2023

6.3. LAND USE TRENDS/SPATIAL TEMPORAL TRENDS

6.3.1. Urban activity and decay

Kehancha municipality has an activity strip along the C727 highway, with varying levels of vibrancy. The major active node within the urban area is the Kehancha – Isibania junction and in extension the market area, which accommodates a myriad of activities within it. The area is not only a major intersection within the municipality but also serves as a commercial node within the municipality. Activity within this node is commercial based with a range of commercial activities including wholesale and retail markets as well as informal economies. There are various transit stops, both designated and undesignated, within the activity node to accommodate various road transport means. Other active nodes within Kehancha municipality have developed as a result of civic activity or residential use within the area, such as the police station and law court area. Kehancha urban area does have pockets of decaying areas within it. One such space is the stadium area. Kehancha stadium can be termed as an area undergoing decay since it is currently not being used for its intended purpose, but instead serves as a mining area.

Plate 6- 1: Activity and decaying areas



Source: Geoplan consultant ltd, 2023

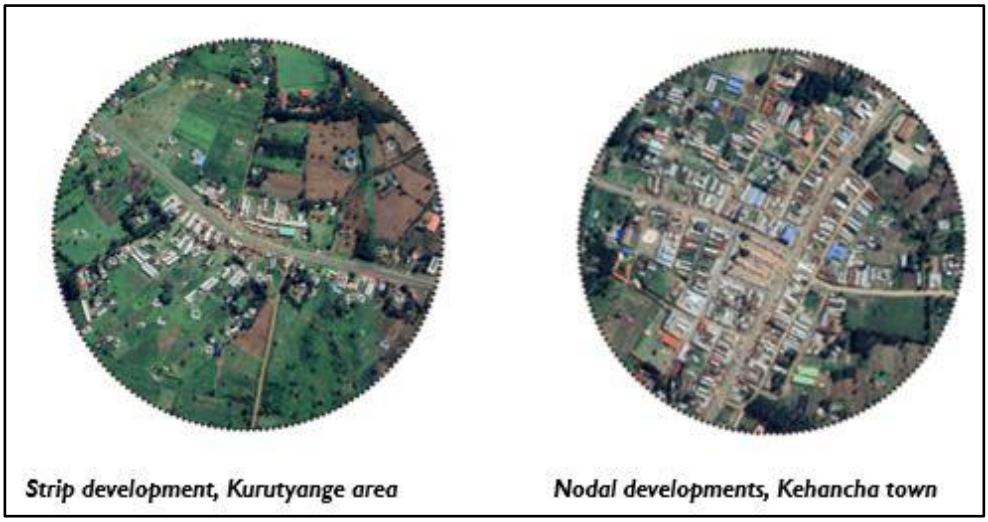
6.3.2 Strip and nodal developments

Strip and nodal developments are exhibited in urban areas within Kehancha. These developments can follow a linear, dispersed or nucleated development trend. Kehancha municipality exhibits, nodal developments centered around the main urban core. Buildings here are clustered together around areas of convenience such as markets or social nodes, with minimal voids between them. In peri-urban areas of the municipality, we notice a more dispersed pattern with clusters of structures within a single development for ease in the provision of basic utilities. This trend in residential areas can also be attributed to the cultural

practices of residents of the municipality, who resided communally for the purpose of safety and security.

Strip development patterns are exhibited in other urban nodes within the municipality such as Masangora, Kurutiange and Ikerege develop and along main transit spines within their respective areas. Here, developments are linear in nature clustered along major transit corridors with large voids at the back. Areas of strip development exhibit rural-urban settlement dichotomy that combines set up of both rural and urban environments. In these areas, there is a fair mix and balance between commercial and residential functions within a space, explicitly depicted through developments that incorporate shops at the building frontage and residential functions in the backyard.

Plate 6- 2: Nodal and strip development scenarios



Strip development, Kurutyange area *Nodal developments, Kehancha town*

6.3.3. Redevelopment and expansion of the CBD

As it is, Kehancha CBD spans approximately 1km with an average of about 32 Ha been under active commercial use. Over the past 15 years, Kehancha municipality has expanded longitudinally along the main C727 and D201 highway. Over time, this expansion has seen the agglomeration of three major urban nodes into what is currently termed as Kehancha municipality. Initially, 2 of these urban nodes, Igena and Kehancha ya Chini, existed as complimentary commercial nodes to the municipality, but have over time grown and merged seamlessly with the larger functions of Kehancha municipality (*Map 6- 2: Kehancha municipality spatial temporal change map*)

The C727, D201 and D166 highways have also played a key role in influencing the development trends of Kehancha municipality. Using the C727 and D201 as a structuring element, it is evident that more built up areas exist to the West of the municipality, with a majority of agricultural functions being reserved for the East. Historically, transportation infrastructure has been noted to influence the development of areas. It is therefore projected that the municipality will continue redeveloping towards the West, due to the presence of the E166 highway. There may be a need to establish alternative linkages to both highways to circumvent the main urban core, to ensure seamless transit of goods and services outside the CBD.

6.3.1. Spatial Temporal Trend on Environmentally Sensitive Areas

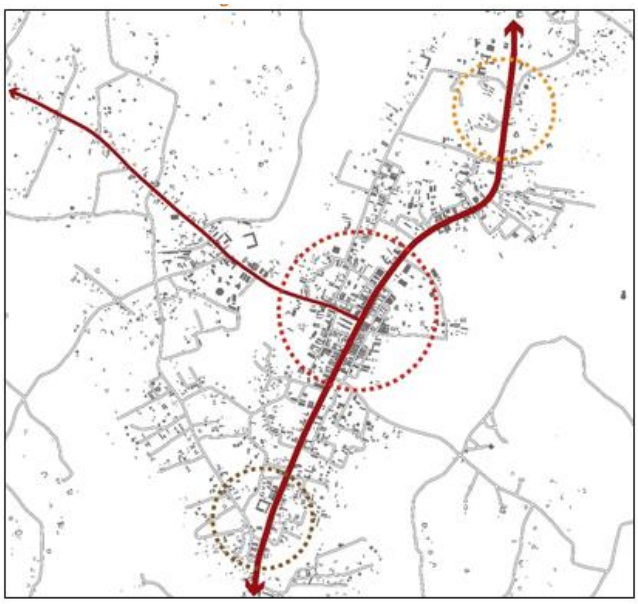
An environmentally sensitive area can be termed as one that is in need of special protection from the adverse effects that may be caused by human inhabitance. They include natural formations or areas in which both plant and animal ecosystems need to be preserved. In Kehancha municipality, environmentally sensitive areas include swamps, rivers/streams and forested areas **Error! Reference source not found.**. Most of the environmentally sensitive a reas are located within the rural hinterland of the planning area, where low-impact activities such as residential and farming are dominant. Areas such as Nyamotambe rock formations is located within while Gokeharaka ward which is larger under agriculture. Forests and swamps close to the main urban core have remained untouched as well due to the nodal growth pattern of the town. Going forward, there is need for both structural and institutional implements, through policies and regulations, to govern the use in and around these environmentally sensitive areas. Where viable, economic and environmentally constructive activities such as tourism can be explored to enhance protection of these sensitive areas, see Map 6- 3: Environmental fragile areas.

6.4. LAND SUITABILITY AND CAPABILITY

6.4.1 Analysis of Optimal Land Use

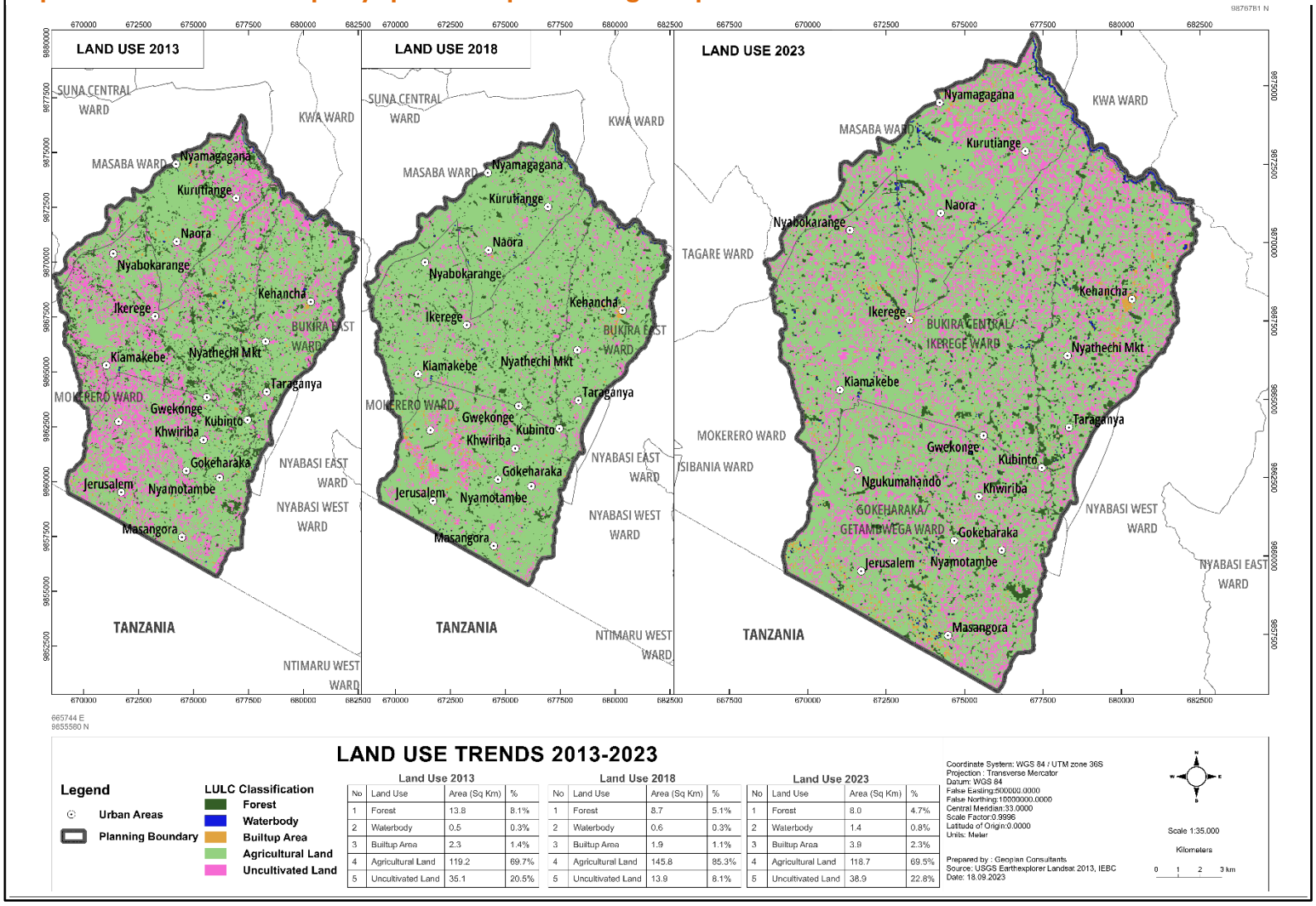
Kehancha municipality is slowly urbanizing to incorporate a variety of commercial, social, and civic functions. Some of these functions are suitably located within areas of 'highest and best use', where municipality residents are able to accrue the most from them. The term 'highest and best use' was coined by economist Irving Fisher who used it to describe areas of maximum growth and productivity. Using this, Kehancha municipality can be grouped into 3 nodes depending on the push and pull factors influencing productivity and growth within them. These nodes are; commercial node, civic node and residential node. It is necessary to analyze these nodes individually, in order to assess their character and viability in achieving optimal land use within Kehancha municipality.

Plate 6- 3: Kehancha CBD growth nodes



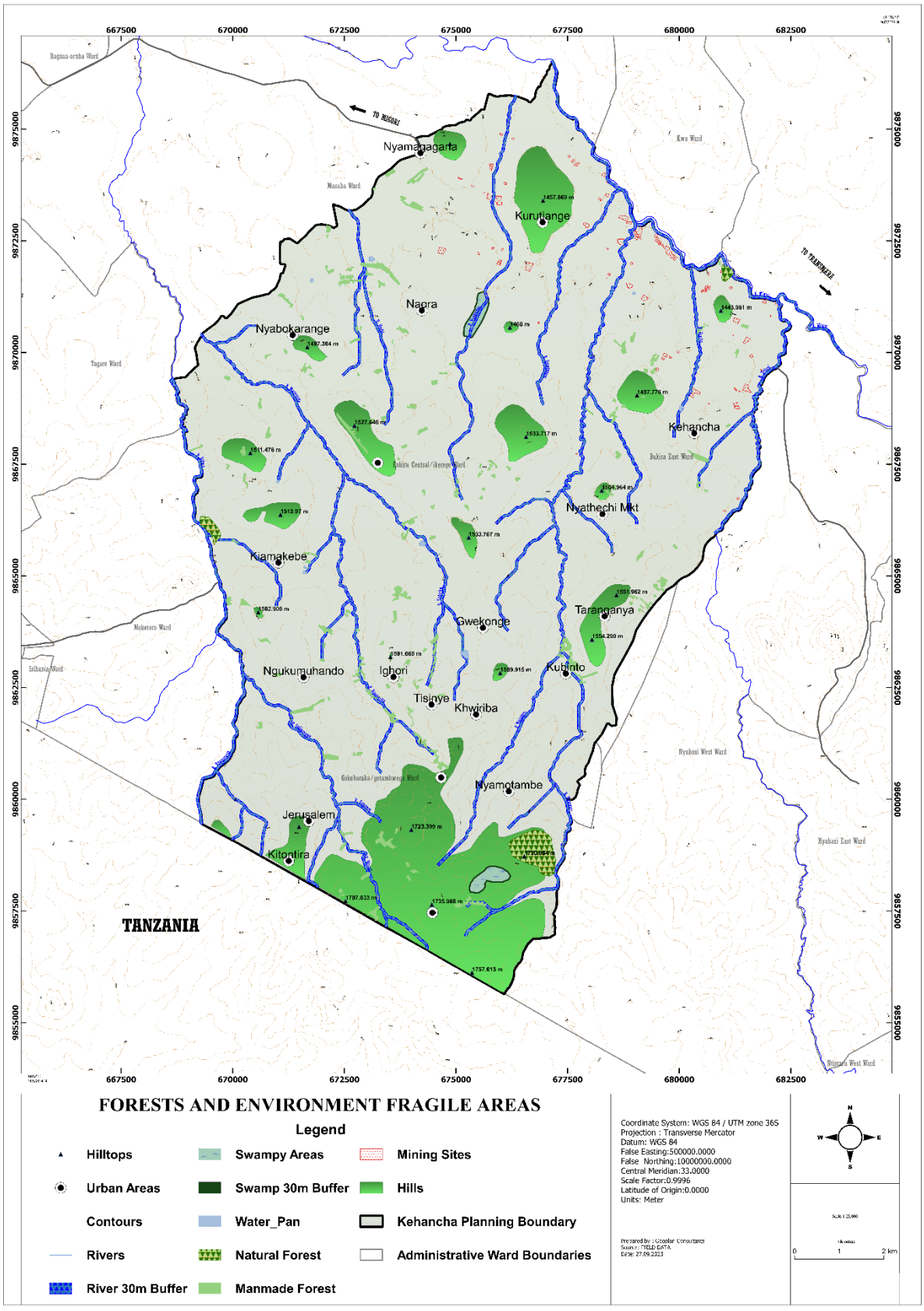
Source: Geoplan Consultant ltd, 2023

Map 6- 2: Kehancha municipality spatial temporal change map



Source: Geoplan consultants ltd, 2023

Map 6- 3: Environmental fragile areas



Source: Geoplan Consultant ltd, 2023

a) Commercial Node

Kehancha commercial node mainly exists within the CBD. It is fairly developed with a high building-to-voids ratio. Buildings within the CBD are mainly single storey, with the highest building within, Mali Complex being four storey high. Building typologies within the commercial node are mainly urban in nature and use permanent building materials for most of their construction. The initial urban needs assessment indicates that, Kehancha commercial node is not functioning optimally. Aspects such as new zoning guidelines stipulating the required heights and necessary setbacks need to be developed within the main urban core, in order to accommodate more upscale businesses as well as ensure efficient functionality within the municipality.

Plate 6- 4: Kehancha municipality CBD functional node

Source: Geoplan Consultant ltd, 2023

b) Civic Node

Kehancha municipality civic node better known as *'Kehancha ya chini'* is located approximately 1.5 Kms to the North of the urban core. It spans a radius of about 300m and includes the Kuria West Sub-County offices, the law courts, police station and a commercial area. The civic node is directly tied to the history and development of the municipality, with several historically significant buildings. Support commercial developments within *Kehancha ya chini* are linear in nature. Building to voids ratio within this area is low, with a large number of open spaces as compared to buildings. The civic node exhibits a mix or rural-urban developments within it with developments making use of both permanent and semi-permanent building materials. As is it, the civic node is not optimally used. Buildings and road networks lack any defined structure with little regard for any zoning regulations. Other civic functions and installations such as essential government offices, library, and fire stations could be included within this area, to see the node achieve its optimal use.

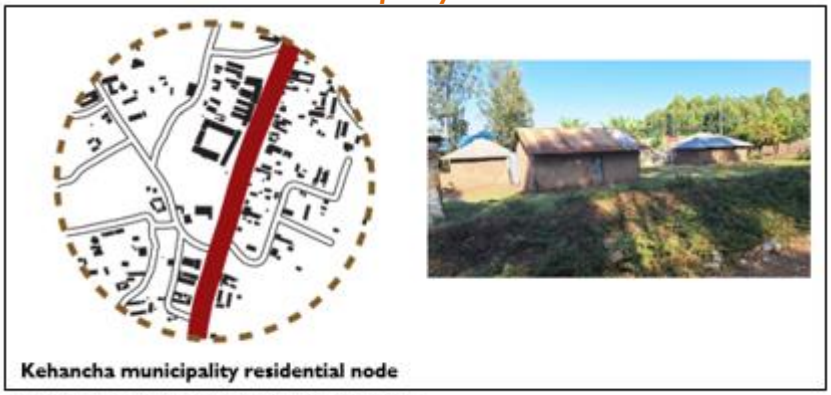
Plate 6- 5: Kehancha municipality civic node

Source: Geoplan consultant ltd, 2023

c) *Residential Node*

The main residential node within Kehancha is in Igena area. It is located approximately 1Km from the urban core but has overtime been agglomerated into it due to linear developments along the C727 highway. Igena area mainly serves as the dormitory node for Kehancha with a variety of single and multi-dwelling residential developments within the area. Between the two other nodes, the residential node is the most prone to informal land subdivisions as well as developments. Street layouts are poorly defined with a hybrid connectivity pattern that applied both grid and spontaneous layouts. Similar to the civic node, the area has a low building-to-void ratio with open spaces reserved for the backyard of these developments.

Plate 6- 6: Kehancha municipality residential node



Kehancha municipality residential node

Source: Geoplan consultant ltd, 2023

6.5. LAND ADMINISTRATION AND MANAGEMENT

Management of land within the planning area is the responsibility of County Government of Migori, while and administration of land is a responsibility of National Government as per existing legislative framework. The County Government is responsible for the allocation, servicing, land use control and land rating. The smallest land sizes within the CBD ranges between 0.02-0.08 Ha. Away from the CBD towards the periphery of the municipality land sizes ranges between 15-20ha.

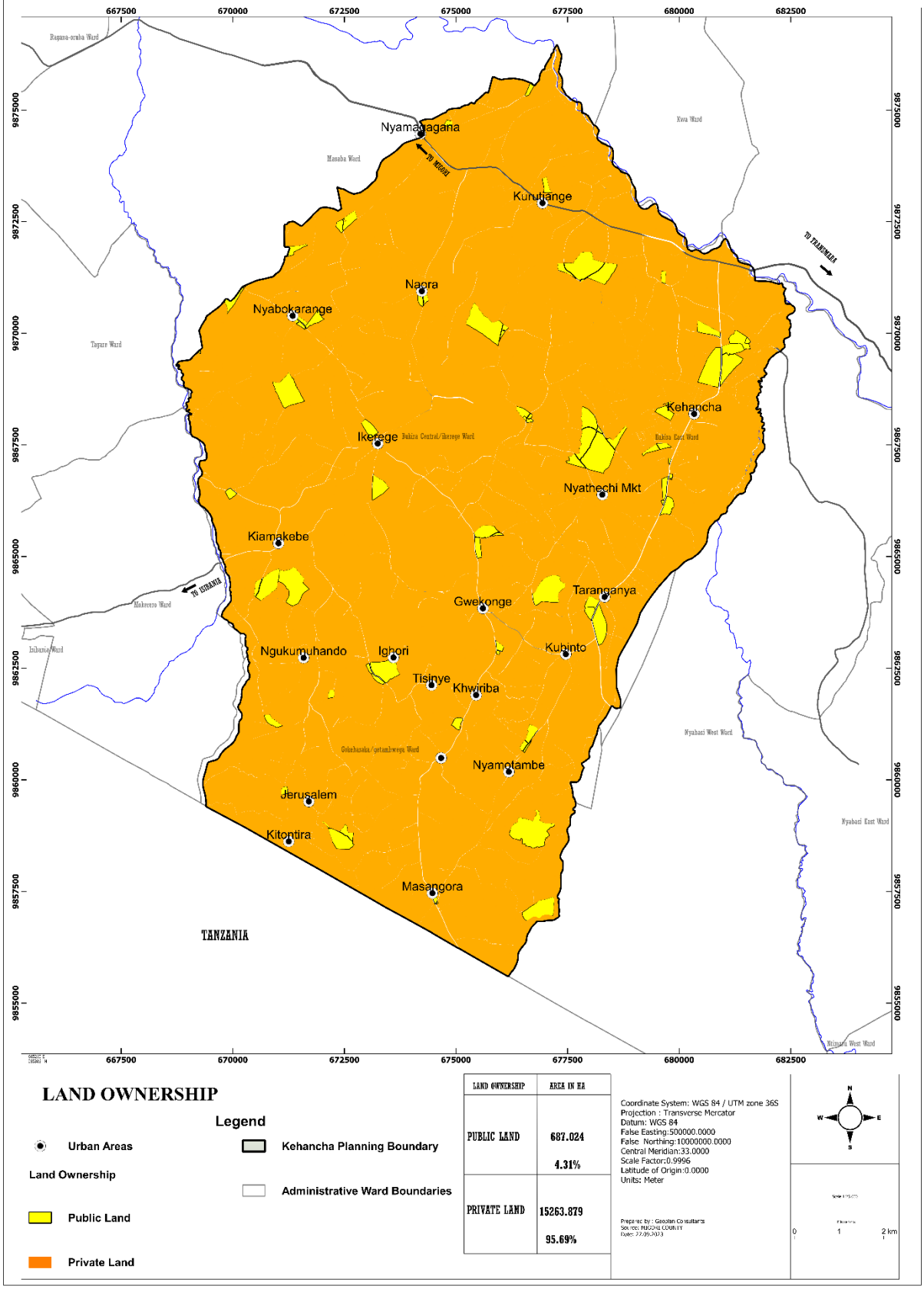
6.6. LAND TENURE

Land in the planning area is either privately or publicly owned. Land Act 2012 classifies the two types of land ownership into two forms of land tenure that is; freehold and leasehold. Freehold – People own the land they live on and have the right documents to show ownership. This tenure system is common in peri-urban areas and rural agricultural lands. Leasehold – People rent the land for different uses. This type of land ownership is most common within municipality areas, where approved physical development plans define the purpose of land use. From the land registry records 98% of land in the municipality is of freehold tenure and 2% is leasehold tenure (Map 6- 4: Type of land ownership)

6.7. LAND BANKING

County Government of Migori has managed to a number of parcels of land, which is earmarked for the provision of social services or future expansion. At present, there is no land banking system or land information management system (LIMS) to manage public and private land. As such, encroachment and land grabbing are the common problems faced by authorities. There is therefore a need to take stock and periodically assess the state of public land within the whole county for efficient implementation of public development projects.

Map 6- 4: Type of land ownership



Source: Geoplan consultant ltd, 2023

6.8. LAND VALUES

Land values in the planning area vary depending on location to the CBD and other market centers and availability of gold ore. The CBD and areas within its immediate locality (Taranganya and Kurutiyange) have the highest land values, followed by Ikerege area due to the presence of the administrative offices. The table below indicates some of the land values in the planning area, depending on location.

Table 6- 2: Land value

Area	Plot Size	Approximate Value (KES)
Kehancha CBD	1/8	1,000,000-1,500,000
Tranganya	1/8	600,000-800,000
Kurutyange	1/8	350,000-500,000
Nahora	1/8	350,000-500,000
Ikerege	1/8	350,000-500,000
Masangora	1/8	350,000-500,000

Source: Geoplan consultant ltd, 2023

6.10. POC ANALYSIS FOR LAND SECTOR

Potential/Opportunities	Constraints
• Private land ownership encourages maximum investment • Repossess grabbed public land. • Review of zoning regulations • Availability large parcels of land for investments. • Availability of mineral ores such as gold for extraction.	• Increased subdivision due to population growth • Available land is increasingly being fragmented into uneconomic units • Encroachment on public spaces such as wayleaves, road reserves and riparian reserves, • Majority of the land is under freehold hence difficult to regulate zoning of the planning area • Poor soil conservation • Lack of land banks in the municipality • Increased land grabbing • Un surveyed plots leading to land conflicts especially in rural areas

CHAPTER 7: PHYSICAL INFRASTRUCTURE

7.0 OVERVIEW

The purpose of this chapter is to present an analysis of existing physical infrastructure in Kehancha Municipality. This analysis will provide a clear basis for making proposals to upgrade the dilapidated physical infrastructure and provide for well-functioning physical infrastructure in the underserved areas. The sector coverage includes transportation, energy, water supply, sewerage and sanitation, storm water drainage, and solid waste management.

7.1. TRANSPORTATION INFRASTRUCTURE.

7.1.1 Existing Transportation Networks

Kehancha municipality has one major modes of transport that is Road, though it has linkages to air transport facilities at both Lichota Airstrip in Migori municipality at about 20KM and Kehancha airstrip at Kendege Area at about 3.5km. In addition, the area enjoys services of Lake Victoria at Muhuru Bay at about 72KM on C13 as well as the Rail Way services at Kisumu city at about 200Km.

a) Road Transport

i. Road Network

Kehancha municipality has a far-reaching road network however, other than C13, E1007 and E166 road, all the roads need improvement to bitumen standard. Different authorities manage these roads. The C13, E1007 and E166 being the main trunk arteries with the highest number of users. These two roads link all the major urban areas within and outside the municipality. See Map 7- 1: Existing Road network .

No.	ROAD STRETCH	ROAD NO	DISTANCE COVERED IN KM
1	Isebania – Kehancha – Kegonga – Ntimaru road	(E166)	41.10
2	*Ololunga)*- Kehancha *Muhuru Bay*	C13	200.1
3	Naora- Kugitura- Nyabokarange		8
4	Karosi - Nyatechi - Highway		8
5	Bikarabwa - Nyamotambe -Gokeharaka		10
6	Ikerege- Robarisia - Ihore		5.3
7	Nyabikongori - Kemakoba		5
8	Igena - Nyatechi		5
9	Igena - Korosaro		5
10	Gwikonge – Masangora Siambori		11
11	Kebobono - Komomange -Kurutiange		9
12	Komasincha - Kurutiange		4
13	Ntimaru-Kehancha	D201	28.729
14	Ikerege-Nyamagagana	E1007	5.7
15	Komotobo-Kebarisia	R1	6.70
16	Sakuri-Maeta	R2	11.86
17	R5-Kuria	R5	2.72

18	Nyabohanse-Getonganya	R6	12.25
19	Sorore-Kiomakebe	URA4	8.58
20	Nyametaburo-Kiomakebe	URA5	4.99
21	Komasincha-Kurutiange	URA6	4.34
22	Gwikonge-Nyaigutu	URA7	13.88
23	Nyamtiro-Kebarisia	URA8	4.30
24	Kebaroti-Nguruna	URA9	6.42
25	Nyamagagana - Kombe	URF2	7.46
26	Masangora-Gwikonge	URF4	6.70
27	Makonge-Kiamakebe	URF5	7.65
28	Nyamagagana-Korubunyige	URP11	3.00
29	Keburui-Nyametaburo	URP4	6.60
30	Getontira-Nguku	URP6	3.00

Source: Roads Act; 2007

ii) Inter-connectivity

Kehancha municipality is linked to active and functioning urban areas in the neighbourhood. These include but not limited to Tanzania to the South, Kilgoris Municipality of Narok County to the West and Migori Municipality North East. Additionally, the municipality has good proximity to Isibania border town and Mabera cattle auctioning area. The area has also good link, to major urban areas like Nairobi City, Kisumu City, Kisii Municipality, Narok Municipality and other municipalities. These is through accessible route from Nairobi via Narok and Kisii road) and from Kisumu via Kisii-Kisumu road and from Kisii municipality through Kisii-Migori-Kehancha (A1) road. The other roads that serve the same purpose are Isibania - Ikerege - Kehancha Road which connects the municipality.

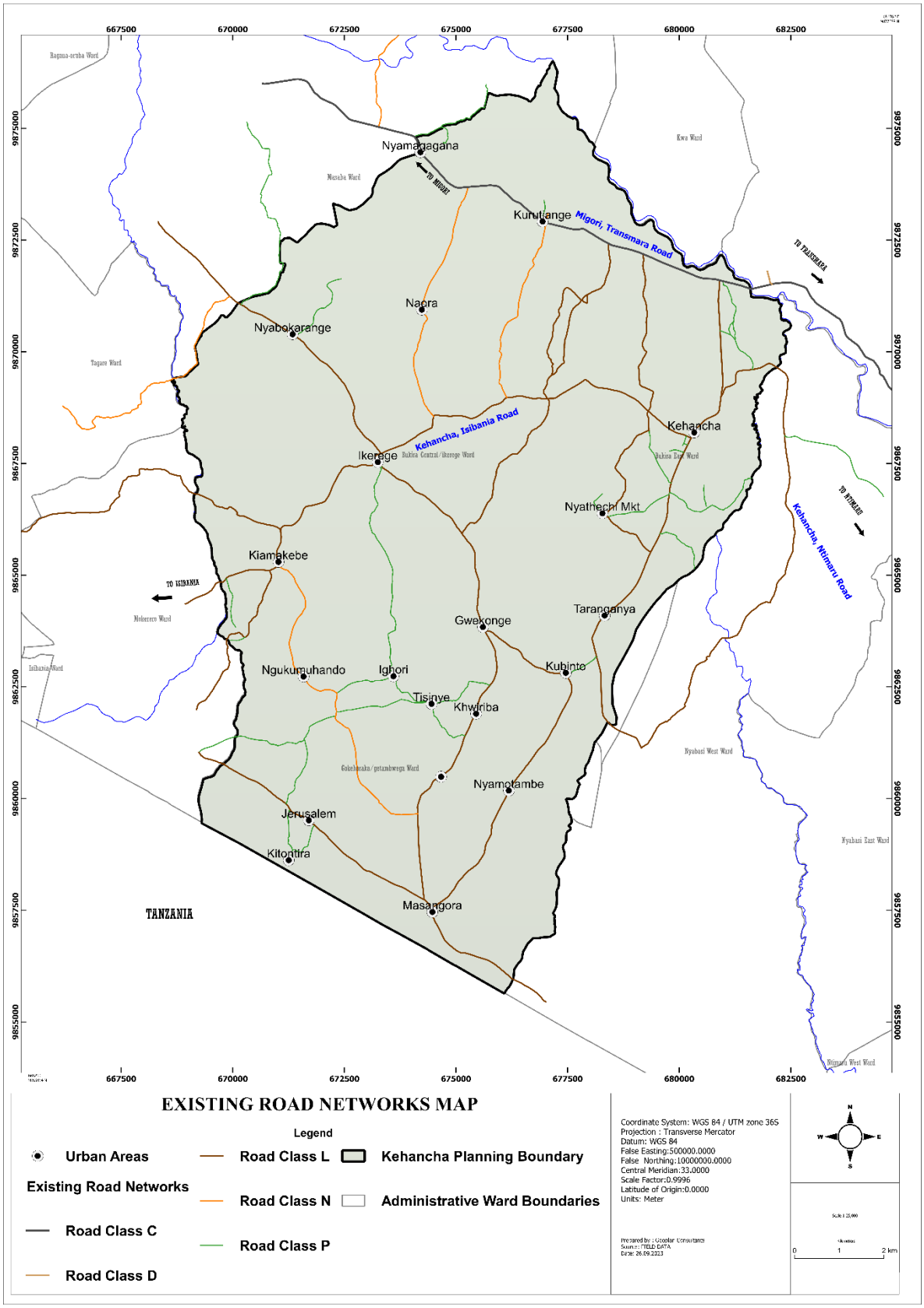
iii) Intra-connectivity

Roads connecting Kehancha municipality with peri-urban areas and rural areas are mostly earth and murram surfaced with only two bitumen roads; C727 road section (connecting Kehancha with Isebania through Ikerege), a section of B1 Migori, Kehancha road through Kurutyange road. The earth and murram roads include the classified and the unclassified roads. Road network in these areas is useful for connecting to residential areas, delivery of farm inputs and access to market for the farm produce. There are several roads which are still impassable during rainy seasons thus need for adjustment.

iv) Road Conditions

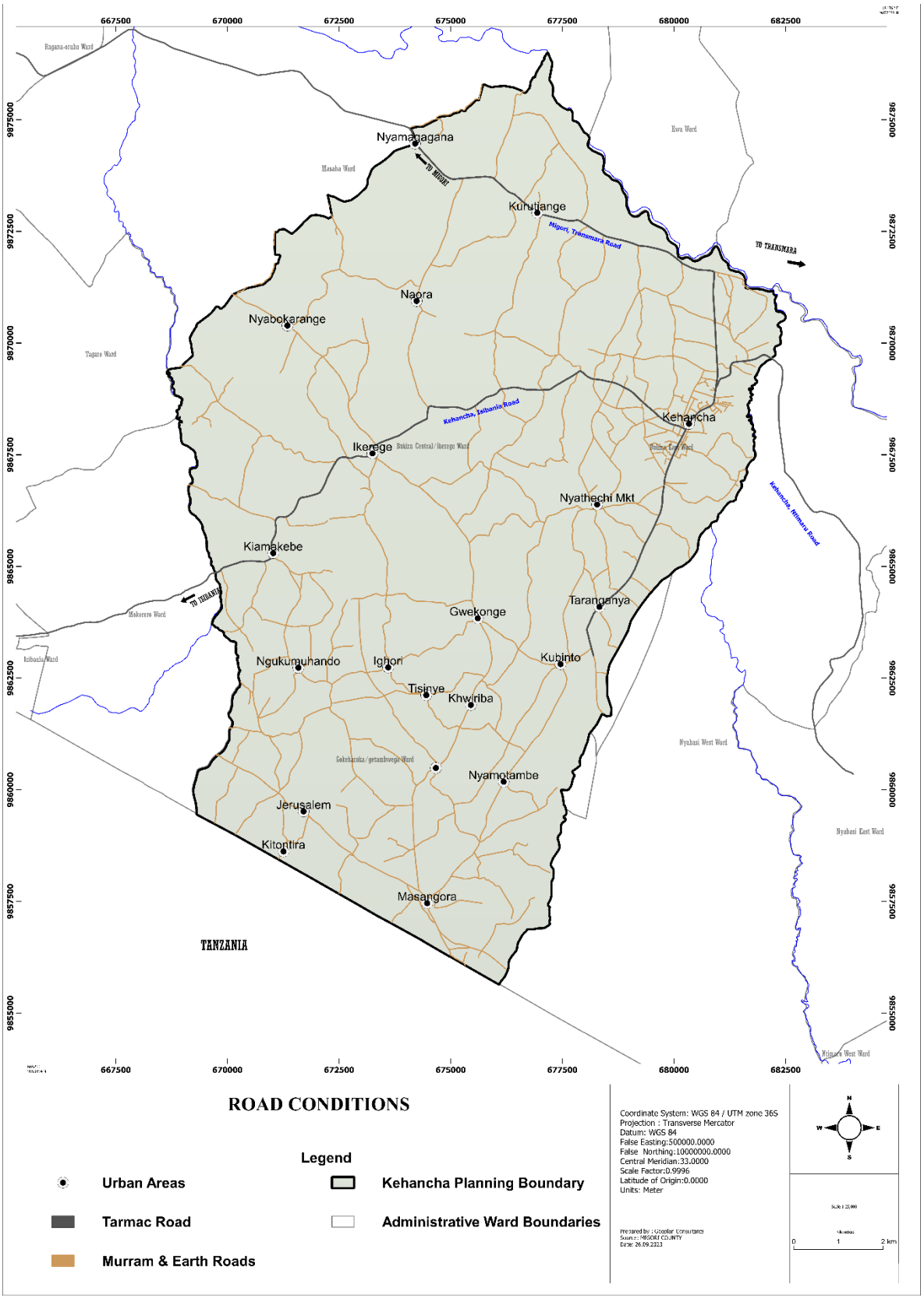
The municipality has only three main trunk roads tarmacked, these are C13 through Kurutiange – Kehancha, E166 through Ikerege - Kehancha leading to Kegonga and D201 from C13 junction through Kehancha tarmacked up to Taranganya, all other roads are either murrum roads or earth roads. The tarmac roads are characterised by narrow widths, inadequate drainage system, inadequate street lighting, poor condition of NMT, markings and signage. While the murrum and earth roads are characterised by, narrow sizes, blocked or no storm drainage channels and culverts, pot holes thus impassable during rainy seasons and dusty during dry seasons. See Map 7- 2: Road condition.

Map 7- 1: Existing Road network



Source: Geoplan Consultant ltd, 2023

Map 7- 2: Road condition



Source: Geoplan Consultant ltd, 2023

vi. Urban Road Transport Means

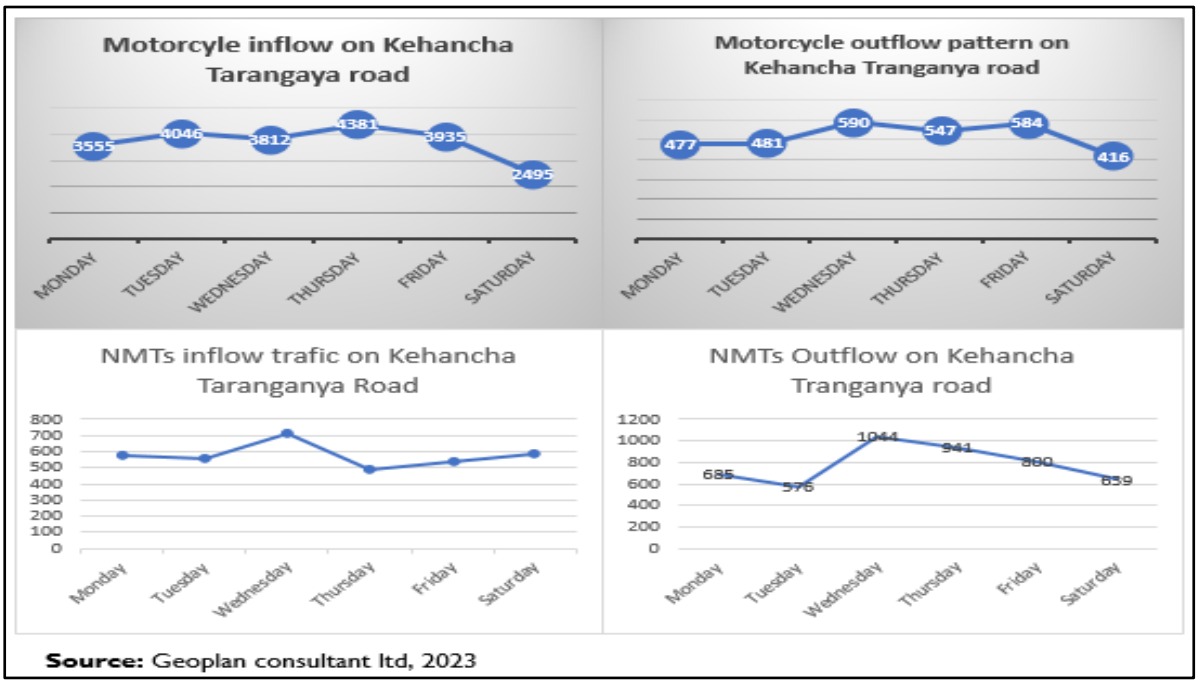
Transport means within the municipality depends on the distance to be covered by the user. The NMT is mostly used in movements within the urban and rural areas; Majority of the people use bodaboda (motor bikes) as a means of transport between the urban centers within the municipality while vehicles Probox, Nissan, and buses are used for urban centre outside the municipality use. For transportation of various materials, 3-wheeler (Tuktuk) is used within the urban centres while pickups, Lorries and trucks are used between the urban centers.

vii. Traffic Segregation

Maximum traffic is experienced along the D201 road, Kehancha -Taranganya - Ntimaru road, and a section of E166 Kehancha-Ikerege-Isebania Road. These are where most developments are concentrated and the interconnectivity purpose is evident. The D201road have the highest number of both motorized and non-motorized traffic as they connect Kehancha municipality locally, regionally (Narok County) and internationally (Tanzania Boarder). Major road congestion is experience on the two roads due to narrowness and huge traffic flow during market days. Traffic flow in municipality is intense during business hours and market day.

viii. Main Road Junctions and Associated issues

Chart 7- 1: Traffic flow patter on Kehancha Taranganya Road



Source: Geoplan consultant ltd, 2023

The municipality has several junctions supporting the traffic segregation municipality: -

JUNCTION	ASSOCIATED ACTIVITIES
Migori-Transmara - Kehancha junction	• Joins C13 (*Ololunga*- Kehancha *Muhuru Bay)* to C727 and D201 (Ntimaru-Kehancha). • Receives traffic from the A1 Kisii Isebania Road • Has a bus top. • Hosts a Bodaboda shed. • Host two filling stations.

	• Has commercial shops. • Links the Kehancha to the Lichota airstrip in Migori municipality. • Acts as linkage between Kehancha to Narok County,
KMTC junction along Migori Kehancha road	• Located opposite Kehancha police station. • Joins E166 Kegonga Ntimaru to Kehancha Ntimaru road at KMTC (Kehancha ya Chini). • Controls traffic to and from Migori through Kegonga -Ntimaru without going through Kehancha CBD. • Has a bus top. • Hosts a Bodaboda shed. • Has commercial shops. • Has a waste holding bin.
Kegonga - Kehancha junction	• Located t about 450M from the KMTC junction. • Controls traffic to and from Kegonga through Kehancha – Ntimaru and Kehancha Isebania from going through KMTC junction. • Has no support activity.
Kehancha – Ikerege - Isebania Road Junction	• Joins E166 to D201; the main trunk within the Kehancha CBD. • Located within the CBD of Kehancha municipality • It links the municipality to Isebania - Sirare to Kehancha, Kegonga and Narok County through Ikerege town. • Is adjacent to Kehancha Bus Park. • Host Bodaboda shed and Bodaboda Sacco office. • Has commercial activities around it. • Has congestion and encroachment from temporary structures motorbike parking.

ix. Parking

The municipality has the main bus terminus at Kehancha CBD, which host majorly small buses (matatu) and cars. Public transport operators park on the roadside causing traffic congestion particularly during the trade hours. There are a few designated parking facilities for private businesses and most of which are unmarked and random. There are no parking fees for vehicles along the street and few private parking areas. The municipality lacks designated parking for lorry, trucks, tractors, trailers and buses. The existing park in a narrow, congested, and encroached by other businesses with temporary structures. There is no proper provision for Bodaboda parking facilities within the municipality; most of the Bodaboda shed are positioned on the road reserves along the highway (D201 road), outside major institutions, trading points and near the bus park where their customers are in numbers.

x. Non – Motorized Transport

There are no definitive NMT facilities. NMT in Kehancha Municipality consists of bicycles, handcarts and pedestrians. Despite the presence of heavy pedestrian traffic especially in the CBD, there is inadequate provision of its infrastructure and facilities. Segregation of vehicular and non- vehicular traffic inefficiently exists. This has resulted in situations where vehicular and non- vehicular modes share the same carriageway not only compromising safety of

pedestrians but also increasing overcrowding and disorder within the municipality. The most affected section is along the (E166) road within the CBD. Pedestrian sections are inadequate and where available they are narrow and poorly maintained.

xi. Ongoing County Road Projects

Roads within the municipality are accessible, either tarmacked or marram. A few are under maintenance by county government that is; Kiomakebe-Makonge, Kubinto - Masangora road.

Plate 7- 1: Kehancha municipality road ongoing projects

Source: Geoplan Consultants ltd, 2023

b) Air Transport

The municipality lacks air transport facility though it enjoys services from both Lichota airstrip in Migori and Kehancha airstrip in Kendege Area. With the proximity to the two airstrips, the municipality is sufficiently accessible by air transport thus need for improvement of the access road linking the area with the facilities.

7.2 TRANSPORTATION GAPS

Kehancha municipality lack an efficient public transport system. Numerous economic activities within the municipality creates a high cash flow, which pulls a large number of persons within the CBD. The municipality's traffic is chaotic with high number motorized and non-motorized transport sharing the same carriageway. Tarmacked roads have insufficient road signs and speed bumps which makes it unsafe for road users. Parking facilities are also insufficient and does not meet the needs of the modes within the transport sector.

7.3. ENERGY INFRASTRUCTURE

7.3.1. Energy Use

Kehancha municipality has different sources of energy. The use of these energy sources contrasts from cooking, lighting, industrial and transportation. Industrial, commercial and transportation activities use electricity and petroleum products as major source of energy. Charcoal and firewood are the main source of energy for cooking in the homesteads. Solar and electricity not only provide energy for lighting but are also the most preferred sources for lighting. (See Table 7- 1: Uses of energy) There is need to create public awareness on the use of sustainable and renewable energy sources to prevent environmental degradation and pollution.

Table 7- 1: Uses of energy

Energy for Lighting	Percent
Paraffin	21.7%
Electricity	27.2%
Solar	50.8%
Gas	0.3%
Total	**100.0%**
Energy for cooking	**Percent**
Gas	14.5%
Charcoal	29.7%
Paraffin	0.6%
Electricity	1.2%
Firewood	53.9%
Solar	0.1%
Total	**100.0%**

Source: Geoplan consultant ltd, 2023

7.3.2 Electricity

Kenya Power and lighting company is the service provider for electricity in Kehancha, with the main station connecting the area to the national grid being in Migori Municipality. Most of the urban areas within the planning area have access to electricity leaving Peri-urban areas in the dark. The efficiency of the service within the municipality is boosted by the existence of Kenya Power Office within Kehancha Municipality for emergency responses. The rate of electricity coverage within Kehancha CBD is approximately 70%. The demand of electricity within the municipality is below the supply. The gold mining activities around Karosi, and Namba junction where the tailing process takes place consumes higher power rate (Kenya Power office 2023). The rate of connection to the power grid within the municipality is approximately 60% as illustrated inMap 7- 3: Electricity distribution network.

7.3.3. Renewable Energy Sources

a) Hydro-Electric Power

According to the Energy and Petroleum Regulatory Authority, the country's installed large hydropower capacity is 826.23MW and small hydro potential estimated at 3,000MW. The county has only exploited less than 30MW out of which 5MW is supplied to the grid. The planning area does not have rivers with the potentiality of generating hydropower besides limited local capacity to manufacture small hydropower components.

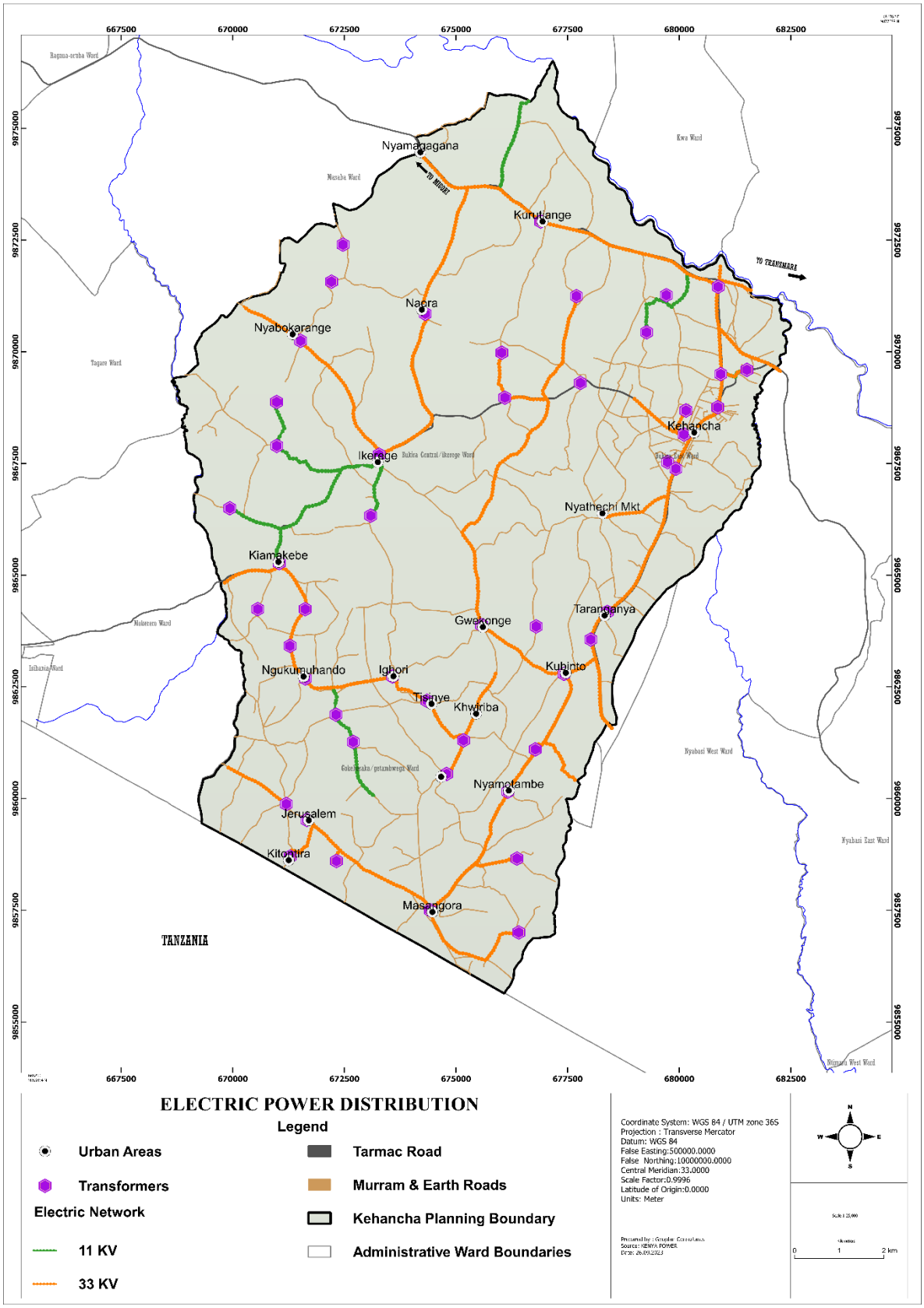
b) Biomass

Bio-energy is energy derived from various solids, liquids, and gaseous biomass, including fuel wood, charcoal, ethanol, biodiesel, and biogas. As noted earlier, majority of the households in Kehancha use firewood for cooking. Nonetheless, the generation of biogas for cooking is also evident in Kehancha municipality, see Table 7- 1: Uses of energy.

c) Solar

Solar is the leading source of lighting and pocket friendly compared to other energy sources. (See chart 7-2. Among its uses are telecommunication, home and street lighting, water pumping and heating (Field survey 2023). According to the CIDP 2018-2023 Kuria West Sub County has the highest solar energy potential compared to other Sub Counties of Migori County; this puts Kehancha Municipality at focal point for solar energy transformation

Map 7- 3: Electricity distribution network



Source: Geoplan consultant ltd, 2023

d) Wind Energy

There is no of wind harvesting in the area though due to the low wind speed. The wind speed in the county ranges between 2-5m/s while the according to wind energy standards, 2m/s stands as the lowest speed for production 10-15m/s as the best speed ranges for efficient wind energy. These allows taping wind energy at small scale.

7.3.4. ENERGY CHALLENGES

The various sources of energy face a range of challenges. -

ENERGY SOURCE	CHALLENGES
Electricity	• Unreliable power supply due to frequent blackouts. • Lack of connectivity to the rural areas. • Prohibitive tariffs as some households are living in abject poverty. • Hostilities from the customers. • Theft and vandalism of meter bypasses and transformers. • Illegal power connections – approximately 90% of connections around Ikerege are illegal. • Interference from trees planted along the way leaves.
Solar	• High cost of installation in commercial and industrial use. • Low awareness on potential opportunities and benefits offered by solar.
Wind	• High cost of installation. • Low wind speed in the area.

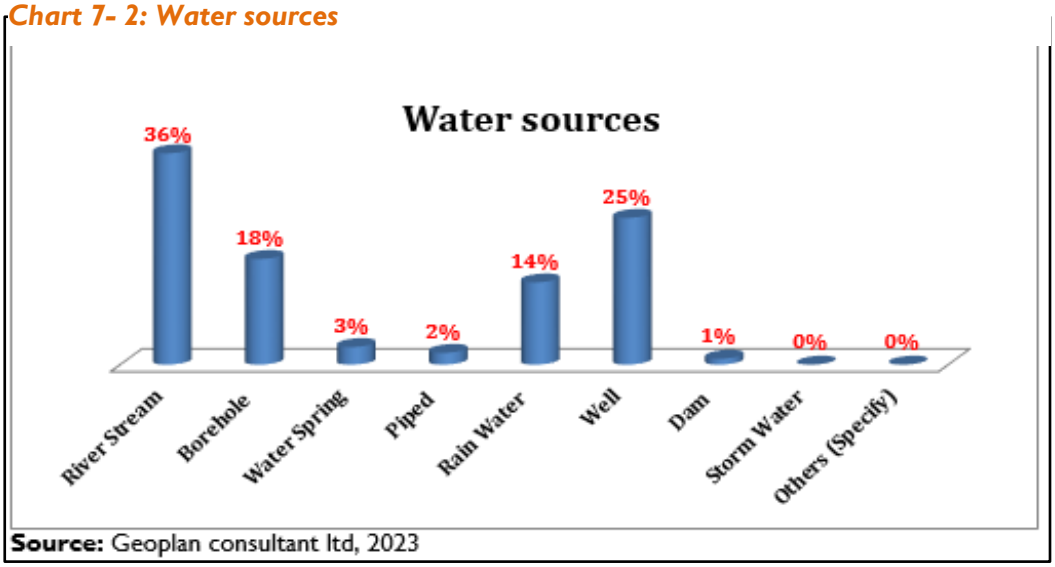
7.4. WATER INFRASTRUCTURE

Water supply is the provision of water by public utilities, commercial organisations, community groups or by individuals, usually via a system of pumps and pipes. Reforms in water sector transferred the role of local authorities (this case the county government) to provide water and sewerage services and delegated the same functions to private water companies formed under the Water Act of 2002. Migori Water and Sewerage Company (MIWASCO) is the main water supply company in Kehancha Municipality having taken over from MIKUTRA (Migori Kuria and Transmara Water and Sewerage Company) in 2015. Individuals and other groups have developed alternative sources to meet the demand in the municipality.

7.4.1 Water Sources

The municipality has different sources of water for different urban areas. These sources are provided by the by the government, private or public private partners. The water sources vary from piped water of Kehancha treatment water plant, to rivers and streams, boreholes, shallow wells, springs, dams and water pans. Shallow well and river streams are dominant sources of water within the planning area as illustrated in Chart 7- 2: Water sources and Chart 7- 2: Water sources.

Chart 7- 2: Water sources



Source: Geoplan consultant ltd, 2023

a) River and Stream System:

Rivers and streams form the largest water source in the resident's planning area chart 7.3 above. With 13 rivers and tributaries and streams channels spread in all parts of the municipality, they are the most accessed by all. Conservation of these ecologically fragile areas will boost the quality and quantity of water, reducing the water demand gap.

b) Borehole System:

The boreholes supply water to education institutions, hospitals, hotels and public at water kiosks. By using water tracks and Lorries with plastic tanks, the borehole supply water to guesthouse and activities with no access to portable water. Due to high cost involved in construction, they are limited in number.

7.4.2. Demand and Supply

The rate of water supply for Kehancha Municipality is 150M^3 per day while the demand is 2240M^3 per day. This supply is below the demand. Taking into account that the water requirement is 25L per person per day and the projected population as in Table 4.2, water demand for Kehancha municipality will increase to 3,000 M^3 per day in 2032 bringing the need for alternative waster source to supplement the demand.

7.4.3 Accessibility to Water

Accessibility to water in Kehancha municipality is poor. Majority of the households in planning area walks a distance ranging to 500M to access water; the worst is that 3% of the population walks a distance ranging to 2KM to access spring water (Table 7-1). Pipe water covers 3% of Central Business District (CBD) as illustrated in The municipality has two water reticulation networks within Kehancha CBD. Unlike the CBD other urban areas have lacks the piped water though have other water sources for use. The reticulation network has its origin at the Karosi Dam. The two-distribution tank at DCC compound and Igena area supplies water to these areas from KMTC junction, administration offices, up to Salvation Army church at Igena area, the catholic church area, and St. Kizito up to Kehancha town center. The old water line are dilapidated and were interfered with during the road construction activities hence need of replacement, see Table 7- 2: Water source distance to households.

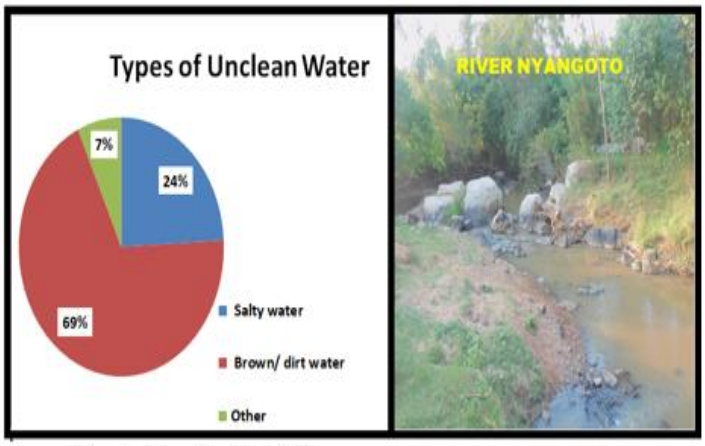
Table 7- 2: Water source distance to households

Water Sources	Range Distance in meters	Average distance in meters
River/Stream Distance to household	4999.8	556.850
Borehole Distance to household	4000.0	382.538
Water spring Distance to household	20000	1617.03
Piped water Distance to household	1000.0	144.700
Rain water Distance to household	500.0	17.167
Wells Distance to household	3000.0	134.793

Source: Geoplan consultant ltd, 2023

7.4.5. Quality

Chart 7- 3: Water quality



Source: Geoplan Consultant ltd, 2023

The water quality in the municipality varies depending on the water source. Protected springs, shallow wells and borehole are less contaminated by solid waste though exposed to chemical contamination through siltation. The water dams and rivers receive contamination from agricultural activities, gold mining and sand harvesting, this forms the higher composition of the unclean water. According to field survey 2023, 49% of the residents have access to clean water leaving the rest with water whose quality varies. Different partners e.g Care Kenya, have intervened in partnership with the community in achieving water quality at protected community sources.

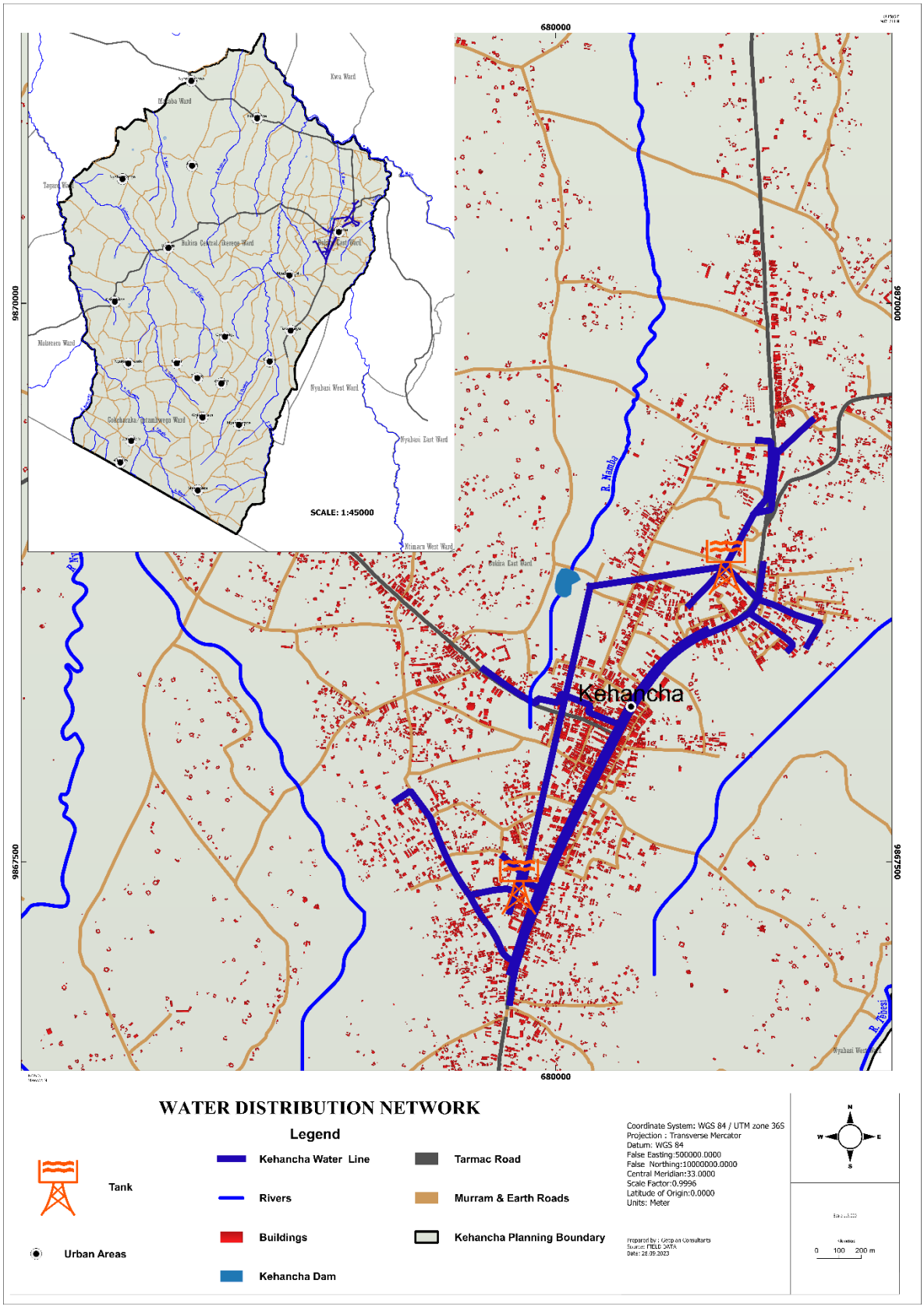
7.4.6. Treatments Plants

The planning area has one water treatment plant under Migori County Government, managed by MIWASCO. The plant is located in Karosi Dam and sits on land area of about 3.5Ha. Raw water from this dam goes through the treatment works with a capacity of producing 150M^3 per day. The treated water is pumped to an elevated tank (overhead) 32M^3/ at opposite Mali Star Petrol Station and underground tank of 50M^3 at DCC residence and Igena area for distribution.

7.4.7. Reticulation

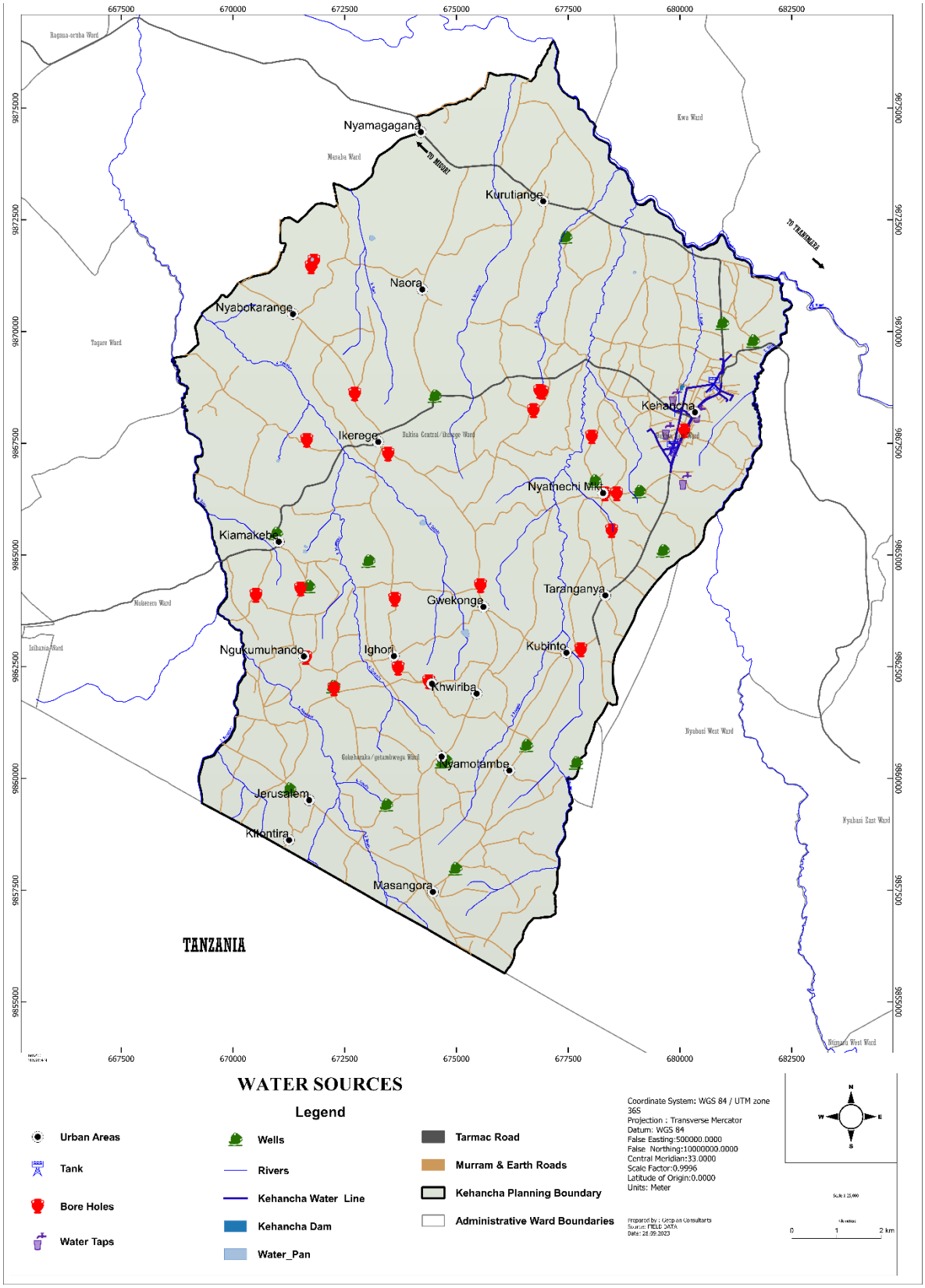
The municipality has two water reticulation networks within Kehancha CBD. Unlike the CBD other urban areas have lacks the piped water though have other water sources for use. The reticulation network has its origin at the Karosi Dam. The two-distribution tank at DCC compound and Igena area supplies water to these areas from KMTC junction, administration offices, up to Salvation Army church at Igena area, the catholic church area, and St. Kizito up to Kehancha town center. The old water line are dilapidated and were interfered with during the road construction activities hence need of replacement, see Map 7- 4: Existing water reticulation.

Map 7- 4: Existing water reticulation



Source: Geoplan Consultant ltd, 2023

Map 7- 5: Water sources

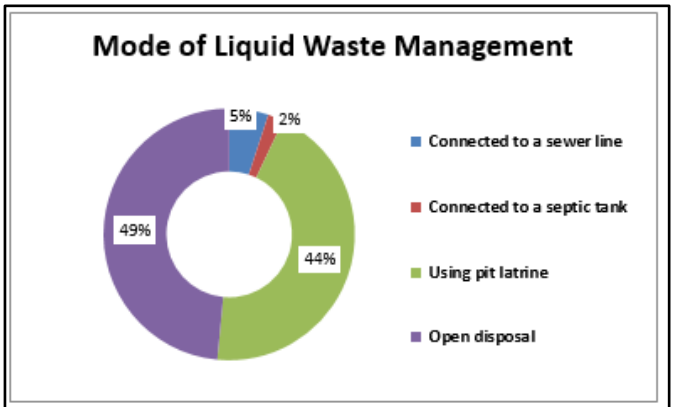


Source: Geoplan consultant ltd, 2023

7.4. SANITATION INFRASTRUCTURE

7.4.1. Sewerage Services

Chart 7- 4: Liquid waste management



Source: Geoplan Consultant ltd survey, 2023

Sewerage and sanitation are part of the essential infrastructure of a modern urban area. The scope of sewage management has evolved throughout history with changes in socioeconomic conditions, urban structures, and the environment. Benefits of improved water services and sanitation therefore include averted health related costs, which is a gain to the economy as a whole. Apart from Kehancha, market all the other urban centres in the municipality lack adequate public health and sanitation facilities such as public toilets, safe water sources and effective drainage and waste disposal facilities. Correspondingly, open disposal of liquid waste and use of pit latrine are the frequent mode of disposal. See Chart 7- 4: Liquid waste management.

7.4.3. Storm Water Drainage

Kehancha municipality has gentle slope topography emanating from the hills and ridges within the area. These determine the patterns and catchments of the surface runoff drainage. The municipality has drainage channels only within the CBD though they lack drain covers. The available drains comprise paved and earth drains, that are either lined or unlined. Unlined drains are evident in other urban centres although other road sections lack drainage facilities completely. These are within the rural areas. In many urban areas, the drainage facilities are inadequate and or are not covered or lined, not properly constructed and storm water flow along the roads. Culverts along the roads include cross and parallel with varied widths. Some of these culverts are blocked with vegetation, litter, silt, and need reopening. Other sections of the roads need culverts too. As such, poor drainage on the lower side of municipality contributes greatly to flooding.

7.4.4. Solid Waste Management

Management of solid waste in Kehancha municipality is the responsibility of the County Government of Migori, Department of Environment And Disaster Management. Nevertheless, waste collection has been a challenge in the urban centres especially in the market area and the surrounding commercial areas, despite the efforts placed by municipality. General waste (organic and recyclables), special wastes (households hazardous, medical waste), mining waste, construction and demolition debris are the main generators of solid waste. The waste holding ground does not practice waste segregation and frequent transportation to the disposal site. Medical facilities within the Kehancha lack medical waste handling facilities such as bins and incinerator thus dependent on county referral hospital for disposal (Chart 7.2.) The municipality is located within rich agricultural lands thus vulnerable to soil pollution, see Map 7- 7: Sanitation facility.

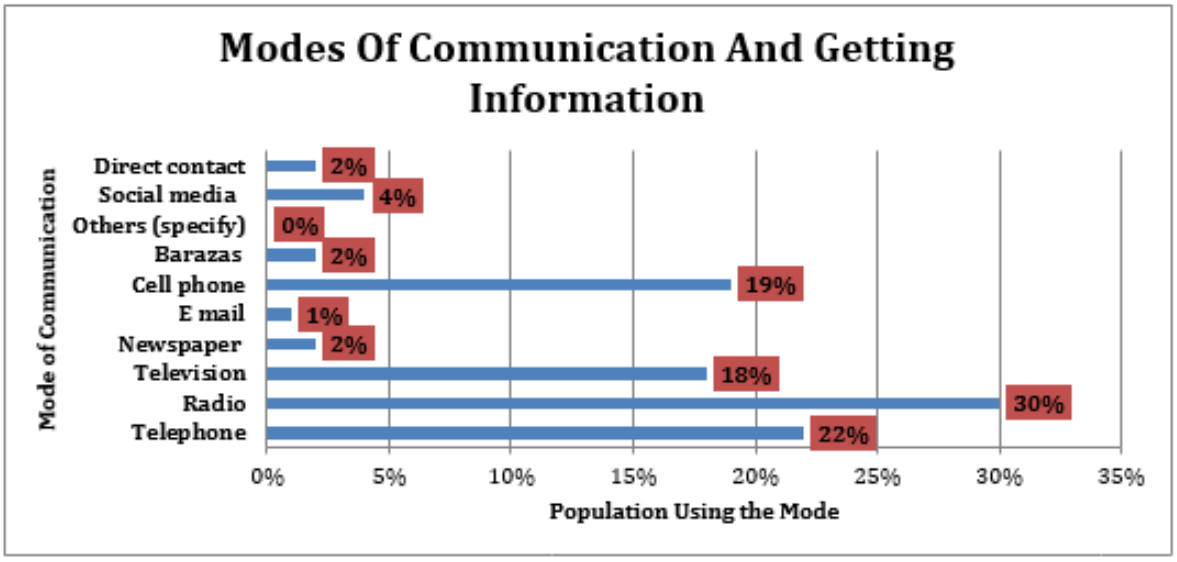
Plate 7- 2: Solid waste management

Source: Geoplan consultant ltd, 2023

7.5 TELECOMMUNICATION INFRASTRUCTURE

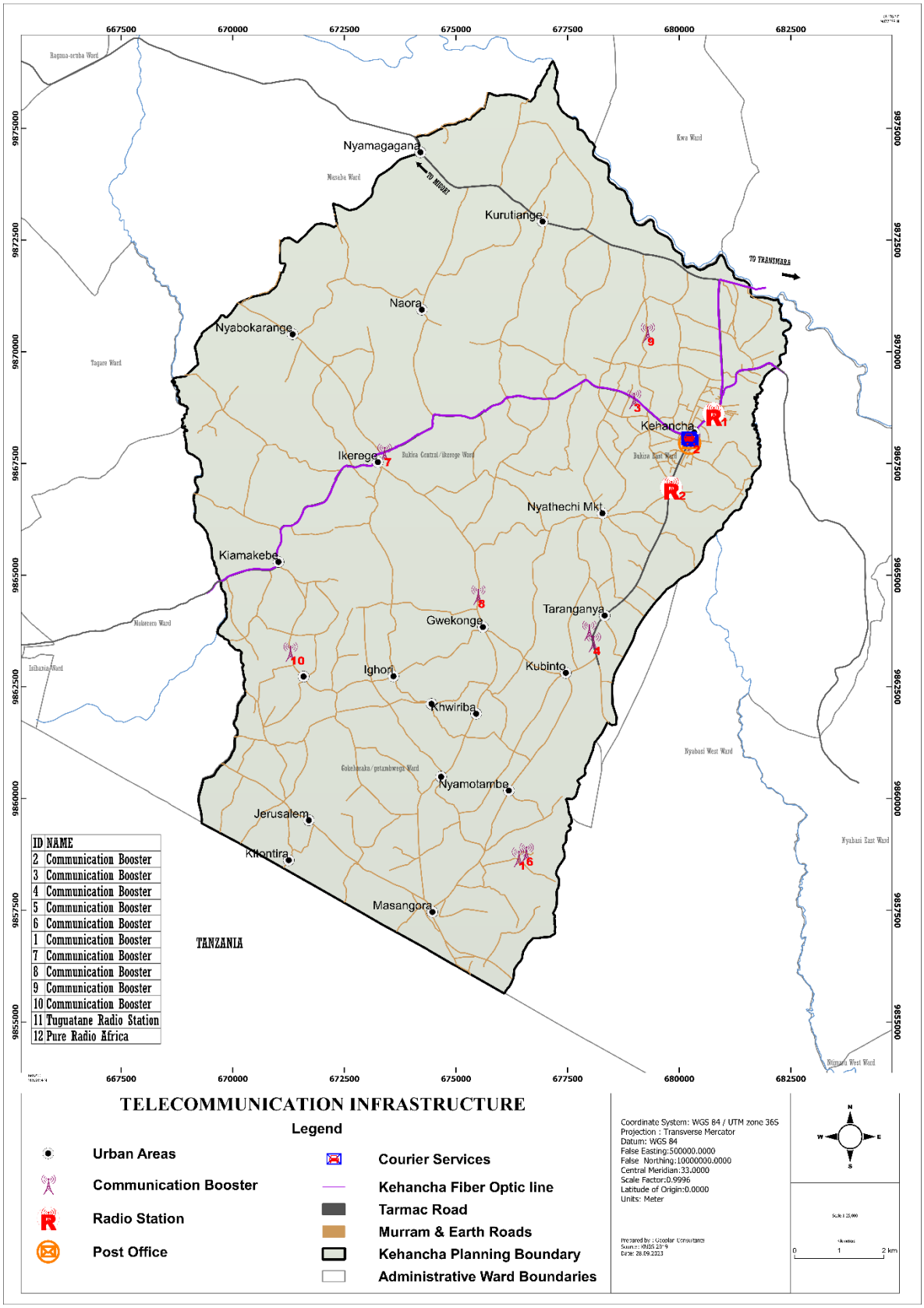
Telecommunication services ensure that economic activities take place efficiently and effectively by facilitating communication between recipients and senders. The municipality has various forms of communication, key one being, telephone, cell phones and fibre optic cable powered by Safaricom, Airtel and Telkom networks; mass media through TV and local radio stations like Togotane FM, and Pure Africa FM); courier services led by the Postal cooperation, see Map 7- 6: Telecommunication infrastructure

Chart 7- 5: Mode of communication and getting information



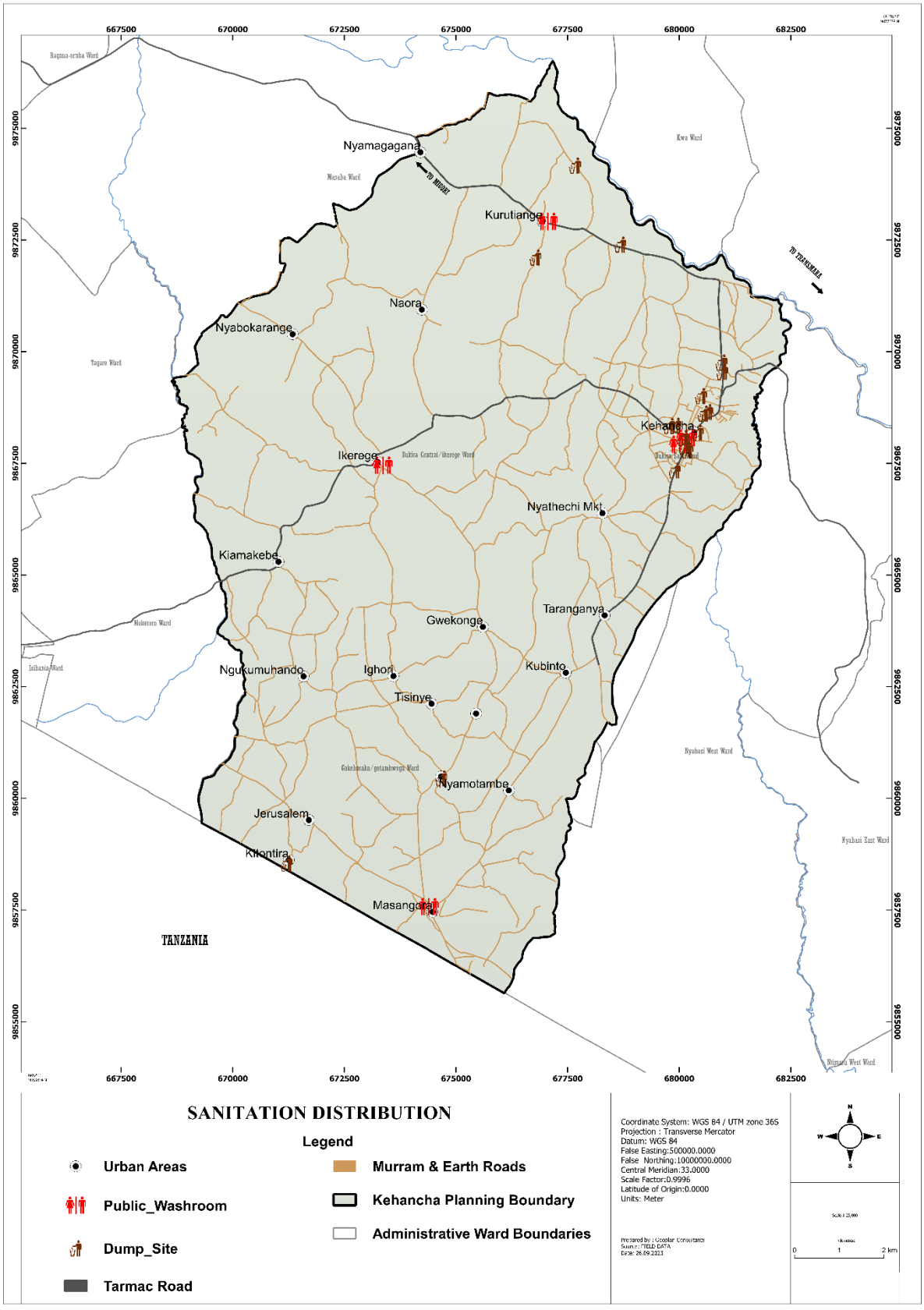
Source: Geoplan Consultant ltd survey, 2023

Map 7- 6: Telecommunication infrastructure



Source: Geoplan consultant ltd, 2023

Map 7- 7: Sanitation facility



Source: Geoplan consultant ltd, 2023

7.6 POC ANALYSIS

Sector	Potential/opportunities	Constraints
Solid Waste Management	• Existence of waste collection programme by the municipality. • Availability of holding site within the urban areas. • Existence of waste holding containers. • Proximity to County Waste dumping site at Kurutiange area.	• There is lack of onsite separation facilities. • Poor waste transport system • The waste soil and chemicals from mining • Capacity to handle electronic waste • Capacity to handle mining soil waste. • Mechanism for controlling contamination of water sources by mining. • Insufficient machinery for handling waste. • Public awareness in waste management.
Transport	• Good linkage by road network. • Existing tarmac roads in good condition. • Availability of development partners KeRRA KURA and NG/CDF.	• Vandalism of road signage and solar powered street light. • Lack of NMT facilities. • Insufficient parking spaces. • Lack of street hierarchy pattern. • Poor road conditions leading to inaccessibility in some areas. • Insecurity thus can only operate at specific time lines.
Water Infrastructure	• Existence of bore holes. • Existence of the water pans. • Existence of all season rivers. • Expansion of water reticulation networks. • Strong institution (MIWASCO). • Functioning water plant at the dam. • Availability of funding partners (Water Trust Fund).	• Damage and vandalism of water pipes system by road works during construction. • Encroachment of way leaves by developers. • Encroachment into the dam and river riparian. • Siltation of the dam. • Inadequate portable sources. • Contamination by mining activities. • Dilapidated water piping system.
Storm Water Management	• Existence of tarmac roads. • Availability of road reserve in some parts of the road.	• Poor solid waste disposal. • Blocked storm water channels. • Narrow road sizes. • Encroachment on the road reserves.
Sewerage Services	• Existence of septic tanks within the residential.	• Encroachment on the road reserves.
Telecommunication	• Existence radio stations. • Existence of communication boosters. • Availability of good road network. • Investment in related services such as cyber cafes, fibre cable.	• Few families or people with handsets • Inaccessibility to some areas • Some are expensive to purchase and put up. • Poor network. • Lack of connectivity to energy sources.

CHAPTER 8: SOCIAL INFRASTRUCTURE

8.1. Overview

Social infrastructure facilities include education, health sports facilities, socio- cultural activities, communications, security and safety, cremation/ burial grounds, etc. The quality of life in any urban area is indicated by the availability of quality social infrastructure.

8.1. EDUCATION

Education has been identified as one of the cornerstones to improve the living standards of members in the society. It is therefore important in planning to make provision for education facilities and services which will translate into higher rates of innovation, higher overall productivity and faster introduction of new technology.

8.1.1. Education Facilities Distribution

a. Pre-primary and Primary school

There are 81 ECD Centers and 54 primary schools within the planning area. All public primary schools have an ECD center. More than half of the household cover more than 500m a maximum walking distance for primary schools (Table 8- 1: Pre-primary school household walking distance). Primary are fairly distributed, 76.6% of the population cover not more than 1.5km as a walking distance (Table 8- 2: Primary school household walking distance). This is much lower than the minimum walking distance for primary schools which is 4.0km see Map 8- 1: Primary and junior primary schools' distribution.

Table 8- 1: Pre-primary school household walking distance

Distance		Percent
Valid	0 - 0.5 Kilometer	38.4
	0.5 Kilometer - 1.5 Kilometer	37.8
	1.5 Kilometer - 3 Kilometer	13.6
	3 - 5 Kilometer	6.7
	Above 5 kilometers	3.5
	Total	100.0

Source: Geoplan consultant ltd (2023)

Table 8- 2: Primary school household walking distance

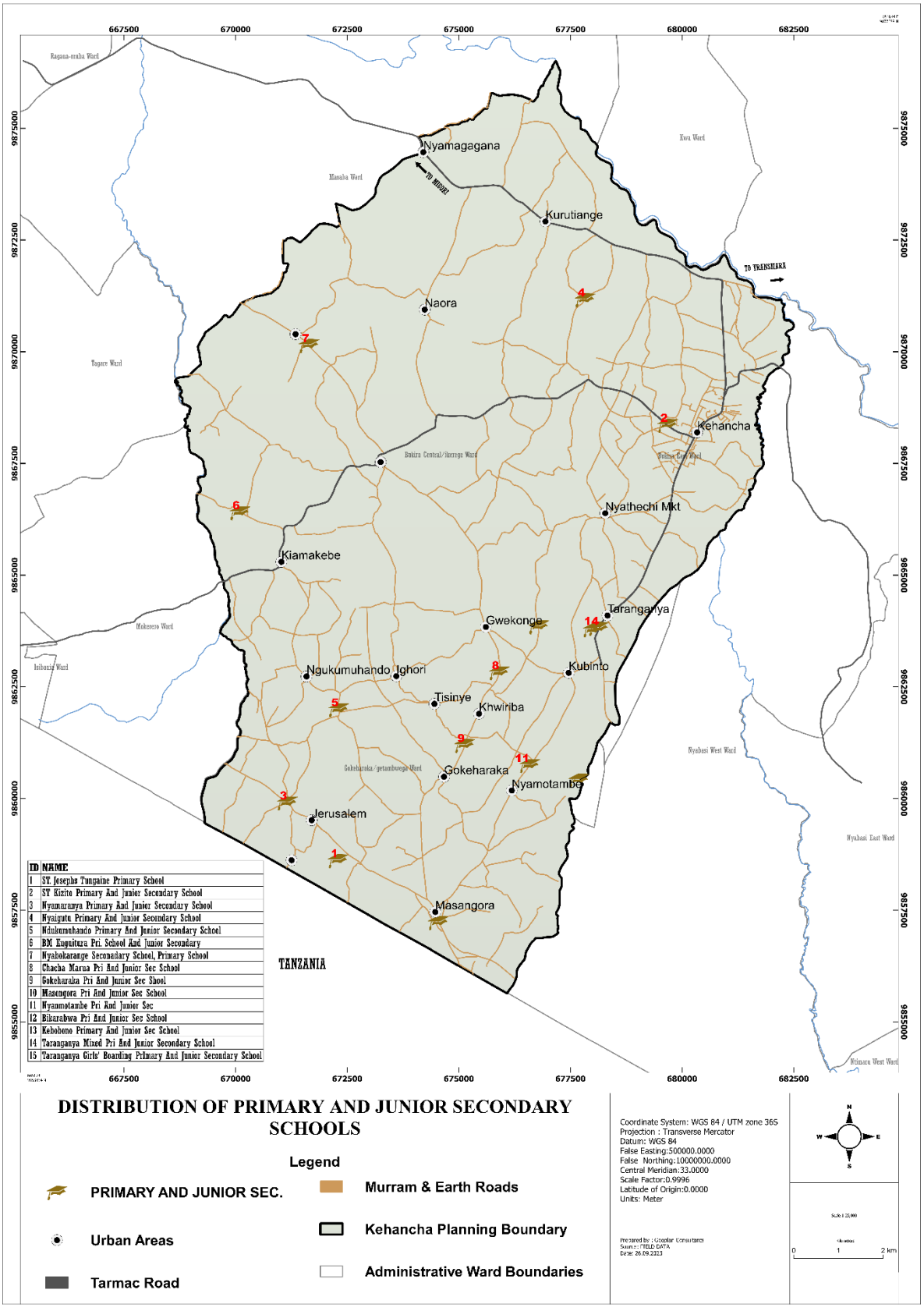
Distance		Percent
Valid	0 - 0.5 Kilometer	36.1
	0.5 Kilometer - 1.5 Kilometer	40.5
	1.5 Kilometer - 3 Kilometer	15.0
	3 - 5 Kilometer	6.6
	Above 5 kilometers	1.8
	Total	100.0

Source: Geoplan consultant ltd (2023)

b. Secondary Schools

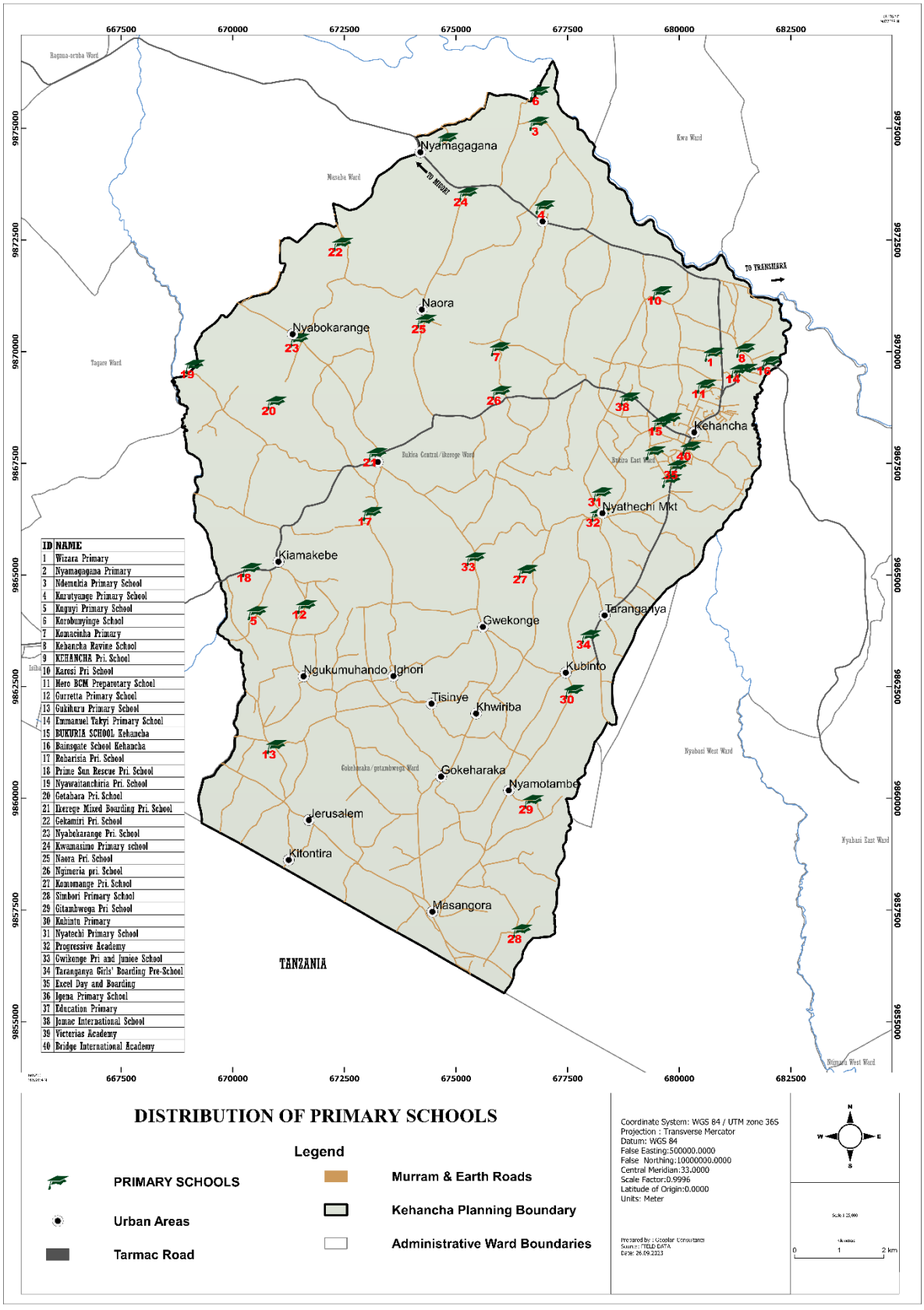
There are 32 secondary schools in the planning area. Kehancha Urban core is well served with secondary schools, but within peripheral standard walking distance for secondary schools is not adhered to as illustrated in Map 8- 3: Secondary schools' distribution and

Map 8- 1: Primary and junior primary schools' distribution



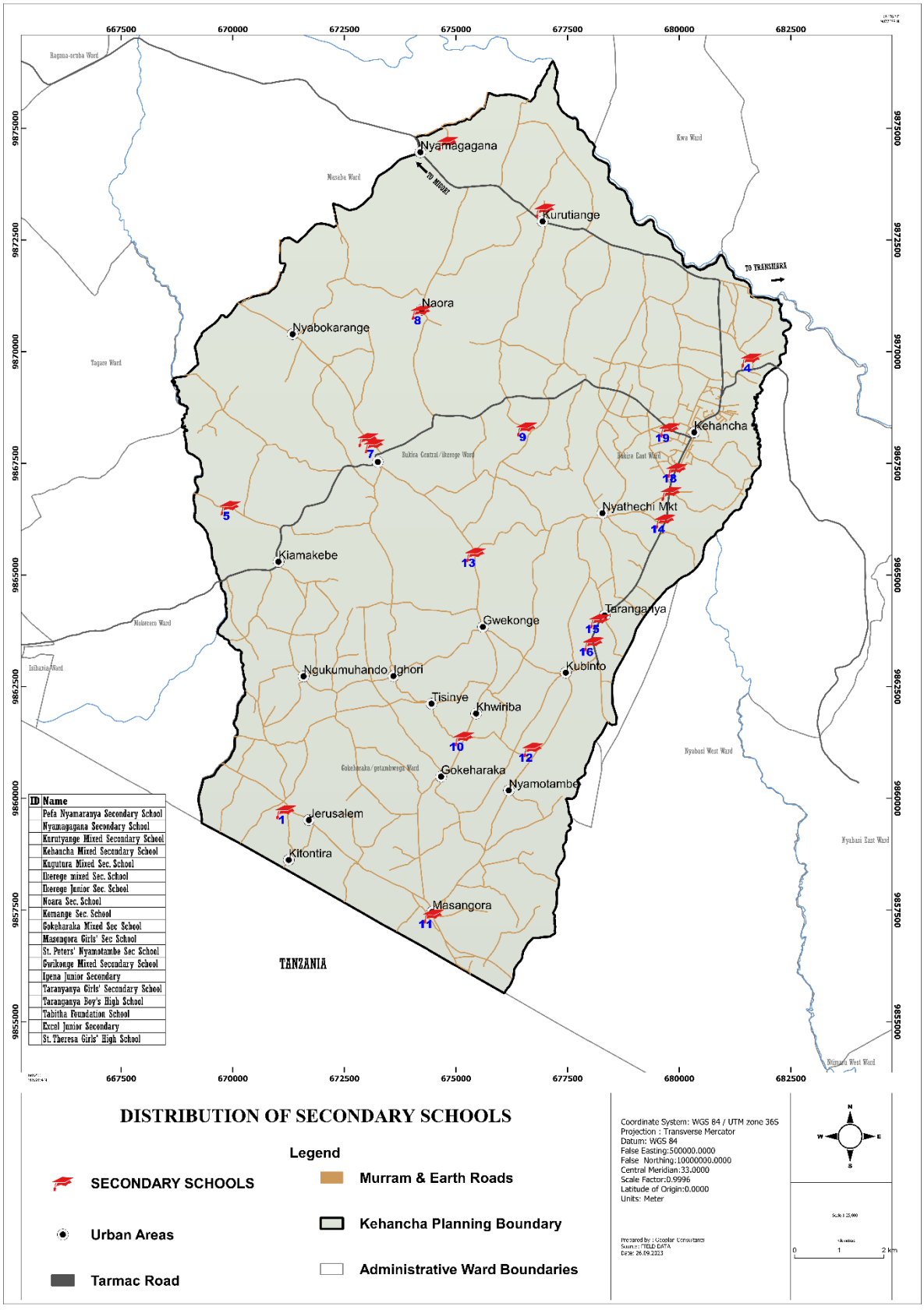
Source: Geoplan consultant ltd, 2023

Map 8- 2: Primary schools' distribution



Source: Geoplan consultants ltd, 2023

Map 8- 3: Secondary schools' distribution



Source: Geoplan consultant ltd, 2023

Table 8- 3: Secondary schools household walking distance

Distance		Percent	Cumulative Percent
Valid	0 - 0.5 Kilometer	23.4	23.4
	0.5 Kilometer - 1.5 Kilometer	36.1	59.5
	1.5 Kilometer - 3 Kilometer	24.6	84.1
	3 - 5 Kilometer	9.3	93.4
	Above 5 kilometers	6.6	100.0
	Total	100.0	

Source: Geoplan consultant ltd (2023)

c. *Tertiary Schools*

There are 3 tertiary institutions (Kenya Medical Training College−KMTC Kuria Campus, Gamasisi Vocational Training Centre and Bkuria Bible College) which is inadequate for the current and projected population which means skill development in the municipality is insufficient see Map 8- 4: Tertiary schools' distribution.

Table 8- 4: Tertiary schools household walking distance

Distance		Percent	Cumulative Percent
Valid	0 - 0.5 Kilometer	9.2	9.2
	0.5 Kilometer - 1.5 Kilometer	12.2	21.4
	1.5 Kilometer - 3 Kilometer	13.6	35.0
	3 - 5 Kilometer	6.9	41.9
	Above 5 kilometers	58.1	100.0
	Total	100.0	

Source: Geoplan consultant ltd (2023)

8.1.2. GAP ANALYSIS IN EDUCATION INFRASTRUCTURE

c) *Education provision standards*

Physical planning handbook provides spatial guidelines for equitable and standardized education service as follows;

Table 1: Education facility distribution standard guidelines

Facility	Population Catchment	Walking distance	No. of Streams	Area (Ha)
Nursery/ECDE	2500-Urban 4000-Rural	300-500m	-	0.15-0.20
Primary	4000	500m-2km	-	3.9
Secondary	8000	500m-3km	1 2 3	3.4 3.5 4.5
College	-	-	-	10.2
University	-	-	-	50

Source: Physical planning handbook (2008)

d) *Education provision gap analysis projection*

Using the projected population and provided spatial distribution standards, Kehancha municipality education facility gap analysis is as follows;

Table 2: Education gap analysis projection

Facility	Population Catchment	Area (Ha)	Available institution 2022 (Population- 95,633)	Gap in facilities at 2022 (Population- 95,633)	No. of facilities Required in 2027 (Population- 106,625)	Gap in facilities at 2027 (Population- 106,625)	No. of facilities Required in 2032 (Population- 118,881)	Gap in facilities at 2032 (Population- 118,881)
Nursery/ECDE	2500- Urban 4000- Rural	0.15- 0.20	81	Over provided	30	Over provided	33	Over provided
Primary	4000	3.9	54	Over provided	26	Over provided	30	Over provided
Secondary	8000	3.4 3.5 4.5	32	Overprovided	13	Overprovided	15	Overprovided
College	Polytechnic, Training institute, and College (50,000 population)	10.2	3	3	6	3	6	3
University	A constituent University campus (50,000 population)	50	-	2	2	2	2	2

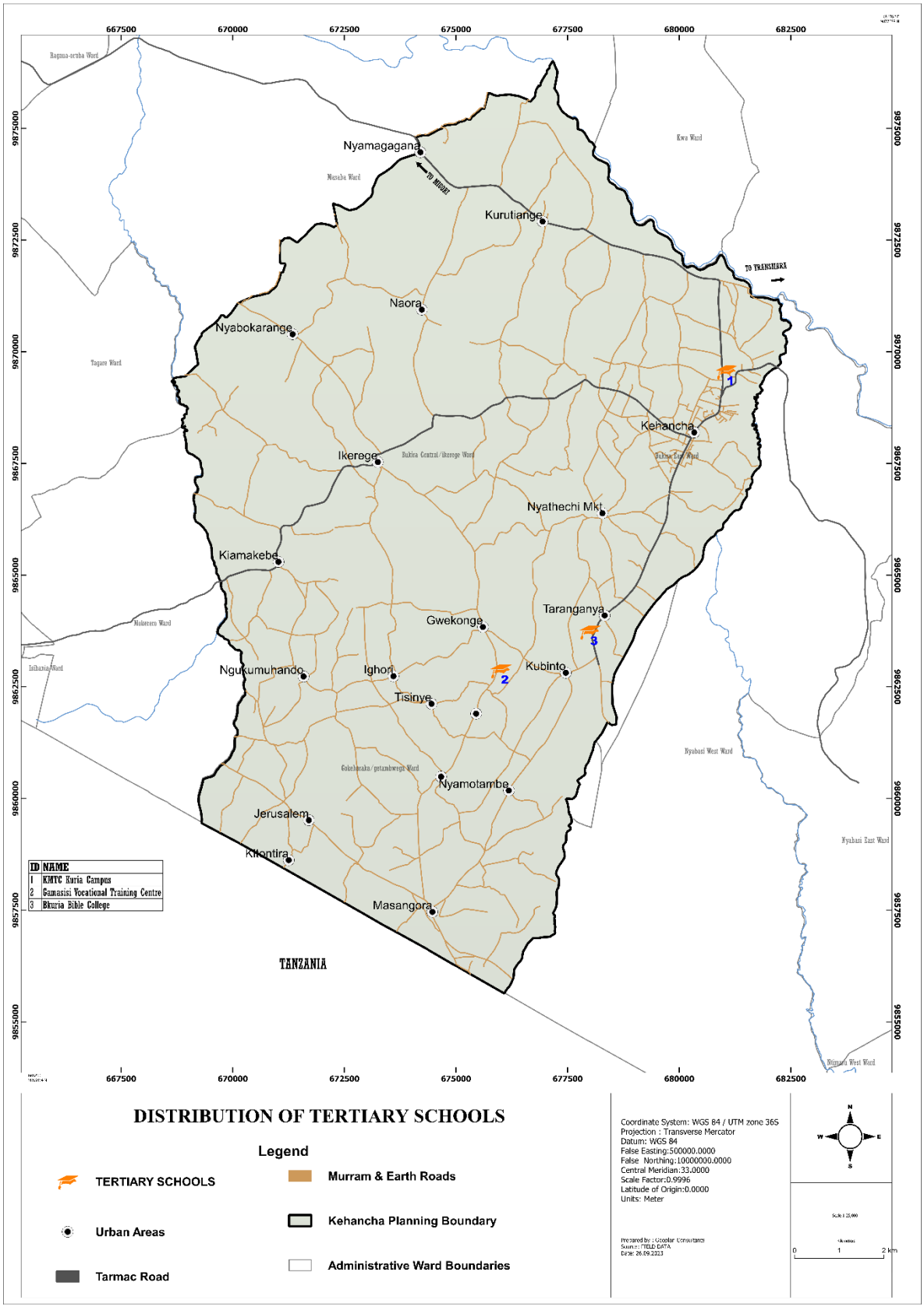
Source: Physical Planning Handbook (2008)

8.2. HEALTH FACILITIES

8.2.1. Distribution of Health Facilities

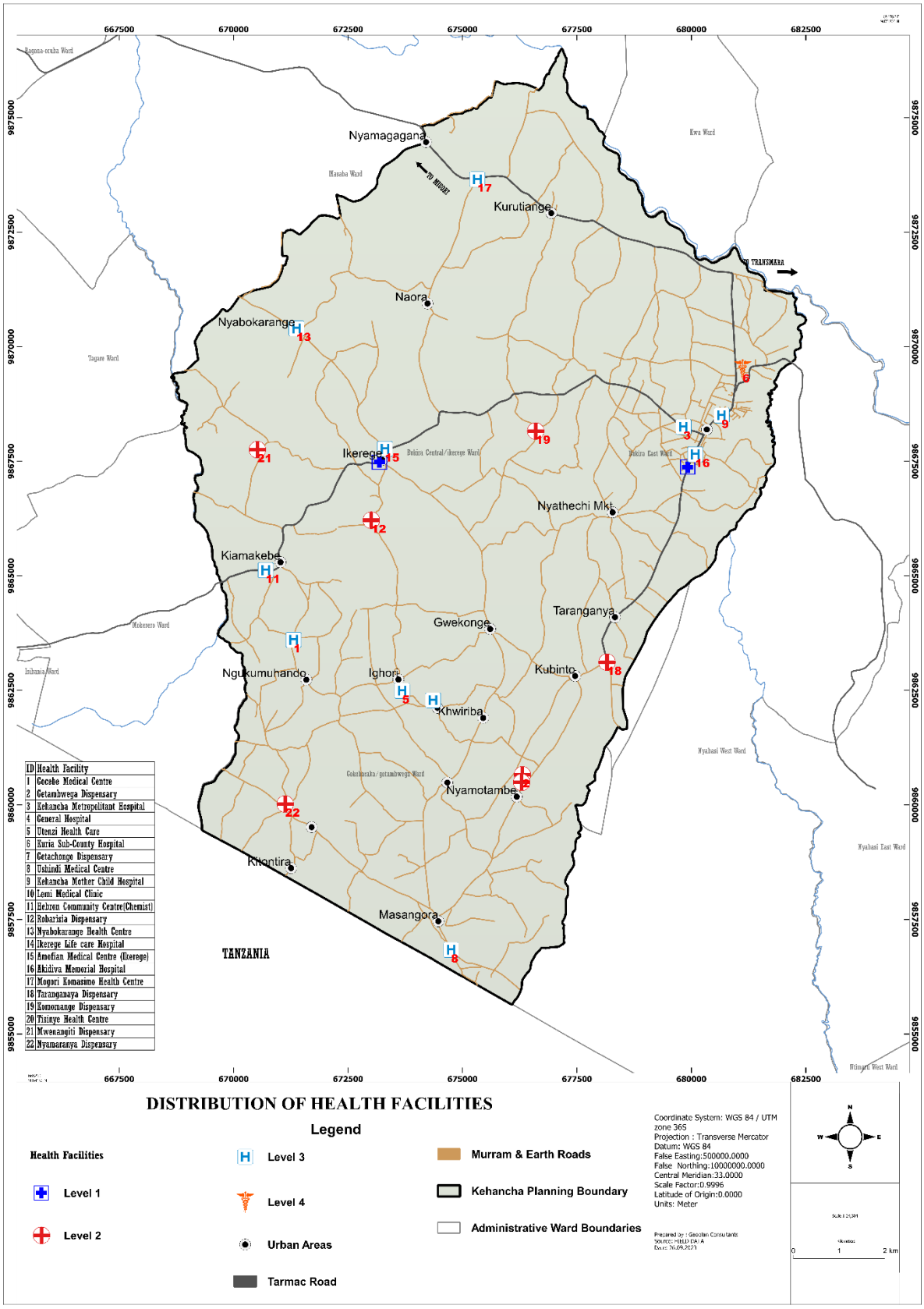
There are 23 health facilities in health facilities in the planning area. These include sub-county hospital, dispensaries, medical clinics, radiology units, dental clinics, health care, VCT centers, medical laboratories, maternity homes and nursing homes among others. Their distribution is illustrated in Map 8- 5: Health facility distribution.

Map 8- 4: Tertiary schools' distribution



Source: Geoplan consultants ltd, 2023

Map 8- 5: Health facility distribution



Source: Geoplan Consultant ltd, 2023

8.2.2. GAP ANALYSIS IN HEALTH SERVICES

Kehancha sub-county hospital is a level 4 that serves a larger population and referrals cases from neighboring country Tanzania. This has overstretched the facility with a bed capacity of 120 inpatient, which is below the Ministry of Health standard a minimum of 150 beds for a level 4 hospital. Kenya Health Quality Assurance also provides a population catchment of 1:8000 for a health facility. Using projected population and KHQA standards Kehancha municipality health facility demand will be as illustrated in Table 8- 5: Health facility gap analysis.

Table 8- 5: Health facility gap analysis

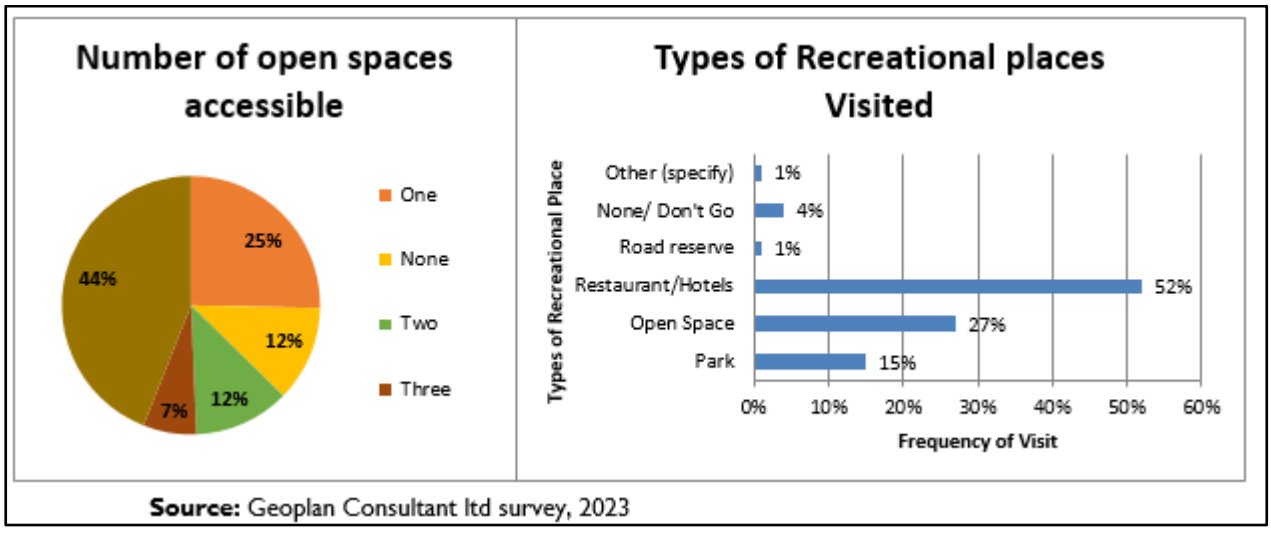
Facility	Available health centers	Expected health centers at 2022	Expected health centers at 2027	Expected health centers at 2032
Health Center	4	11	13	15
Dispensary	8	11	13	15

8.4. RECREATION FACILITIES AND URBAN GREENERY

8.4.1 Public Recreational Facilities:

Kehancha municipality have public space designated for a stadium but not developed. However, 44% of residents have access to open spaces and a few residents (12%) lack access to open spaces as shown in chart 8-1. Even though existing recreation spaces are not developed, municipality residents still use the available spaces as illustrated in chart 8-1. Recreation facilities' distribution is as illustrated in Map 8- 6: Recreation facilities' distribution.

Chart 8- 1: Recreation facility accessibility

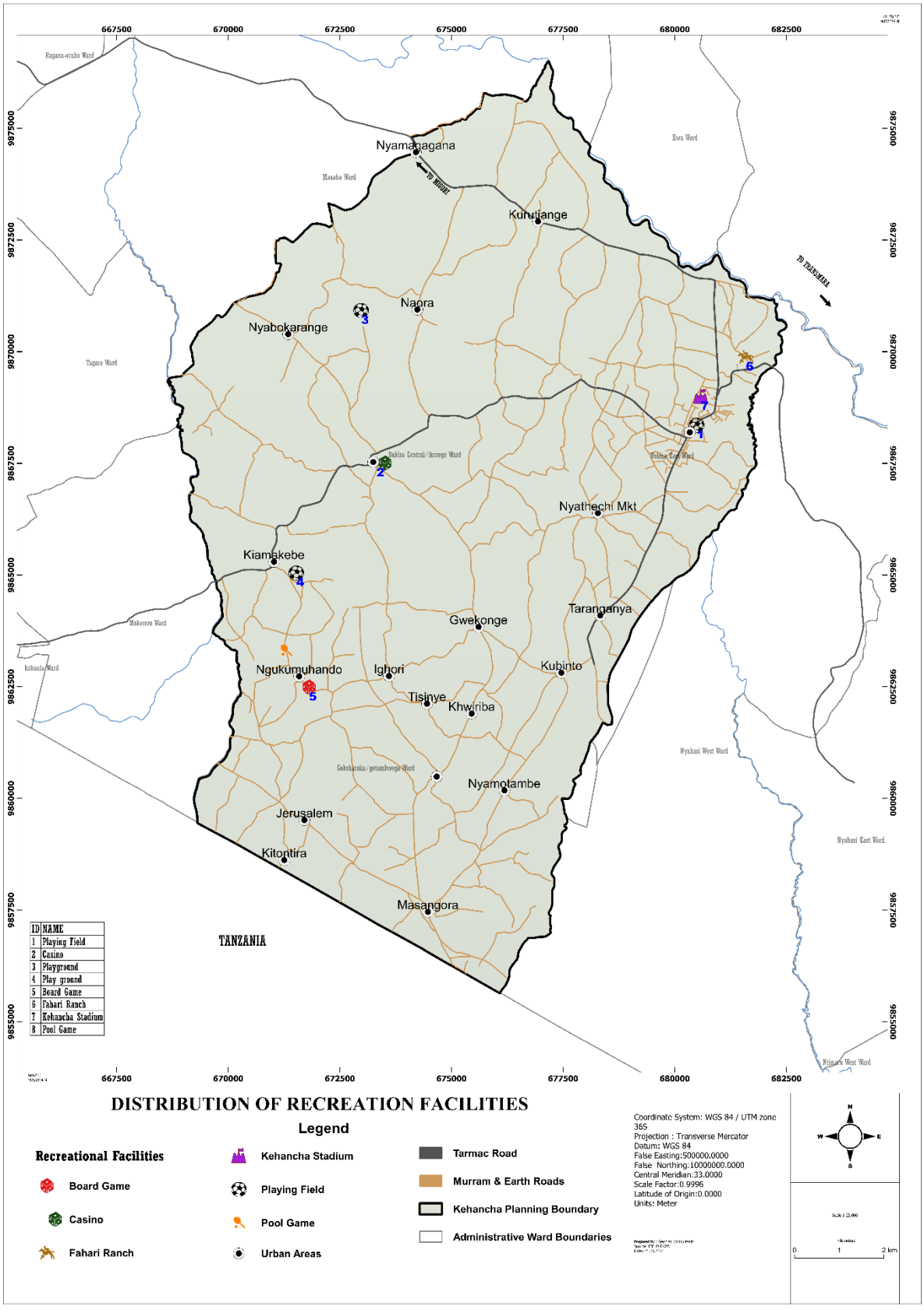


Source: Geoplan Consultant ltd survey, 2023

8.4.2 Private Recreational Facilities:

There are few private recreational facilities within the planning area. These are mainly found in resorts, hotels and private schools. Most of these facilities are open to the public but not affordable to the low-income families with only a few families (11%) who are able afford the private recreational facilities. However, most residents (52%) have visits restaurants /hotels for recreation services (See chart 8-1).

Map 8- 6: Recreation facilities' distribution



Source: Geoplan consultants ltd, 2023

8.5. COMMUNITY FACILITIES

8.5.1 libraries

Kehancha municipality has one Library which is not operational (Macmillan Community Library) located at Ikerege urban area. To promote literacy the ratio of community library to population catchment in Kenya in 1:50,000. Kehancha population is estimated at 95,633 which calls for at least two public libraries.

8.5.2 Fire station

Kehancha municipality lacks a well-equipped and staffed fire station with makes the residents vulnerable to fire disasters. The planning area requires a well-equipped fire station in order to prevent loss of property and life in case of fire emergencies especially in the dense neighborhoods.

8.5. 3 Postal services

Kehancha municipality has a number of postal service providers: - Kenya Postal Service, Private service courier i.e., Bungoma line, Premium shuttle among others. This is a sign of the municipality being connected to the global market and information.

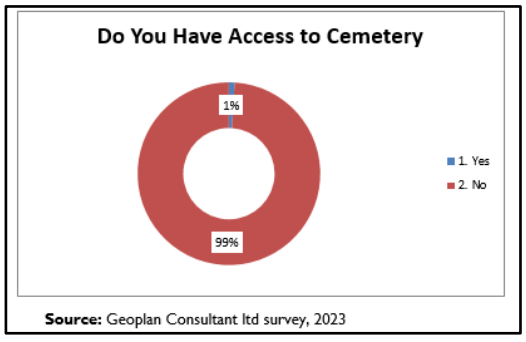
8.5.4 community centers

Presence of public and private community centers are important as they support community empowerment and offers a convenient place for communities to meet and participate in public participation. Msichana empowerments a private community center and Ikerege social hall and multipurpose hall are some of the public community centers available within the planning area. From the socio-economic survey done, most of the residents (90%) are not aware of the existence of community centers. It is notable that the community centers are not well spread within the planning area.

8.5.5 cemeteries

There are no cemeteries within the planning area. Most people still bury their dead within their premises. The 1% percent represented in chart 8-1 uses public cemetery in Migori.

Chart 8- 2: Access to cemetery



8.6. SECURITY FACILITIES

8.6.1. Distribution Of Security Facilities

Kehancha municipality has one earliest gazetted police station in Kenya at around 1957. The police station serves radius of over 20km inclusive of the municipality. To solve this, additional police posts in Kurutiyange, Nyamagagana, Kosebe/Kiomakobe, Nyamaranya should be implemented. Existing security facilities is as illustrated in Table 8- 6: Security facilities distribution and Table 8- 6: Security facilities distribution.

Table 8- 6: Security facilities distribution

Type	Number	Status
Police Station	1	Active

Police Posts	5	1 (Taranganya inactive)
Patrol Base	1	Active
Chief's office	5	Active

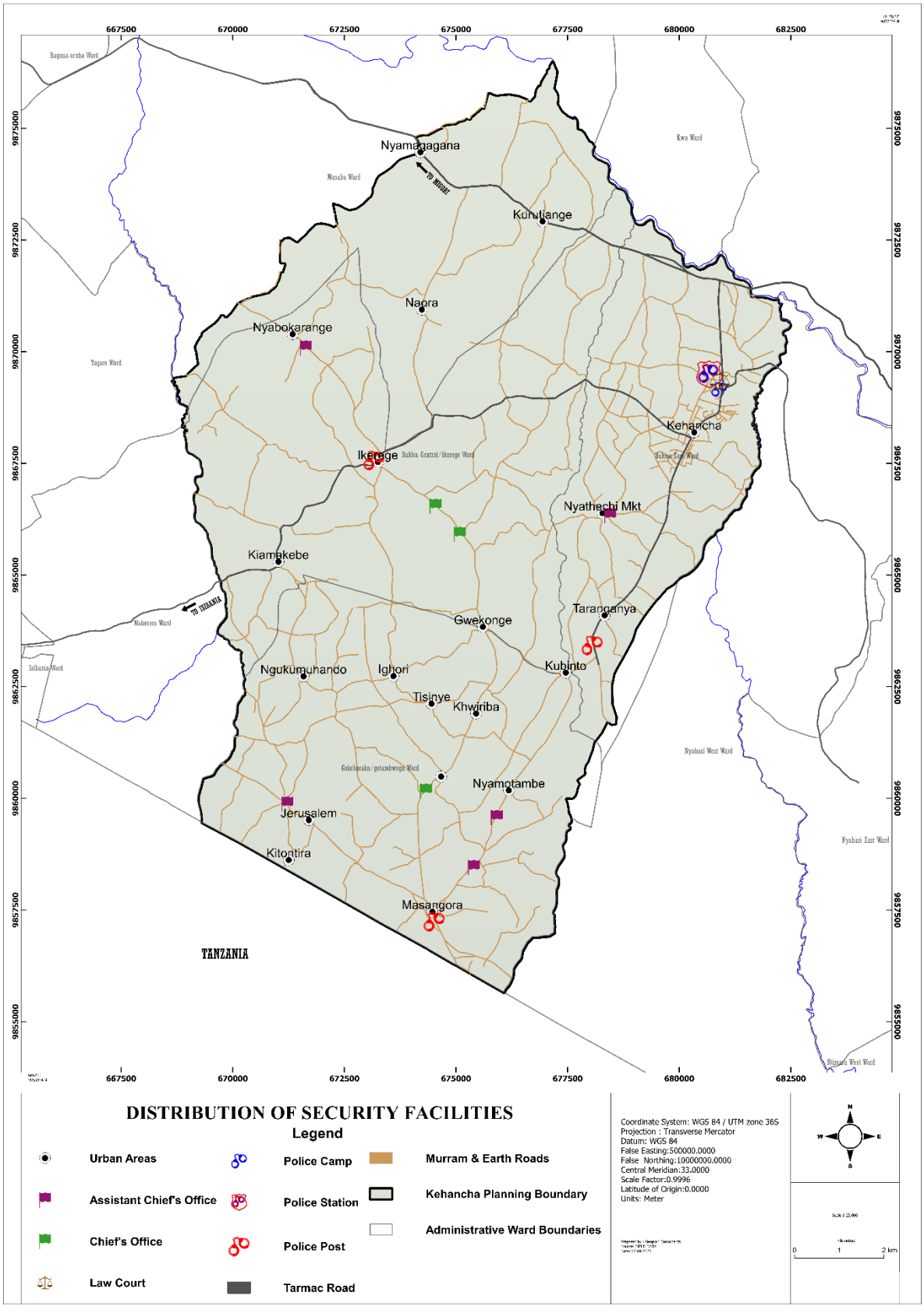
Challenges in Provision of Security

i. The police stations and bases are highly strained as they cover an area of 20km radius.
ii. Ikerege and Getonganya police posts have been gazette as police posts but they still operate like patrol bases and are understaffed and under equipped.
iii. The whole planning area boasts only two patrol cars causing a stress in response and general transportation.
iv. Narrow streets.

8.7 POC ANALYSIS FOR SOCIAL INFRASTRUCTURE

Sub-Sectors	Potential/Opportunities	Constraints
Education	• Existences of pre-primary, primary and secondary education institutions that serve available and 10 years projected population. • Available public land for construction of education facility.	• Inadequate distribution of tertiary institution in the planning area • Poor road infrastructure making accessibility to schools difficult • Lack of classrooms and other physical facilities such as laboratories and roads. • High poverty levels at the household level - most households fall below the poverty line and thus put a low priority on education
Health	• Available private health facility providers to supplement health service provision. • Available health partners in the municipality such as Catholic dioses of Homabay	• Inadequate number of health care personnel in public health facilities. • Poor referral system due to lack of specialized services • Unreliable supply of health commodities (drugs and non-pharmaceuticals)
Recreation	• Gate way to Mara national park • Potential to invest in recreation • Existence of land already demarcated for recreation	• Land grabbing of the public open spaces • Illegal mining activities in area demarcated for stadium
Community facilities	• Potential to invest in community facilities • Community good will to use community facilities	• Land grabbing of the areas set aside for cemeteries • Degraded state of existing facilities
Security facilities	• Existence of Nyumba Kumi initiative to provide security services.	• Vastness of the planning area may overwhelm the security personnel

Map 8- 7: Security facilities' distribution



Source: Geoplan Consultant ltd, 2023

CHAPTER NINE: SYNTHESIS OF EMERGING ISSUES

9.1 EMERGING ISSUES

The emerging issues in Kehancha Municipality are pivotal factors that will shape the trajectory of its urban development journey. These issues encompass both opportunities and challenges, representing the dynamic landscape within which the municipality operates. Understanding and effectively responding to these emerging issues are fundamental steps in Kehancha Municipality's quest for sustainable urban development, ensuring its path towards a more prosperous, resilient, and vibrant future.

SECTOR	EMERGING ISSUES	PLANNING REQUIRED APPROACH
URBAN GOVERNANCE	• Weak planning and enforcement capacities • Poor inter-departmental linkages and operations • Inadequate technical expertise • Inadequate financing	• Inter-departmental Collaboration and Coordination. • Multi-agency Approach in the Implementation of the plan • Budgetary allocation of funds to the Municipality
PHYSIOGRAPHIC CHARACTERISTICS	• Costly infrastructure development • Land pollution • Encroachment on riparian areas • Poor access to water resources due to pollution and drainage patterns can affect water quality and availability • Soil erosion • Obstruction by rock outcrops	• Sustainable Environmental Planning • Developing Land Information System • Enforcement of Development Control Regulations
ECOLOGY	• Deforestation pressure • Ecological zones provide an opportunity for farmers to better understand the seasons • Afforestation • Harsh climatic conditions • Encroachment • Pollution and drainage issues • Ecological imbalance • Soil erosion • Drought vulnerability	• Ecosystem-Based Management • Geological survey • Land Suitability Assessment and Analysis • Disaster Management Plan
POPULATION AND DEMOGRAPHY	• Rapid population growth strain existing resources and infrastructure • Innovation and entrepreneurship • Cultural heritage • A high population indicates a potential for increased investment in education • Informal economy dominance	• Comprehensive Urban Planning • Education and Skills Development • Resource Management • Promotion of Innovations

SECTOR	EMERGING ISSUES	PLANNING REQUIRED APPROACH
	• Rapid population growth, combined with limited job opportunities, can lead to higher crime rates	
HUMAN SETTLEMENT'S STRUCTURE	• Locally available building materials • Infrastructure investments • Ready housing market • Growing population • Uncontrolled development • Informal settlements • Disaster risks • Constrain by the absence of fundamental infrastructure and services • High land prices	• Zoning and Regulatory Controls • Affordable Housing Planning • Slum Upgrading Programs
ECONOMY	• A diverse and vibrant entrepreneurial culture fosters innovation and business growth • Tourism opportunities • Reliable power supply • Rich agricultural production • Irrigation potential • Industrial diversification • Limited access to finance • Taxation and low reinvestment rates • Agricultural value chain gaps • Unclear urban land use measures create uncertainty for businesses and urban development • High cost of capital	• Value Chain Enhancement approaches • Taxation Reforms • Access to finance for small and medium-sized businesses approaches
LAND	• Presence of private land ownership encourages maximum investment • Land grabbing • Lack of zoning regulations • Availability of undeveloped land presents opportunities for new investments and developments • Presence of mineral ores • Rapid land subdivision • Encroachment on public spaces and wayleaves • Poor soil conservation practices • Absence of land banks • Un-surveyed plots	• Land tenure reforms • Gazettement of the mining zone • Preparation of Special Area Plan for the Mining area • Implementation of Land Subdivision Regulations
PHYSICAL INFRASTRUCTURE	• Poor solid waste management • Environmental pollution due to mining activities.	• Enactment and implementation of mining regulations

SECTOR	EMERGING ISSUES	PLANNING REQUIRED APPROACH
	• Deteriorating quality of water sources • Infrastructure vandalism • Poor road conditions • Inadequate supply of water • Poor liquid waste management • Encroachment to the public spaces	• Sustainable infrastructure planning • Preparation of Municipal Transportation Masterplan
SOCIAL INFRASTRUCTURE	• High poverty levels at the household level led to a low priority on education and healthcare. • Inadequate number of healthcare personnel • Grabbing of land for social infrastructure uses. • Degradation of the existing facilities posing challenges for their use. • Inadequate distribution of tertiary institutions	• Enforcement of zoning regulations • Targeted Investment in Education and Health care

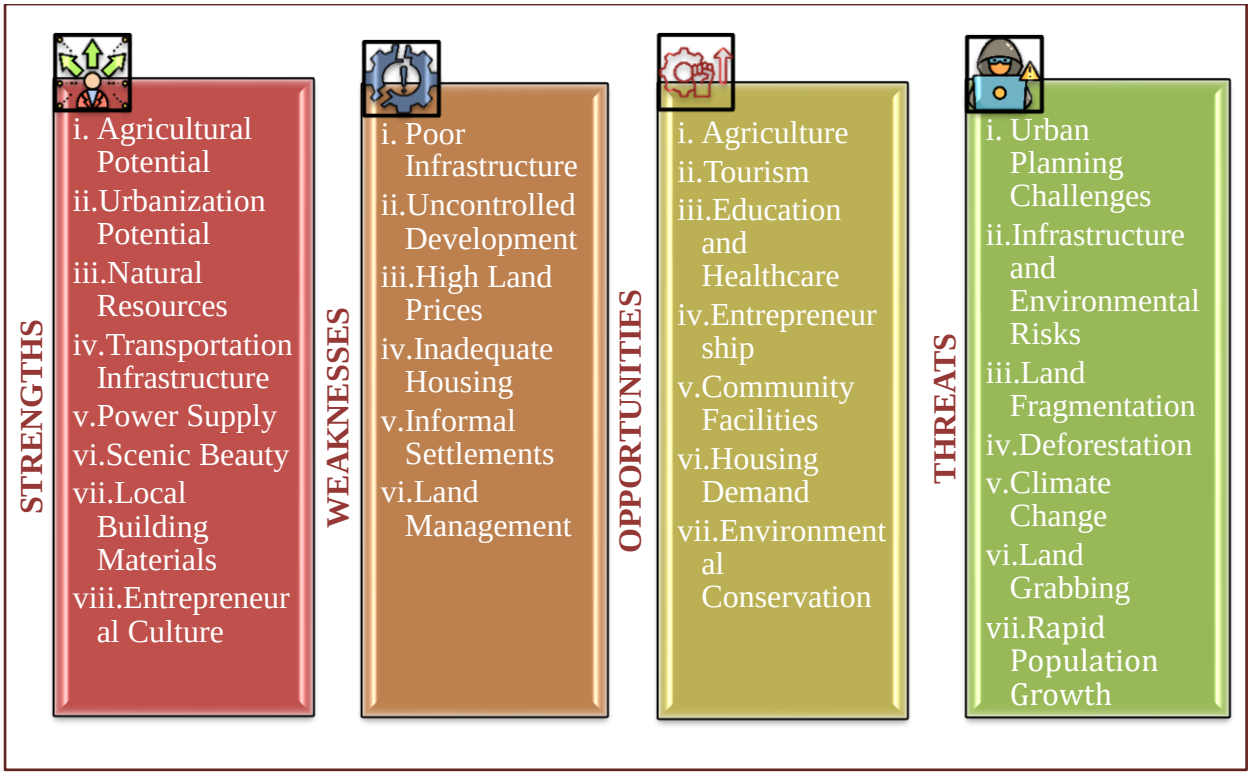
9.2 STRENGTHS, WEAKNESS, OPPORTUNITIES AND THREATS ANALYSIS

The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is a fundamental tool for understanding the current state and desired future of Kehancha Municipality. This analysis delves into the municipality's strengths and weaknesses, as well as opportunities and threats it faces. This is important in preparing the Local Physical and Land Use Development Plan that capitalize on its strengths, address its weaknesses, leverage opportunities, and mitigate potential threats. This SWOT analysis will provide valuable insights into the municipality's path towards sustainable urban growth and resilience in the face of challenges.

STRENGTHS	WEAKNESSES
1. A growing population represents a ready market for housing and economic activities. 2. The availability of good arable soils supports agriculture, and the area's reputation for agricultural output, including maize and horticulture, provides economic opportunities. 3. The municipality boasts scenic beauty with Nguku caves, rock outcrops, and hills, which can attract tourists and enhance its appeal. 4. The presence of mineral ores like gold can be harnessed for economic gain.	1. Many residential areas lack basic infrastructure and services, hindering the quality of life for residents. 2. High land prices, particularly in core and peri-urban areas, make affordable housing development challenging and can lead to housing inequality. 3. The absence of residential zoning plans and regulatory controls results in uncontrolled subdivisions and haphazard development, leading to inefficient land use. 4. Demand for decent housing surpasses supply, highlighting the need for affordable housing solutions.

5. Locally available building materials like bricks, sand, and stones reduce housing construction costs. 6. Good road infrastructure and proximity to Lichota air strip facilitate trade and economic activities, especially in the tourism sector. 7. Reliable power supply promotes the service sector, and renewable energy sources offer potential for uninterrupted and affordable power. 8. The presence of a diverse and vibrant entrepreneurial culture fosters innovation and business growth.	5. The presence of slums and informal settlements underscores housing inequality and poor urban planning. 6. Challenges related to land, including rapid population growth, land grabbing, and un-surveyed plots, can disrupt planned development.
OPPORTUNITIES 1. The area's agricultural potential can be further leveraged to enhance food security and support food processing and allied industries. 2. The presence of mineral ores, such as gold, offers opportunity for extraction and mining-related economic activities. 3. The municipality's proximity to Maasai Mara game reserve, scenic attractions, and good road infrastructure can boost tourism 4. The presence of a dynamic entrepreneurial culture provides opportunities for business growth and job creation. 5. Partnerships and available land offer opportunities for improving the education and healthcare sectors. 6. Investment in community facilities can enhance the quality of life and promote community well-being. 7. Afforestation initiatives and other environmental projects can help mitigate deforestation and environmental challenges.	**THREATS** 1. Lack of clear measures on urban land use and uncontrolled development may lead to inefficiencies and inadequate service access. 2. Land encroachment, pollution, poor waste management, and the impact of mining activities pose environmental and infrastructural risks. 3. Deforestation occurring at a fast rate due to population pressure threatens the environment. 4. Harsh climatic conditions, including drought, pose risks to agriculture and livelihoods. 5. Increased land subdivision and fragmentation could lead to uneconomic land units. 6. Encroachment on public spaces and land grabbing pose challenges to planned development. 7. The municipality's rapid population growth can strain existing resources and infrastructure, leading to overburdened systems and increased demand for services.

The summary of the SWOT analysis for Kehancha Municipality is as follows;



CHAPTER TEN: SPATIAL CONCEPTS AND DEVELOPMENT SCENARIOS

10.1 OVERVIEW

Scenario building takes into account the numerous challenges and opportunities identified in the stakeholder engagement and situation analysis. The plan's vision was the guiding pillar that informed development scenarios and decision-making process of coming up with the structure plan. Figure 10-1 illustrates steps involved in scenario development.

Figure 10- 1: Steps in scenario development

10.2. SPATIAL CONCEPTS

Spatial development concepts are alternatives of development, approaches that would spur the growth of Kehancha Municipality over the next few years. They are based on theoretical models developed by sociologists and scholars in an attempt to understand human settlement and its influence on the urban growth of an area. The development models discussed in this chapter include the **concentric zone model**, the **Hoyts sector model** and the **multi-nuclei model.**

10.2.1 Concentric Zone Model

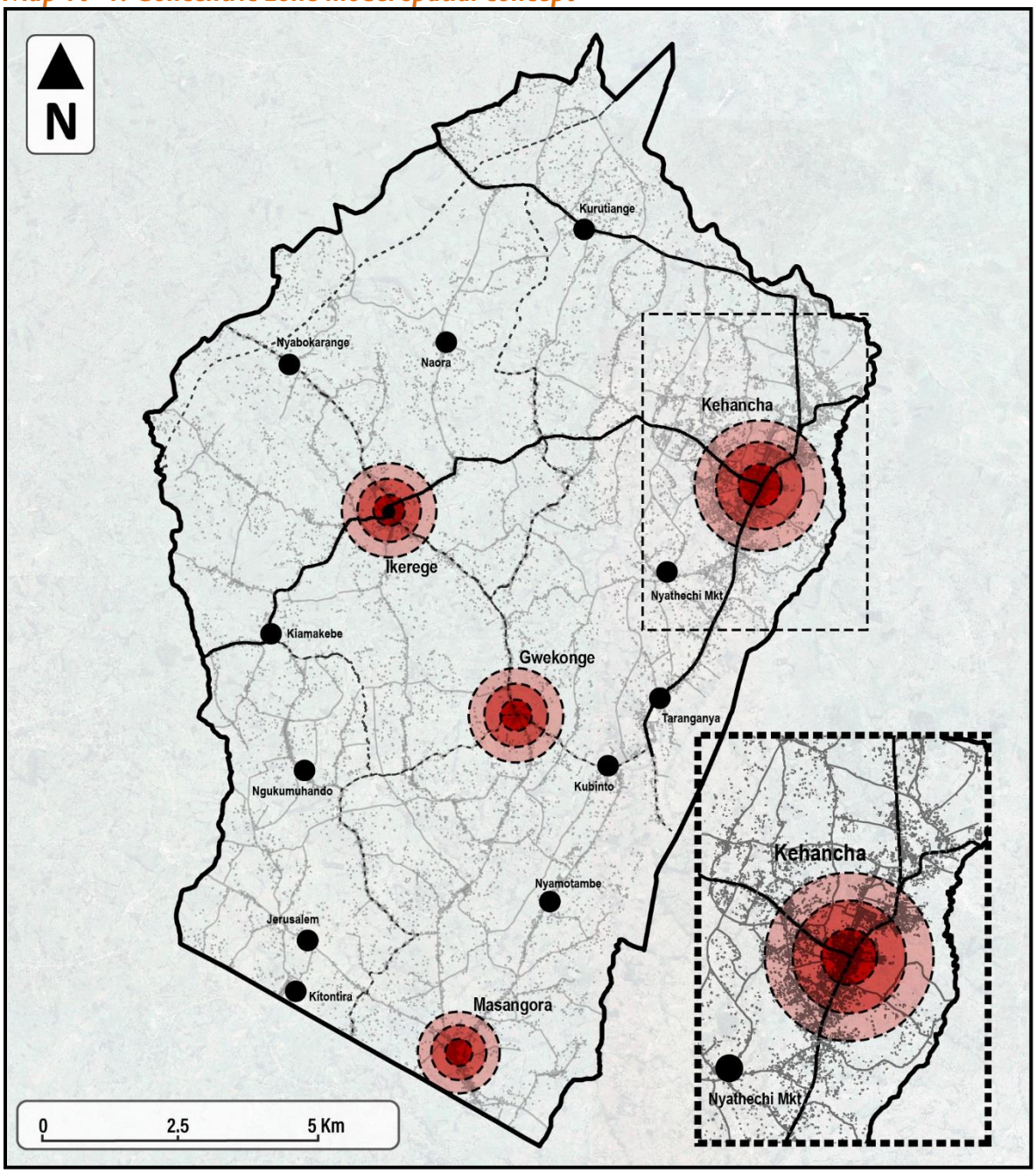
The model also known as Burgess model, was developed in 1925 by sociologist Ernest W. Burgess in 1925. The model theorizes that cities can be divided into a series of concentric rings or zones emanating outwards from the CBD. Each of these rings, he suggested, has a distinct character and function in relation to the working and efficiency of the city (Map 10-1: Concentric zone model spatial concept).

a) Model limitations

In relation to Kehancha Municipality, adopting this model giving precedence to Kehancha town and other emerging urban areas, would have a variety of challenges including;

a) Kehancha town Municipality integrates aspects of mixed-use activity within its urban areas, whereas this model suggests a single commercial district with other land uses and functions being located to the periphery of the CBD.
b) This model suggests the location of human settlement towards the hinterland, where a variety of physical and natural features such as changes in terrain, forest, and rivers may be a limiting factor. Adopting this model may also encourage urban sprawl into agricultural land and pollution of natural resources.
c) Adopting this model would limit the opening or emergence of other sub-centers within our planning area since most resources are focused on the CBD.
d) The concentric zone model takes into account an intricate system of connectivity, with varied means of transport to link the outer city (hinterland) to the inner city (C.B.D). Since transportation within Kehancha Municipality is solely done through the use of road, adoption of this model may be a challenge considering the growing nature of the Municipality.

Map 10- 1: Concentric zone model spatial concept



Source: Geoplan consultants ltd, 2023

10.2.2 Hoyts Sector Model

Also known as 'The Hoyt Model' was developed by the land economist Homer Hoyt as an alternative to the earlier discussed 'Concentric Zone Model'. It ascribes to the idea that cities grow outwards from the CBD epicenter, in a series of wedge-shaped sectors, that each connect to the more urban core. This model's theoretical framework attempts to explain the spatial organization and structure of cities and its effect on both human and urban geography (Map 10- 2: Sector model spatial concept).

a) Sector Model Superiority to the Concentric Zone Model

As compared to the Concentric Zone Model developed earlier, this model encourages urban growth into the periphery of the urban centers. Adoption of this model is also able to limit or control the growth and urban sprawl into environmentally sensitive areas. The model also encouraged a more nucleated approach to urban development in terms of the mix of land use.

b) Hoyt Sector Model Limitations

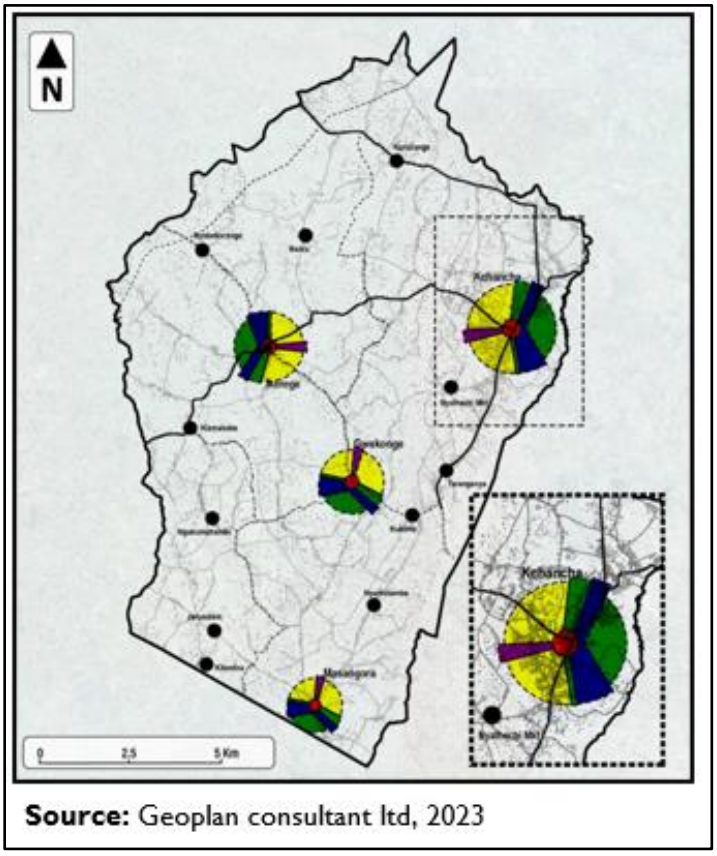
Taking into account the human development patterns and the spatial growth structure of Kehancha Municipality, the following are some of the limitations of this model application.

a) This model suggests the direct linkage of land uses such as industrial use to the urban core as well as other highly populated residential areas. Mining activities within the Municipality, need to be controlled and limited to certain less populated areas so as to control aspects such as land degradation and public safety.

b) This model limits equality by secluding the access of low-income households from the CBD, thereby making it a challenge for them to transverse from their areas of residence to their work environments.

c) Similar to the concentric zones suggested earlier by Ernest W. Burgess, confining certain land uses to sectors may not be possible due to the diverse location of resources and infrastructural limitations in some areas within the Kehancha Municipality.

Map 10- 2: Sector model spatial concept



Source: Geoplan consultant ltd, 2023

10.2.3 Multi-Nuclei Model

This model was developed as an improvement to the previously discussed models. Unlike the concentric zone model and the sector model, which emphasize single centers of activity, the Multiple Nuclei Model proposes that cities have multiple centers or nuclei of different

activities and land uses. This model was developed by Chauncy Harris and Edward Ullman in 1945 to address the limitations exhibited by the 2 previous models.

a) Multi-Nuclei Model Superiority to the previous models

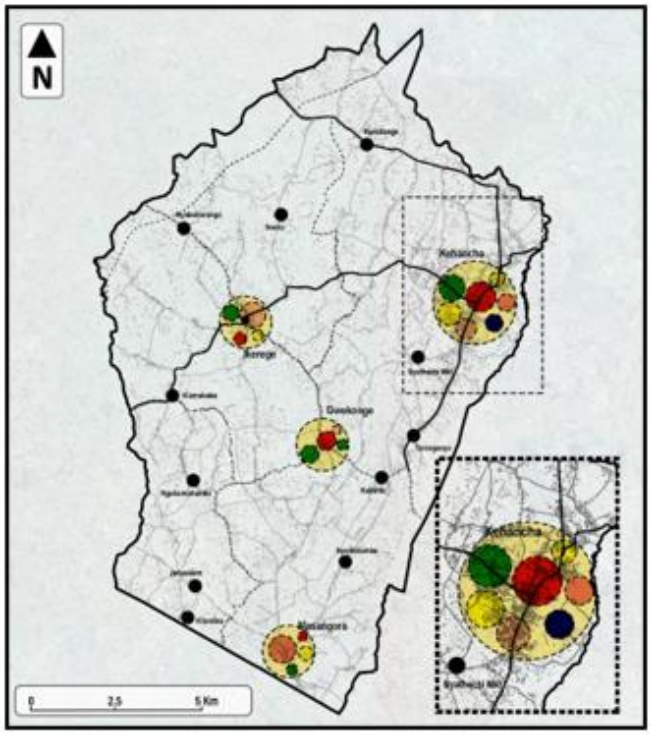
The model proposes various nucleated centers focused on various land uses within the planning area. The nuclei or activity centers are seen to have several specialized centers each with distinct functions and characteristics. The model also recognizes the fact that the location of various nuclei is influenced by natural, social, and physical factors, such as in transportation. 'Different activities are attracted to locations that offer easy accessibility.' The Multiple Nuclei Model also emphasizes the interaction and interdependence between these nuclei. For example, industrial areas may be located near transportation nodes and residential neighborhoods near employment centers.

b) Relation to Kehancha Municipality

Unlike the previously mentioned models, the multi-nuclei model gives a much more realistic representation of the spatial growth structure of the Kehancha planning area. It takes into account various push and pull factors that influence human settlement such as resource location and transport networks and factor them into the functioning of these nucleated spatial forms. The reflects the complex and diverse nature of modern cities more accurately than the concentric and sector models and acknowledges that cities can have a wide variety of land uses and activities distributed throughout them.

The growth of urban areas in the Kehancha planning area hinterland has mainly been influenced by the presence of road networks. The multi-nuclei model takes into account the role of transportation networks and the emergence of specialized centers, such as industrial areas (Kurutiange), civic zones (Kehancha Chini) and educational institutions (Ikerege) among others, in shaping urban development.

Map 10- 3: Multi-nucleic spatial development concept



Source: Geoplan consultants ltd, 2023

10.2.4 Adopted spatial development concept

Based on this, planning the Kehancha municipality to adopt a more nucleated approach in its development will not only encourage sustainability and specialization in each of these urban centers but also enhance the growth of other support centers. This development model is a more flexible and realistic approach, that can be used to understand and predict the urban structure of the planning area, as well as emphasizing the presence of multiple activity centers and the role of transportation networks and resources within them. It is also adaptable to the social, physical, and natural landscape of the planning area as compared to the other models (Map 10- 3: Multi-nucleic spatial development concept).

10.3 DEVELOPMENT SCENARIOS

10.3.1 Status Quo

This scenario assumes that the municipality is left to grow organically, with no planning intervention. The scenario would lead to increased subdivision of agricultural land, uncontrolled urban sprawl, encroachment into environmentally sensitive areas and road reserves.

10.3.2 Transport transit model

This scenario considers Kehancha as a transit Municipality. It takes into account that development occurs along major transport corridors. This scenario is a holistic approach to urban development in Kehancha, focusing on infrastructure, economic growth and tourism potential to create a vibrant and sustainable transit municipality. It is aimed at achieving the three main objectives:

a) Opening up the hinterland

To address this objective, a bypass road is proposed, running from Komasimo-Ikerege-Gwikonge- to Masangora. This bypass servs a dual purpose. Firstly, it facilitates the movement of traffic to Masangora without passing through Kehancha CBD, reducing congestion of traffic on the existing routes. Secondly, it helps open up the hinterland, making it more accessible for development and economic activities.

b) Reducing traffic congestion in Kehancha town

Reducing congestion in Kehancha CBD involves the creation of a ring road that runs from Igena-St Kizito- Karosi – DC's office. This ring road will serve as an alternative route for motorcyclists and motorists who want to access other parts of Kehancha without having to pass through the CBD. This will be followed by setting up non-motorized transport along major roads and within Kehancha CBD, Ikerege, Masangora, Tarang'anya, and Kurutyange to ensure pedestrian-friendly urban centers. Since motorcycles are the most popular mode of transport in Kehancha, setting up a designated motorcycle area within the CBD will also help reduce road shoulder parking of motorcycles which increases traffic congestion.

c) Setting up Kehancha as a stopover for tourists getting into Mara

To attract tourists heading to Maasai Mara, a new road is proposed, linking Namba Junction to Ikerege via Karosi. This is aimed at setting up a stopover at Namba Junction. This scenario

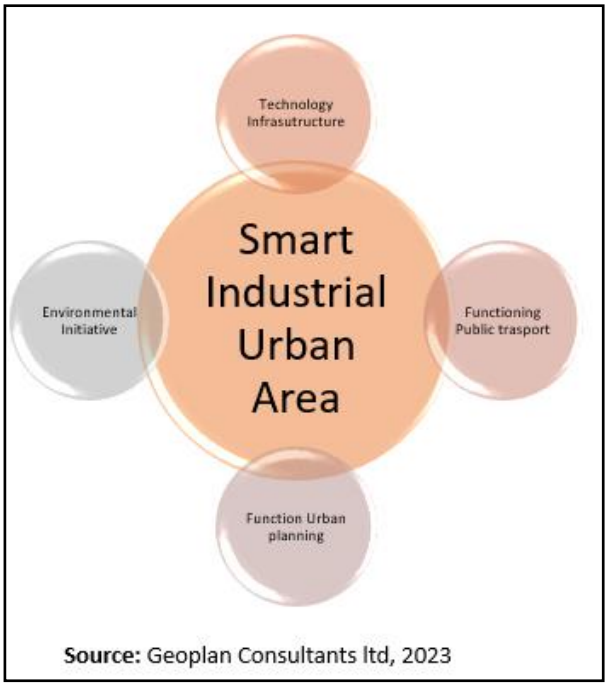
depends on classifying land at Namba junction for commercial land use, with hotels and food courts as preferred land use. This initiative is aimed to create a vibrant stopover destination for travelers, further boosting tourism in the area, especially in the gold mines and natural attractions like Nguku caves. The recently opened Lichota airstrip adds to the tourism potential, providing air connectivity to the capital city. Transport needs are influenced by changes in demography, economy, changes in technology and land use planning.

10.3.3. Industrial growth model

This model aims at transforming Kehancha municipality to smart industrial urban areas. Agriculture has the potential to contribute in driving the economy of Kehancha municipality with the main crops being maize and sweet potatoes. By capitalizing on bringing up agro-based industries that supports the agricultural potential, it will in turn create employment opportunities. Key consideration for implementation of this model include; technology-based infrastructure, environmental initiatives; a high functioning public transportation system; a confident sense of urban planning and a municipality where people live and work within utilizing its resource. The following proposals were put in place to support industrial development.

- Establishment of a maize milling and storage plant at Gwikonge
- Reviving the coffee processing plant at Mahuntutu
- Maintenance and standard improvement of the road network connecting Ikerege, Gwikonge and Taranganya to provide ease of movement of people and goods.
- Improving market infrastructure in the designated markets to make them functional.

Figure 10- 2: Industrial model framework



Source: Geoplan Consultants ltd, 2023

10.3.4. Environmental conservation model

This model envisioned a green municipality with low greenhouse gases emission. Conservation of environmental sensitive areas such as wetlands and riparian zones, forested areas, steep slope areas and mining zones, which spread across Kehancha municipality will be of main concern. These ecological environments, on the one hand, pose a constraint to development because large parcels of land must remain completely free of development. In addition, movement linkages across these areas are limited due to the cost and the need to minimize any form of intrusion into these areas, which in turn limits the development possibilities. On the other hand, these ecologically sensitive areas provide immense opportunities and value

from an ecological, identity, place-making, attractiveness, and value addition perspective, the riparian perform several, critical ecological functions.The riparian moderate impacts from flooding, control erosion, purify water, and provide habitat for fish and wildlife; hence, ecologically sensitive areas were integrated into the development proposals as an integral part of the development, rather than treating these areas as islands of undevelopable, see Map 10-4: Environmental conservation and industrial growth model.

The following proposals were put in place to ensure the ecological integrity of the planning area

- A proposed green buffer zone between the mining and agricultural area
- A proposed green park within Kehancha CBD
- Demarcation of a +30-metre-wide ecological buffer zone around the wetland and water bodies areas to provide additional habitat for indigenous fauna and flora and prevent encroachment
- A proposed action plan of the mining area that provides for regulations on controlled mining and a designated area for the leeching plants.
- Conservation measures of the fragile areas that in turn promote tourism within the municipality.

10.3.5 Urban renewal Scenario

This scenario addresses the 'decaying' physical structure of Kehancha town and environs. This model intervention will focus on opening up Kehancha CBD streets to standard sizes (6-meter, 9 meter and 20 meters where necessary), clearing road reserves, improving housing conditions in upcoming informal settlements, solid waste management and improving sanitation and access to water. This scenario proposes a compact mixed development in the major urban center, Kehancha town and some urban nodes including Kurutyange, Masangora, Tarang'anya and Ikerege. In Ikerege the scenario also proposes a bus stop. It also proposes a designated motorcycle stop in Masangora. The scenario seeks to improve the conditions of the population that is inadequately housed through:

i. Provision of public facilities such as playgrounds, recreational parks and libraries
ii. Restructuring and regularization of upcoming informal settlements
iii. Municipality beautification (tree planting, proper signage establishment and uniform urban concept)
iv. Proper urban design that improves the urban townscape (street lighting, better street architecture, and building architecture).

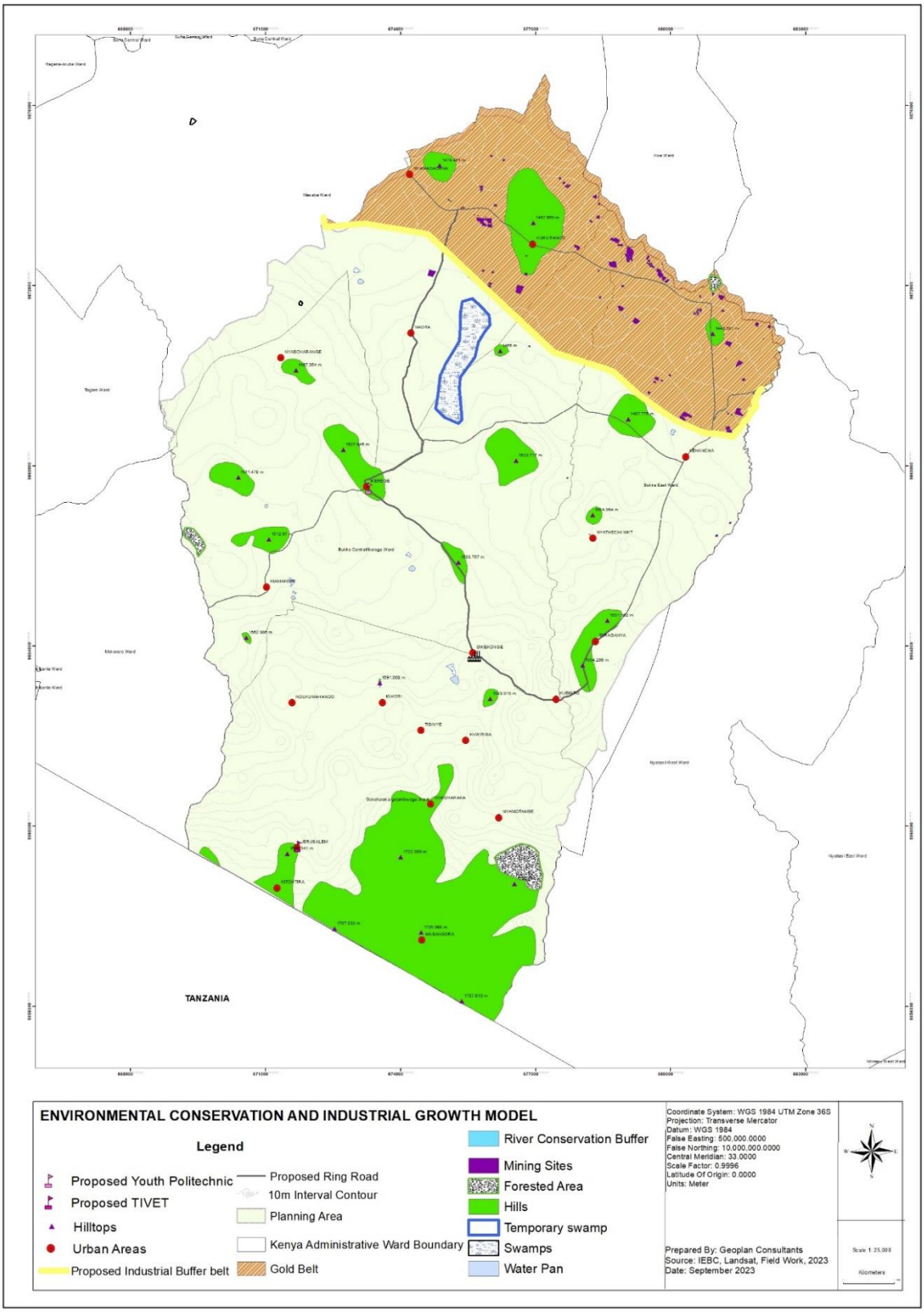
10.3.6 Integrated development scenario

Urban growth models are developed to help understand possible approaches and alternatives to urban expansion, and development and their implications. With each development scenario focusing on a single sector for transformation or the urban area, this might not be achieved due to the vast nature of an area and different activities driving the economy of the area. Due to the diverse natural resources and distinct urban areas within the municipality, the preferred model integrates the four models discussed above. It seeks to blend the benefits of the four. It recognizes the establishment of Kehancha CBD as the highest-ranking commercial node (primary node) supported by numerous secondary nodes with different functions this calls for

the need for an urban renewal model to improve the existing dilapidated urban structures. Additionally, the secondary nodes like Gwikonge and Mahuntutu are the food basket for the area's need for agro-industry for growth of the areas.

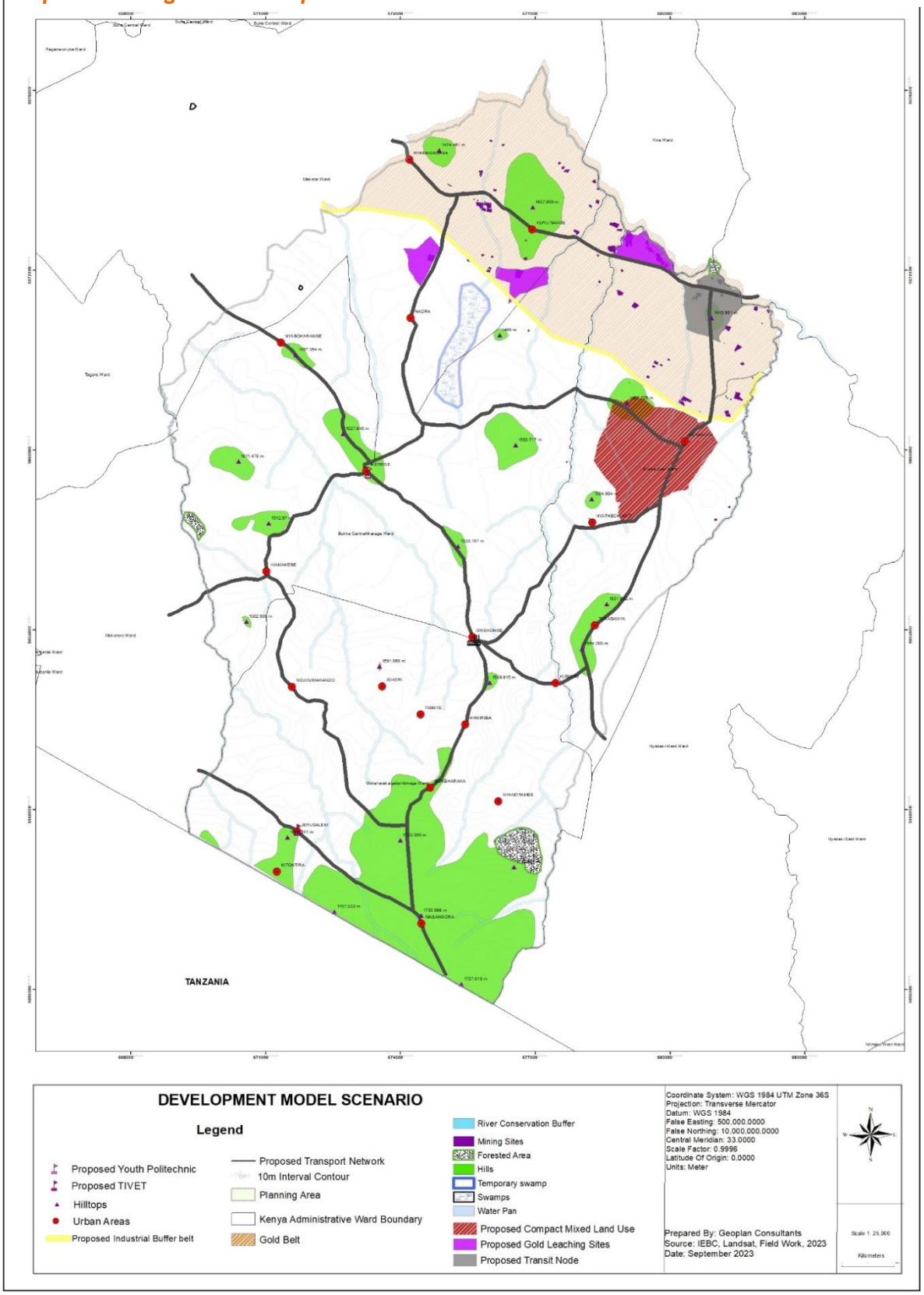
Recognizing the existence of inter and intra connectivity and linkages with and within the municipality, the transit model will not only help in solving the traffic congestion as well as creating functional areas like Namba junction which is a stopover for travelers from Transmara and Migori town. Sustainability recognizes the existence of numerous ecologically fragile areas and plans to safeguard them from human activities thus the need for a model that protects the environment. Advantages attributed to the integrated model include reduced congestion due to the devolution of services, enhanced access to services, increased trickle-down effect, reduced infrastructure strain within the CBD, and improved regional accessibility & connectivity, and growth. However, the model will require a heavy initial investment in infrastructure and strict development control to contain urban developments.

Map 10- 4: Environmental conservation and industrial growth model



Source: Geoplan Consultants ltd, 2023

Map 10- 5: Integrated development scenario



Source: Geoplan Consultants ltd, 2023

CHAPTER ELEVEN: STRUCTURE PLAN AND SECTORAL STRATEGIES

11.1 OVERVIEW

The structure plan comprises a physical zoning plan indicating the broad land uses, transportation connectivity proposals, existing and proposed infrastructure facilities and areas of economic and environmental activities informed through integration of various alternatives envisioned. The structure plan is a result of a comprehensive analysis of the municipality, using various analysis tools such as land capability, land availability/suitability, transportation, infrastructure gap, human settlements, and environmental sensitivity.

11.2 PROPOSED LAND USES

11.2.1 Industrial land use

The plan seeks to capitalize on available agricultural products, minerals and community culture. An area of approximately 340.091ha for industrial activities of different categories as follows.

a) Light industrial

Approximate acreage of 7.76 ha has been set aside for light industrial activities that's Juakali and artisan activities. This will help in containing light industrial activities along Kehancha-Taranganya road.

b) Medium industrial

The plan also proposes an of approximately 68.82Ha for medium industrial activities such as car garage, motorbike repairs among others. The plan has also designated an area of approximately 2.2ha at Gwikonge for maize milling and agro-center demarcated as medium industrial zone. Proposed milling plant is strategically located at a rich agricultural ecological zone and is expected revive Gwikonge urban area that is inactive.

c) Heavy industrial

The plan has designated an area of approximately 263.47ha for processing of gold ore extracted from different areas and other high industrial activities.

11.2.2 Residential

A total of 92 residential zones, encompassing 1744.082 hectares, have been proposed for development in Kehancha Municipality. These zones are categorized into high-density residential (HDR), medium-density residential (MDR), and low-density residential (LDR) areas. The prominence of residential land use in this plan is justified by the rapid growth of Kehancha Municipality, which stands as the largest urban area within Kuria East and Kuria West. Each of these residential categories adheres to specific planning and development standards as guided by this plan.

d) High Density Residential Areas (HDR)

High-Density Residential Areas (HDR) encompass an approximate area of 86.737 hectares and consist of a total of 20 zones, numbered O_{73} to O_{92}. When fully developed, these areas can accommodate the construction of 8,916 housing units. This will accommodate the increasing urban population of the municipality.

e) Medium Density Residential Areas (MDR)

Medium Density Residential Areas (MDR) encompass a total of 52 zones, denoted as O_1 to O_{52}, covering an expansive area of approximately 734.816 hectares. These areas are designed to provide spaces for the construction of approximately 6,369 housing units to meet the growing housing demand by 2032. Medium Density Residential zones are intended to accommodate a smaller population compared to High-Density Residential areas.

f) Low density residential areas (LDR)

Low-Density Residential Areas (LDR) encompass a total of 20 zones, extending from O_{53} to O_{72}, covering an extensive area of approximately 922.529 hectares. These areas are strategically planned to address the housing demand, which is projected to reach 5,944 housing units by the year 2032.

11.2.3 Education

The plan proposes 2 tertiary education facilities to bridge the gap identified during the situational analysis. A land of approximately 2.0 hectares near Number junction has been demarcated for a national polytechnic, while another land near Kiomakebe of approximately 1.7 hectares has been demarcated for a vocational training institute see Map 11- 1: Proposed education.

11.2.4 Recreation and conservation

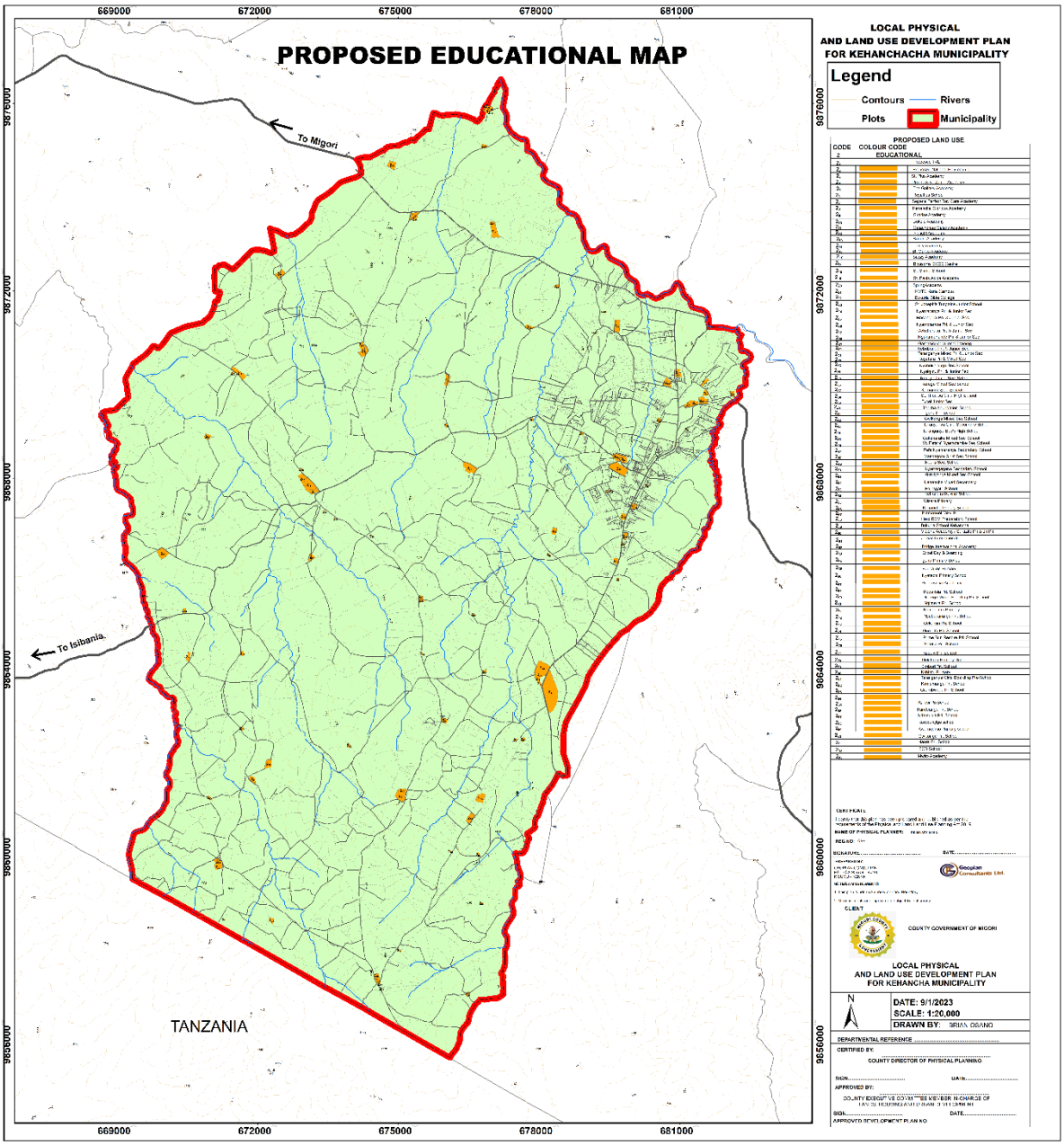
The plan allocated a total of 3200.97 hectares for recreational and conservation land use which is higher than the projected land demand recreation and conservation. This is as a result of environmental conservation strategy applied in the whole process of preparation of the plan. The plan proposes conservation river riparian of buffer of 30m on both sides for all rivers and streams that passes within the municipality. The plan also proposes conservation of steeply slopes of Nguku hill, Masngora, and Ikerege. In addition to that the plan has proposed green park spaces in Kehancha CBD and Ikerege.

11.2.5 Public purpose

In the planning area, zones of shared public good such as hospitals, places of worship, government/ administrative offices, law courts and so on are classified as public purpose lands. These are spread throughout the planning area for citizen accessibility and efficiency in service delivery. Public purpose land use in the planning area (existing and proposed) will cover an area of about 64.295 Hectares. To improve health service provision in the municipality the plan proposes a land of approximately 3.9 hectares to for a sub-county hospital. The

community has a unique culture which can be tapped as a tourism attraction concept. The plan therefore proposes a cultural center at Gwikonge for a Museum.

Map 11- 1: Proposed education



Source: Geoplan consultants, ltd

11.2.6 Commercial

Land of approximately 124.572 hectares has been purely allocated for commercial developments, while 222.331 hectares has been allocated for mixture of commercial and residential developments. The plan proposes pure commercial nodes at Kehancha CBD, Number junction, Tranganya, Gwikonge, Ikerege, Kurutyange, Kyomakebe and Masangora. Nodes for a mixture of commercial residential are; Kubintu, parts of Kurutyange, parts of Gwikonge, parts of Ikerege and parts of Kehancha CBD.

11.2.7 Public utility

The plan proposes a solid waste dumpsite around Kurutyange. A sewerage treatment plan has also been proposed and this will necessitate the construction of a sewer line for Kehancha town. Public utility land in the planning area will occupy about 23.074 hectares. This includes both existing and proposed public utilities.

11.2.8 Transport

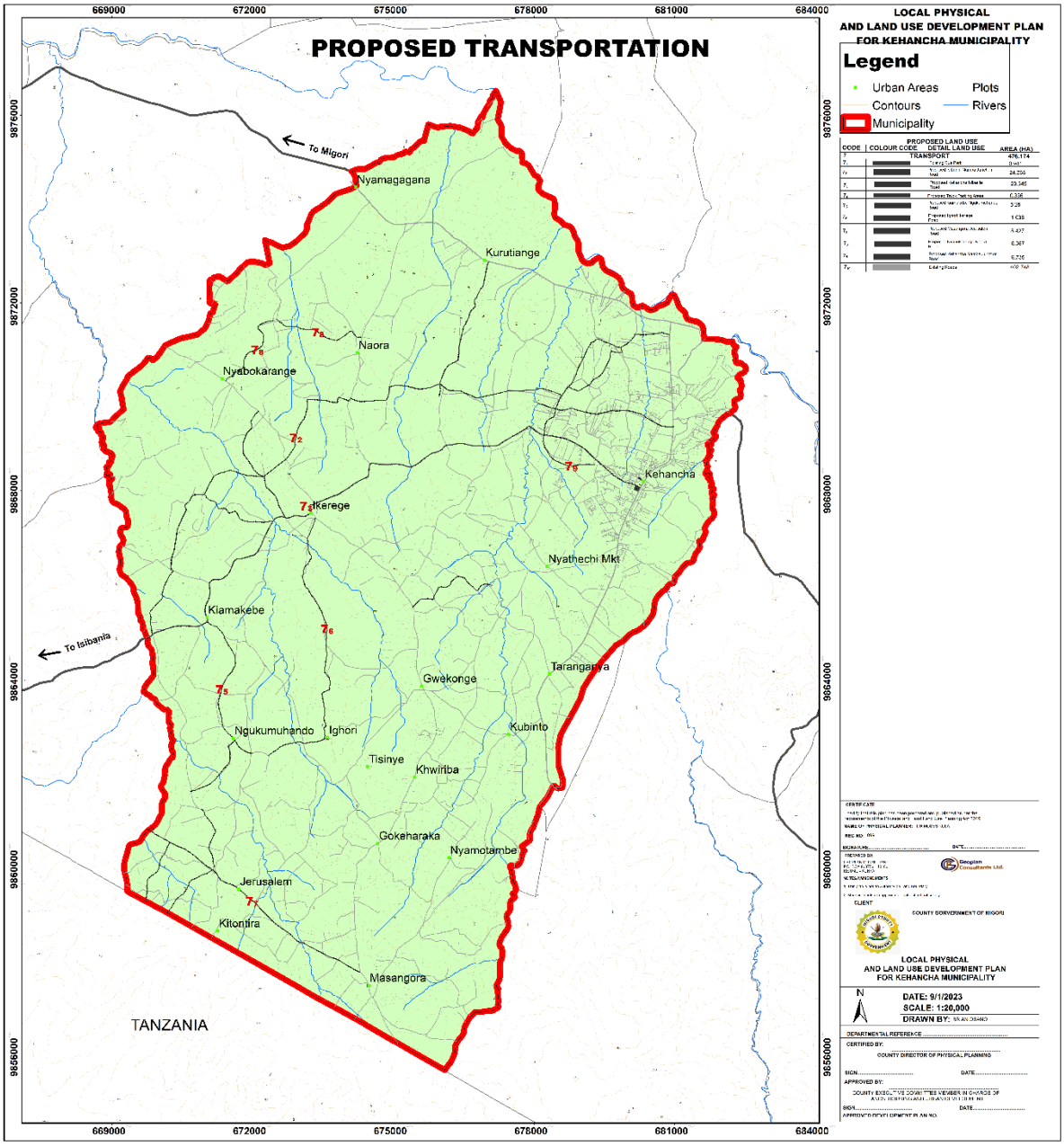
The proposed future transportation system aims to establish an effective and efficient network that enhances linkage between the identified nodes and other nodes in Migori and Narok Counties, which have established socio-economic interdependency with Kehancha. The transport improvement strategy envisages safe, efficient and convenient movement of persons and goods in, out and within Kehancha CBD, as well as enhancing regional connectivity and mobility.

As elaborated in the situational analysis, road is the only mode of transport serving Kehancha and its environs. The transport proposals seek to address the following challenges in the road sector: To enhance connectivity and mobility, the LPLUDP recommend upgrading the road network by improving surface, widening, opening blocked or unestablished roads, reorganizing the hierarchy, and establishing link roads and bypasses. The plan also recommends the establishment of terminus for trucks, Lorries and trailers, in Msikiti Area. Moreover, controlled traffic in the area as well as transport support facilities like streetlight and storm water management. Additionally, the plan provide Bodaboda shed at specific points within the urban areas. The plan also proposes a site for parking of Lorries, trucks and trailers in Msikitini area solving the roadside parking problems within the CBD.

11.2.9 Agricultural

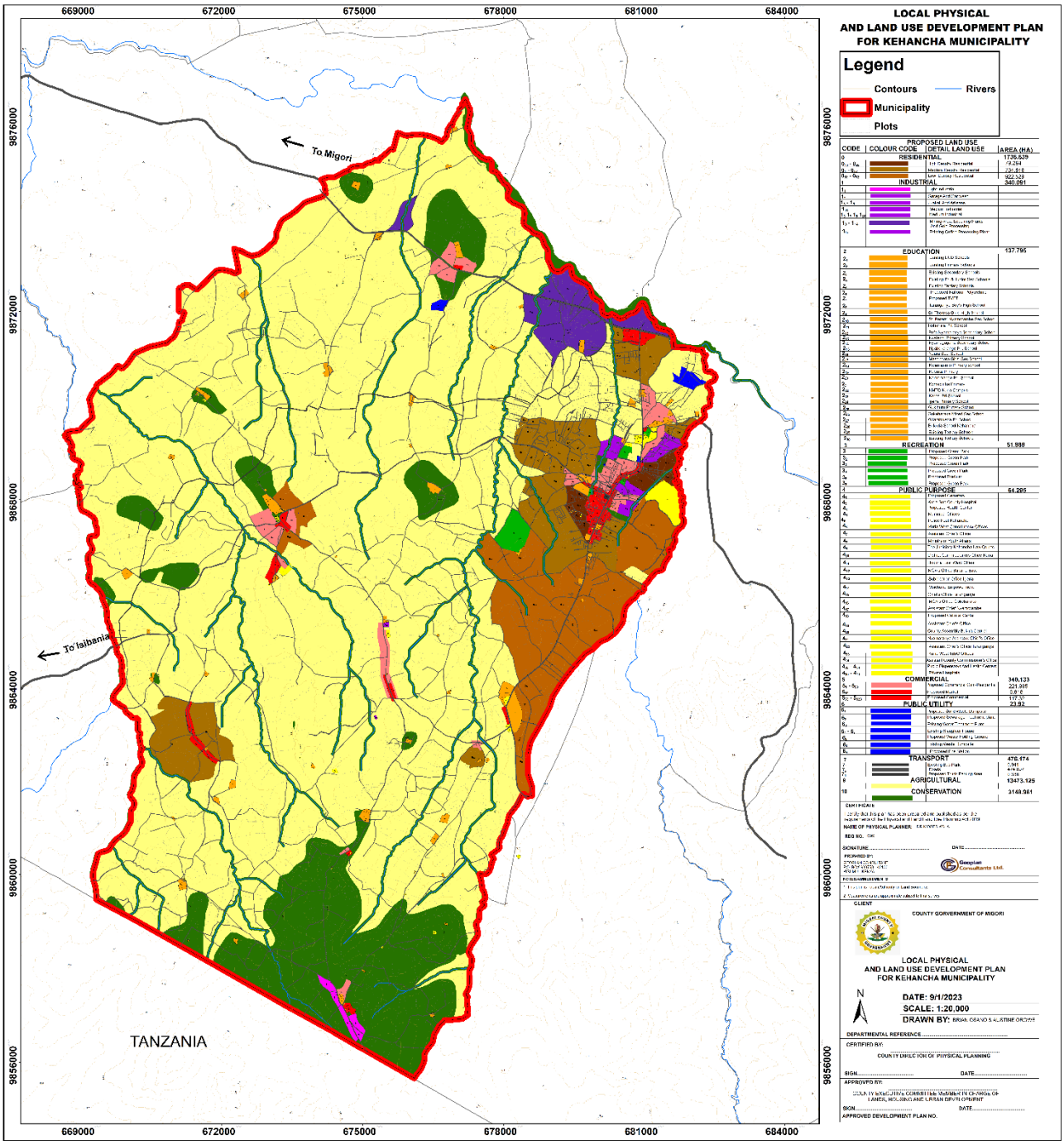
This plan identifies agriculture as an alternative source of income for Kehancha municipality residents. The need to develop urban agriculture as a source of employment and for urban food security was therefore given a first priority. The plan proposes approximately 13, 473.125 hectares for agricultural purposes, representing 78.78% of the entire planning area. In order to promote urban agriculture in the area, the plan proposes opening of roads to enhance easy access to the markets among other related factors, see Map 11- 3: Structure plan.

Map 11- 2: Proposed transport land use



Source: Geoplan consultant ltd, 2023

Map 11- 3: Structure plan



Source: Geoplan consultant ltd, 2023

11.3 DEVELOPMENT GUIDELINES AND ZONING REGULATIONS

Development guidelines are intended to ensure that developments which have received consent from the relevant authorities. These regulations are also meant to ensure that developments on the ground comply with the approved plans. Physical and Land use planning act of 2019 empowers county governments (Migori County) to implement development control tools for proper development.

11.3.1 Industrial land use development guidelines

The permitted planning and development standards for residential areas include:

1. Front boundary setback: The minimum front setback to the following roads shall be 12m:
2. Development on an industrial plot that has a side or rear boundary to: −rural, residential or commercial land where development along that boundary will be visible from a public place; or public road, must be adequately screened through a minimum 2m landscaped setback.
3. Development on industrial pots that directly adjoin residential land shall be designed to avoid noise and other impacts by locating all loading and unloading areas and any openings to internal work areas away from the residential boundary.
4. Industrial development must provide a 3m wide landscape strip along the frontage of the site, excluding crossovers and pedestrian access points.
5. All development must provide parking and access, including heavy vehicle access, sufficient to cater for the maximum demand for the development in accordance with a Traffic Study performed by a qualified professional and approved by county government.
6. Where sites are being designed for heavy vehicle access and maneuvering, the Eurobodalla Parking and Access Code requires vehicular swept path analysis to be certified using appropriate simulated systems and the submission of such evidence, including all data inputs, to county government with the development application
7. Fencing in the front building setback, or in the case of side street setbacks in front of the building line, must be located behind the required minimum 3m front landscape strip. Such fencing should be of an open style or consistent with the building style (any solid components of fencing must be no more than 1m high). Gates are to be consistent with the adjacent style of fencing and must be designed to open inwards.

11.3.2 Residential land use development guideline

a) High Density Residential

Permitted planning and development standards for High Density Residential (HDR) areas include:

1. Minimum plot size of 0.03 hectares for unserved areas and 0.025 hectares in serviced areas.
2. Plot coverage limited to a maximum of 75%.
3. Set-back requirements:
   - Frontage: 3 meters
   - Rear: 2 meters
4. House types allowed:
   - Row housing

- High-rise developments in serviced areas - up to 10 floors (ground plus 9 floors) on the higher side

5. Building Materials:
   - Floor: Cement Screed
   - Walls: Cut Stones and bricks
   - Roof: G.C.I (Galvanized Corrugated Iron)

These standards ensure that high-density residential areas are developed in a structured and regulated manner, promoting efficient land use and sustainable urban living.

b) Medium density residential

Specific planning and development standards, including:

1. Minimum plot size of 0.045 hectares.
2. Plot coverage limited to 40%.
3. Allowed building types, which include apartments, bungalows, and maisonettes. These areas can host multi-dwelling residential units up to four floors (ground plus three floors) on the higher end and single-family dwelling units on the lower end.
4. Setback requirements:
   - Frontage: 6 meters
   - Back: 3 meters
   - Sides: 3 meters
5. Building materials adhere to the following standards:
   - Floor: Cement screed
   - Walls: Cut stones and bricks
   - Roofs: Tiles and G.C.I (Galvanized Corrugated Iron)

c) Low density residential

Specific standards to ensure organized and sustainable development of LDR zones include:

1. Minimum plot size is set at 0.2 hectares, providing ample space for each housing unit.
2. Plot coverage is restricted to 30%, allowing for spacious and green environments.
3. Setback requirements include:
   - Frontage: 9 meters
   - Rear: 6 meters
   - Sides: 6 meters
4. Building materials adhere to high-quality standards to ensure long-lasting and aesthetically pleasing structures. These materials include:

- Floor options: Wood strips, blocks, ceramic tiles, cement screed, and parquet.
- Wall materials: Dressed stones and concrete blocks.
- Roofs: Tiles and G.C.I (Galvanized Corrugated Iron).

5. House types primarily consist of bungalows and maisonettes, offering a variety of housing options to residents.

11.3.3 Transport land use development guideline

Table 11- 1: Guidelines for Transportation Zones

Zone No.	Zone area (ha)	Zone location description	Existing Land use	Proposed Land use	Recommend type of Storm water drainage	Lighting	Entrance and Exit Road Width (m)	Remarks
7_1	0.941	Existing Kehancha Bus Terminus	Transportation	Transportation	Closed storm water drainage (2 m wide & 1.5m deep)	Streetlights placed 20m apart and should be 9m high.	7m wide	• Provide litter bins • Provide adequate sanitation blocks • Provide NMT lane. Provide exit for the facility.
7_2	450.629	Existing Roads	Transportation	Transportation	-			• Provide streetlights. • Upgrade the marram roads to bitumen standards. • Provide storm water drainage channels.
7_3		Proposed road (Ikerege - Namba junction)	Agricultural	Transportation	-	-	40M	• Provide streetlights. • Upgrade the murram roads to bitumen standards. • Provide storm water drainage channels.
7_4		Proposed stopover at Namba Junction	Commercial	Transport	Closed storm water drainage (2 m wide & 1.5m deep)			• Provide parking spaces. • Provide litter bins • Provide space for traders. • Provide sanitation blocks • Provide NMT lane.

Source: Geoplan consultant ltd, 2023

a) Local Access Roads

They provide local access to residential estates, businesses, farms and other activities. Along these streets, pedestrians move freely with a few parking restrictions. The proposed minimum road widths are recommended as below;

Table 11- 2: Minimum Width for Local Access Roads

Road type	Minimum Width
Standard residential access	12m
Minimum residential plot access	9m
Special commercial back lane	6m
Minimum commercial access road	15m
Minimum industrial access road	15m
Minimum access to public facilities	12m

Source: Geoplan consultants, ltd 2023

b) Parking facilities

Taking into account the status, Kehancha municipality needs a parking management framework that covers among others issues. In this respect, the LPLUDP recommends the provision adequate parking facilities in the CBD by construction of additional off-street parking within the buildings, using appropriate guidelines (seeTable 11- 3: Parking Provision Guidelines). These provisions ought to be made at development approval stage as per the Physical Planning Handbook guidelines and best practice. Parking along the roads shall also be prohibited and instead on-street parking provided along some streets within the CBD. The municipality management should organize parking besides charging fees, not only for revenue but also for deterrent measure.

Table 11- 3: Parking Provision Guidelines

Usage	One Car space for every usage
Residential	One space for every 4 bedsitters One space for every 2 one-bedroom units One space for every 2-bedroom unit Two spaces for every 3-bedroom unit Three spaces for every 4-bedroom unit
Hotels	One space for every 1 to 5 rooms
Specialized market place	One space for every 50 to 60 sq. m of covered area
Market	One space for every 30 to 50 sq. of covered area
Office and Administration	One space for every 50 to 60 sq. m of covered area

Source: Geoplan consultant ltd, 2023

11.3.4 Conservation and recreation land use development guidelines

Specific standards to ensure organized and sustainable development of conservation and recreational zones include:

- Non-approval of development around forests, rivers and wetlands/swamps
- Restriction of development to approved uses only along immediate boundaries of fragile
- site buffers
- Control of development on highland areas (steep slopes) to reduce soil erosion
- Increase of the forest cover

11.3.5 Agricultural land use development guidelines

Specific planning and development standards, including:

- Curbing land fragmentation by limiting uneconomical sub-division of agricultural land (Minimum plot size of 0.5 hectares).
- Non-approval of encroachment/ encroaching urban settlements use of the highly capable
- agricultural land areas
- Promotion of intensive agriculture in prime agricultural zones
- Promotion of irrigation agriculture

11.3.6 Commercial land use development guideline

Specific planning and development standards, including:

Table 11- 4: Commercial land use development guidelines

Parameter	Standards
Construction standards	• Building setbacks should be provided to act as traffic islands. • The concept of corner shops at each corner plot should be discouraged. • Where roads range between 6-18 meters wide the building line shall be 6 m. • For any roads above 18m the building line shall be 18m.
Accessibility	• Remove through traffic by constructing a by-pass. • There shall be no direct access. • A provision of accelerated and deceleration lanes should be made at a 100m stretch. • Beautification of the main highway- green area network along the highway should be done. • Urban road reserves require more generous space provision because of additional street furniture • and infrastructural facilities that have to be provided.
Major shopping malls	• Need to be located along major outlet corridors from the town. • Minimum plot size to be 4 acres (2 ha). • Allow 25% plot coverage • Minimum parking space of one and half meters car park space per every 100m2 plinth.
Parking	• Parking facilities should be related to the level of commercial activities created. • In central commercial and business zones, parking should be considered, particularly by

	• encouraging storied parking in town centres (minimum plot size of 0.025 Ha). • For every 100m2 of land in the central business district, a minimum of 1½ parking space may be • provided except where basement parking is provided. • However, for small centres, car park may be provided for every 500m2.
Informal economy	• Kiosks should only be confined to areas adjacent to markets, bus parks and certain institutions. • Minimum size of a kiosk should be 3m x 3m. • Specific areas need to be designated for hawking (e.g. hawking grounds or hawking streets).
Pedestrian separation	• Provide vertical separation of vehicles and pedestrians by constructing roads and pedestrian's ways at different levels. • Interrupt continuity of streets within the centre by bollards or other means. • Remove vehicles from street and provide vehicular access and parking at rear of Buildings
Sanitation	• 1 toilet should be provided in all streets in all centers.
Plot sizes	• Minimum plot sizes should be 0.045 Ha.

Source: Geoplan consultants ltd, 2023

11.3.7 Public utility land use development guideline

Zone Description	Minimum Land Size(Ha.)	Building Lines(M)	Set Back (m)		Remarks
			Side	Rear	
Sewerage Treatment Plant	2	-	-	-	• Provide a 30m green buffer
Water Pans	0.1	-	-	-	• Provide a 5m green buffer
Solid Waste Management Site(Dumping Site)	2	-	-	-	• Provide a 5m green buffer • Outside residential • Settlement • Not more than 1 km from an urban area
Garbage Collection Points	0.1	-	-	-	• To be provided in all markets
Cemetery	4	-	-	-	• Provide a 30m green buffer
11 KV Power Lines	-	-	-	-	• Provide 10m wayleaves • High tension lines should not be passed over buildings constructed in their path

Source: Geoplan consultant ltd, 2023

11.3.8 Public Purpose development guideline

To ensure orderly development of the public purpose infrastructure throughout the Municipality, there are a set of planning regulations that must be adhered to. These set of rules are as shown in the table below.

Table 11- 5: Public purpose development guideline

Zone description	Minimum Land Size (Ha)	Plot Coverage (%)	No. Of Floors	Building Lines (M)	Set Back (m)		Remarks
					Side	Rear	
Level 4 Hospital	8	50	4	6-9	1.5	3	• Provide on-site water storage • For structures beyond 5 floors, provide lift • Provide adequate parking space • Minimum access road 12 meters • Design spaces with consideration of people living with disabilities • Provide adequate sanitation blocks for public offices • Must be geographically centered
Health Centers & Dispensaries	3	50	4	6-9	1.5	3	
Public Offices & Administrative Headquarters	0.2	50	4	6-9	1.5	3	
Children's Home, Rescue & Rehabilitation Centre	0.8	50	4	6-9	1.5	3	
Innovation, Incubation & Empowerment Centres	0.4	50	4	6-9	1.5	3	
Museum & Cultural Centre	1	50	4	6-9	1.5	3	
Library	0.4	50		6-9	1.5	3	
Fire-station	0.4	50	4	6-9	1.5	3	
Police Station	5	50	4	6-9	1.5	3	
Police Post	2	50	4	6-9	1.5	3	

Source: Geoplan consultant ltd, 2023

11.4 SECTORAL DEVELOPMENT STRATEGIES

11.4.1. ENVIRONMENT CONSERVATION DEVELOPMENT STRATEGIES

The goal of the environmental management strategy is to protect sensitive environments, contribute towards the mitigation of climate change impacts and promote sustainable utilization of natural resources among others. The matrix below presents the issues, actions, implementation duration and actors:

Table 11- 6: Environmental conservation strategy

Issues	Objectives	Mitigation/strategies	Duration	Actors
Unregulated and uncoordinated mining activities	To promote sustainable mining activities	• Gradual rehabilitation of decommissioned mining- Formulation of a mining policy to regulate sand harvesting and gold mining. • Application for EIA & County approval before commencement of mining activities. • Continuous environmental audit for the mining sites. • Making rehabilitation sequences a legal requirement during the licensing process.	Short – Medium term	• Government of Migori • State Ministry of Internal Security
Minimal tree coverage	To achieve 10% tree coverage as per the constitution	• Upscale innovative funding of sustainable forestry farming and livelihood enterprise. • Increase urban green spaces through the establishment of green parks, botanic gardens, and arboretum. • Planting of trees in public areas such as public schools, administrative offices, and health facilities • Develop and implement a comprehensive public awareness strategy on tree planting	Short – Medium term continuous	• County Government of Migori • Kenya Forest Services (KWS) • NEMA
Encroachment and degradation of streams ecosystem and water dams	To rehabilitate streams, water pans and dams.	• Protection, surveying, and titling of demarcated riparian reserves. • Comprehensive rehabilitation of riparian reserves and gradual planting of appropriate indigenous trees such as grevillea and bamboo • Undertake enforcement actions on water resources management, under EMCA No.8 of 1999 (Amended 2015) and Water Act 2016	Short – Continuous	• County Government of Migori • Residents, • NEMA
Climate Change and Global Warming	To contribute towards mitigation of causes & impacts of climate change	• Encourage tree planning to achieve the 10% constitutional requirement • Establish a sustainable solid and liquid waste management system • Installation of a sewerage system • Enforcement of EMCA provisions to undertake ESIA and EA where necessary • Promote the use of green energy • Create awareness to promote green building technology	Continuous	• Kehancha Municipality • County Government of Migori • KWS, • NEMA, • Development partners

		• Encourage clean production among industrial developments. • Undertaking environmental impact assessments and environmental audits of projects as per NEMA guidelines. • Achievement of at least 10% forest cover through sensitization of the farmers on promotion of agro-forestry, re-afforestation and afforestation • Promote use of green energy (biogas, solar, wind) to reduce usage of wood fuel through creation of awareness and sensitization. • Multi-disciplinary approach in infrastructure development, for example, directing surface run-off to appropriate sites for small-scale farming.		
Soil erosion	To prevent soil erosion in farmlands.	• Enforcement and compliance environmental protection measures. • Digging terraces • Planting nappier grass along the contours at some intervals. • Re-afforestation. • Afforestation-appropriate indigenous trees and grass • Construction of soil and water conservation structures	Continuous	• County Government of Migori • Kenya Forest Service • Residents
Pollution of existing water sources (rivers, streams and underground water)	To reduce water pollution	• Conserving riparian reserves by planting appropriate trees and grass. • Creating a buffer for the water sources. • Discouraging refuse water and waste disposal into the rivers • Discouraging washing clothes at banks of the rivers • Discouraging the use of pit latrines	Continuous	• Community members • NEMA
Low aesthetic	To enhance aesthetics	• Streets beautification through planting of appropriate trees and flowers • Control illegal structures and building	Continuous	• County Government of Migori

Source: Geoplan consultants ltd, 2023

11.4.2. HUMAN SETTLEMENT STRATEGIES

Kehancha Municipality, experiencing rapid urban growth, requires a comprehensive Human Settlement Strategies that encompasses key elements such as housing, infrastructure, land use, and urban design. These strategies aim to guide the municipality's development, ensure sustainable growth, and enhance residents' quality of life. Aligned with Kehancha Municipality's unique characteristics, opportunities, and challenges, the overarching goal is to create vibrant, inclusive, and resilient human settlements for both the current and future population. The strategies for Kehancha Municipality provide a roadmap for transforming the municipality into a sustainable and inclusive urban center. By addressing housing, infrastructure, land use, and urban design, these strategies aim to meet the growing population's needs while preserving Kehancha's unique character and enhancing its appeal as an investment hub and tourist destination. Successful implementation of these strategies will depend on strong governance, collaboration, and a steadfast commitment to sustainable urban development principles.

Table 11- 7: Human settlement development strategies

Issues	Strategic Objective	Action	Duration	Actors
Growing urban housing demand and inequality	To promote equitable access to affordable housing for all	• Implement land-use policies that promote affordable housing. • Encourage real estate developers to invest in affordable housing projects. • Plan and implement informal settlement upgrading programs • Promote mixed-income housing developments to address housing inequality and accommodate diverse populations. • Encourage the development of housing projects that cater to different income groups. • Create incentives for developers to use locally available building materials to reduce construction costs for affordable housing development. • Establish housing programs for vulnerable populations. • Enforce anti-discrimination regulations in housing markets. • Monitor and regulate housing supply to meet the demand and ensure equitable access.	Medium-Term Continuous	• County Government of Migori • Kehancha Municipality • NEMA • National Government MDAs • Private Investors • Development Partners

Issues	Strategic Objective	Action	Duration	Actors
		• Establish partnerships with banks and Saccos to offer housing finance options with favorable terms. • Explore land-sharing models and public-private partnerships to reduce land costs. • Focus on the timely development of residential areas to meet housing demands. • Promote quality housing construction with durable materials and design.		
Haphazard Development	To foster sustainable urban development for thriving, resilient, and inclusive municipality	• Prepare and implement detailed neighborhood plans for urban growth nodes within the municipality that prioritize sustainability and quality of life. • Plan and implement Smart Growth, New Urbanism neighborhood concepts, including mixed-use and transit-oriented developments to reduce commuting and enhance community resilience in all residential areas. • Encourage sustainable building practices, including energy-efficient designs and waste reduction measures. • Plan for climate resilience in infrastructure and housing to mitigate the impact of extreme weather events. • Conservation of ecologically fragile environments including riparian corridors to prevent human settlement encroachment. • Implement a comprehensive GIS-based geodatabase management system designed to monitor and manage urban development effectively. • Improve living conditions through well-planned urban development.	Short-Term Continuous	• County Government of Migori • Kehancha Municipality • NEMA • National Government MDAs • Private Investors • Development Partners • KGBS
Uncontrolled Development	To enhance regulatory control	• Develop and enforce residential zoning plans, regulatory controls, and building codes.	Short-Term Continuous	• Kehancha Municipality

Issues	Strategic Objective	Action	Duration	Actors
	to promote thoughtful and sustainable planned development	• Implement land-use planning to optimize land utilization. • Encourage responsible land development practices through sensitization and public awareness. • Strengthen development control mechanisms to ensure adherence to zoning regulations and standards. • Foster collaboration with relevant government agencies, development partners, private sector, and citizens to implement urban development plans, zoning regulations, and building codes effectively. • Conduct regular inspections of buildings and encourage investors and homeowners to perform routine maintenance. • Ensure that the preparation and approval of building plans and other urban development installations are done by qualified urban professionals.		• County Government of Migori • NEMA • Private Sector
Inadequate infrastructure and services	To optimize infrastructure and services for improved quality of life	• Prioritize infrastructure investments in roads, sanitation, water supply, and public amenities. • Establish zoning and regulatory controls to ensure proper infrastructure is integrated into residential areas. • Improve access to basic services in underserved areas. • Implement smart city technologies for efficient service delivery. • Invest in infrastructure to support controlled development.	Long-Term Continuous	• Kehancha Municipality • County Government of Migori • National Government MDAs • Development Partners • Private Sector
Growing population	To manage sustainable urban growth through informed and	• Develop comprehensive urban planning to accommodate the increasing population. • Conduct population projections and plan for sustainable urban expansion.	Short-Term Continuous	• Kehancha Municipality • County Government of Migori • National Government MDAs

Issues	Strategic Objective	Action	Duration	Actors
	equitable urban planning	• Promote transit-oriented development to reduce urban sprawl. • Involve the community in decision-making processes and urban planning to ensure inclusivity.		• Development Partners • Local Community
Disaster risks	Strengthen disaster risk reduction and resilient disaster management systems	• Conduct geological assessments to identify areas at high risk of subsidence. • Relocate vulnerable residential areas away from hazardous mining zones. • Identify and mitigate disaster risks in high-risk areas. • Develop evacuation and emergency response plans. • Raise awareness about disaster preparedness among residents. • Develop and enforce regulations for safe residential construction in proximity to mining sites.	Short-Term	• Kehancha Municipality • County Government of Migori • National Government MDAs • Private Sector • Local Community
High land prices	Promote sustainable land use practices for a stable and inclusive housing market	• Implement land-use policies that promote balanced development. • Explore land-sharing models and public-private partnerships to stabilize land prices. • Regularly review and update housing and land policies to adapt to changing market conditions.	Medium-Term Continuous	• Kehancha Municipality • County Government of Migori • National Government MDAs • Private Sector • Local Community
Inadequate public spaces within residential neighborhoods	Enhance urban aesthetics and cleanliness for vibrant and inviting communities	• Formulation of municipal guidelines for creation and management of public spaces. • Preparation of municipal-wide beautification plans for the municipality. • Invest in green infrastructure, including parks and open spaces. • Emphasize green design and landscaping to enhance the aesthetic appeal of residential areas.	Short-Term	• Kehancha Municipality • County Government of Migori • National Government MDAs • Development Partners

Issues	Strategic Objective	Action	Duration	Actors
		• Greening and beautification within Kehancha CBD and all major urban growth nodes including Ikerege, Kurutiange, Gwikonge, Masangora, Kubinto, Nyametaburo, and Taranganya. • Create monthly community urban clean-up days to raise awareness about pollution and the need for environmental conservation. • Initiate urban greening initiatives.		• Private Sector • Local Community

Source: Geoplan consultant ltd, 2023

11.4.3. ECONOMIC DEVELOPMENT STRATEGIES

These economic development strategies and associated actions are formulated to drive economic growth, job creation, enhance the living standards of residents, and foster local development within Kehancha Municipality. By strategically addressing the identified challenges and opportunities, these initiatives aim to catalyse positive transformation in the municipality's economy. Successful implementation hinges on robust collaboration between the public and private sectors, active community engagement, and the continuous monitoring and evaluation of progress.

Table 11- 8: Economic development strategies

Issues	Strategic Objective	Action	Duration	Actors
Existence of a diverse entrepreneurial culture that is underexploited	To promote economic diversification, entrepreneurship, and innovation actions:	• Foster a diverse and vibrant entrepreneurial culture through business incubation and support programs.	Continuous	• Kehancha Municipality • County Government of Migori • National Government MDAs • Private partners
		• Support innovation and research by collaborating with local research institutions.	Continuous	
		• Create incentives for startups and small businesses in emerging sectors	Short to medium term	

		• Carry out sustainable entrepreneurial and business skills need assessment.	Short to medium term	
		• Establish business development centers to offer training and support	Short to medium term	
		• Develop a municipal trade promotion strategy to attract more businesses	Short to medium term	
		• Establish a municipal revolving fund to provide affordable loans to small and medium-sized businesses.	Short to medium term	
Inadequate market infrastructure	To revitalize and expand markets infrastructure actions	• Renovate existing markets and provide proper shading and support amenities for traders.	Short term	• Kehancha Municipality • County Government of Migori • National Government MDAs
		• Construct public toilets, ICT hub and creche in all markets	Medium term	
		• Design, construct, and maintain the drainage system in major markets.	Medium term	
		• Designate waste disposal space in all markets.	Short term	
		• Enhance the skills of market traders and increased access to financial services.	Continuous	
		• Construct storage facilities for farmers produce in major urban growth nodes	Medium term	
		• Construct storage facilities for farmers produce in major urban growth nodes	Medium term	
		• Build new markets to meet the demands of the growing population	Medium term	
Agricultural value chain gaps	To enhance agricultural productivity and agri-business actions	• Invest in irrigation infrastructure to unlock the full potential of agricultural production.	Long term	• Kehancha Municipality • County Government of Migori • National

				• Government MOA • WRMA • NEMA
		• Promote agricultural diversification and productivity through supporting farmers with training, access to modern farming techniques, and improved access to markets.	Continuous	• Kehancha Municipality • County Government of Migori
		• Develop Agro-processing facilities to add value to agricultural products.	Medium - term	• Kehancha Municipality • County Government of Migori • Ministry of trade National government
		• Enhance food security and reduce post-harvest losses through improved storage and processing facilities.	Continuous	• Kehancha Municipality • County Government of Migori
		• Development of grain aggregation centers in major urban growth nodes for grain storage and quality control.	Short -term	• Kehancha Municipality • County Government of Migori
		• Identify and establish agricultural value chain support systems to bridge gaps such as storage, transportation, and marketing.	Short -term	• Kehancha Municipality • County Government of Migori
		• Support the establishment of cooperatives and associations to strengthen value chains.	Short -term	• Kehancha Municipality • County Government of Migori
		• Facilitate access to markets and promote fair trade practices.	Short term	• Kehancha Municipality • County Government of Migori
Availability of undeveloped land presents opportunities for	To promote industrial growth and diversification, and market	• Attract and support non-agricultural industries to diversify the local economy.	Long-term	• Kehancha Municipality • County Government of Migori

industrial diversification, new investments and industrial development	development actions			• Ministry of Trade, National Government
		• Creation of industrial zones for agro-based industries and other industrial activities within the municipality.	Medium-term	
		• Offer incentives to businesses that create jobs and add value to the community.	Continuous	
		• Develop industrial parks and zones with necessary infrastructure to attract large-scale industries.	Medium-term	
		• Facilitate the growth of jua kali industries through skills development and access to markets.	Continuous	
		• Improve market facilities and access for industrial products.	Medium-term	
		• Improve the mining industry by creating favorable environment for large scale mining of Gold and other minerals.	short-term	
		Implement existing mining policies and regulations to promote safe mining activities	short-term	
Existence of unexploded Tourism opportunities	To leverage tourism potential actions	• Develop and market Kehancha's tourism potential, including its natural attractions and cultural heritage.	Long-term	• Kehancha Municipality • County Government of Migori
		• Promote community-based tourism initiatives to involve local residents. .	Short-term	

		• Promote tourism initiatives and create packages for tourists approaching from the western part of Kenya.	Short-term	Private Investors
		• Develop and market tourism products that showcase the municipality's unique offerings.	Short-term	
		• Invest in tourism infrastructure such as hotels, recreational facilities, and transportation, and promote collaboration with the tourism industry	Medium-term	
High cost of capital	To improve access to finance actions	• Establish a local credit union or cooperative for small and medium-sized businesses.	Short-term	• Kehancha Municipality • County Government of Migori • Development Partners Private Investors
		• Collaborate with financial institutions to provide low-interest and affordable loans to local businesses and entrepreneurs, and for infrastructure projects	Long-term	
		• Offer financial literacy training to help individuals and businesses access and manage finances effectively.	Continuous	
		• Advocate for reduced interest rates and transaction costs for businesses and investors	Long-term	
		• Seek grants and subsidies for critical infrastructure development to reduce capital requirements.	Short-term	
		• Promote investment in bonds and securities to mobilize capital for local urban development projects.	Long-term	
High taxation and low reinvestment rates	To reforms taxation and enhancement of	• Review and reform local tax policies to create a more business-friendly environment	Short-term	• Kehancha Municipality • County Government of
		• Simplify tax procedures and reduce unnecessary bureaucracies.	Short-term	

	revenue collection actions	• Implement taxation reforms to lower the tax burden on businesses and increase reinvestment rates.	Short-term	Migori
		• Strengthen tax administration and enforcement to improve revenue collection	Short-term	
		• Invest in technology and digital platforms for efficient tax collection and payment.	Short-term	
		• Educate businesses and residents on their tax obligations and benefits.	Continuous	
		• Strategically invest in an integrated GIS-based data management system aimed at not only monitoring but also enhancing revenue collection	Medium-term	
		• Offer tax incentives to businesses that invest in local development.	Short-term	
		• Improving issuance of licenses to avoid unscrupulous traders	Short-term	
		• Establishing a one-stop licensing shop.	Short-term	
Unclear urban land use measures create uncertainty for businesses and urban development •	Clarity on urban land use measures actions	• Develop and communicate clear urban land use regulations and zoning guidelines.	Short-term	• Kehancha Municipality • County Government of Migori • Ministry of Trade, National Government • NLC
		• Streamline the process for obtaining land-use permits and licenses.	Short-term	
		• Sensitize the developers and local communities on development control policies, development applications and approval processes	Short-term	
		• Engage with local businesses and developers to gather input on urban land use planning.	Short-term	
		• Sensitization of the developers and local communities on the benefits to adhere with urban planning and development policies, regulations and guidelines	Short-term	

11.4.4. TRANSPORTATION DEVELOPMENT STRATEGIES

A seamless transportation system is critical for Kehancha's economy as it promotes access to jobs, opportunities, goods and services. It connects residential areas to businesses, employment areas & amenities and rural hinterlands to urban areas. Transportation Strategy seeks to reconfigure the future transportation system to respond to user needs and operational requirements. It seeks to address the following challenges;

- Missing links resulting in inadequate spatial connectivity.
- Missing traffic management measures and adequate signage
- Absence of service lanes and back lanes within the urban areas.
- Inadequate terminal facilities i.e., bus terminus, and parking facilities
- Poorly drained roads and storm water management.
- Absence of air transport.
- Bad condition of roads where only the trunk roads are tarmacked
- Narrow and encroached roads within urban and rural areas
- Inadequately provided bus/*matatu* terminus and parking spaces
- Minimal provision of non-motorized transport and people living with disability (PWD) facilities
- Inadequately drained roads

Strategies adopted to leverage the opportunities and counter the challenges identified include:

Table 11- 9: Transportation development strategies

Issues	Strategic Objective	Action	Duration	Actors
Unclear hierarchy of road network	To establish a clear road hierarchy	• Re-establishment of road hierarchy consisting of primary, secondary, by passes and link roads	Short – Medium Term	Kehancha Municipality, County Government of Migori, Kenya Roads Boar
Missing links and inadequate	To improve connectivity and	• Establishing a hierarchy of roads (main corridor, secondary and link roads) • Identification and establishment of missing link roads • Upgrading, widening and maintenance of roads		Kehancha municipality, County Government of Migori, KeNHA, Development partners

spatial connectivity.	functionality of the corridors.	• Widening of roads – Minimum width 9M • Establishment of service lanes and back lanes in urban areas. • Establishment of the terminal and parking facilities.	Short - long term	
Traffic management and adequate signage.	To improve functionality of the corridor and safety of the road users.	• Provision of service lanes on either side of the highways. • Grading and Murraming of the identified link roads in the short term. • Establishment of commercial service lanes and back lanes. • Provision of NMT and PWD facilities and crossing points. • Installation of footbridges at footbridges next to Igena and St' Kizito primary and bypass road running from Komasimo – Ikerege Gwikonge- to Masangora • Prohibiting on street parking, picking and dropping of passengers along the major road all CBD main street. • Provision of parking facilities for trucks and motor bikes. • Prohibiting temporary structures (TOL) creating congestion on the roads.	Short - long term	Kehancha municipality, County Government of Migori, KeNHA, Development partners
Absence of service and back lanes within the urban areas.	Improve functionality of commercial zones	• Establishment of service lanes and back lanes in urban areas. • Identification and establishment of missing link roads. • Prohibiting temporary structures (TOL) on the roads. • Upgrading and maintenance of service and back lanes. • Progressive upgrading to bitumen standard.	Short medium long term	Kehancha municipality, County Government of Migori, KeNHA

Inadequately drained roads and storm water management.	To achieve efficient storm water management	• Prohibiting temporary structures (TOL) on the road's reserves. • Upgrading and maintenance of storm water infrastructure within urban areas. • Establishment of the waste management system. • Establishment of paved storm drain channels in all roads. • Harvesting of rainwater to reduce surface runoff • Establishment of covered storm drainage channel within the urban areas. • Integrating natural and artificial drainage systems.	Continuous	Kehancha municipality, County Government of Migori, KeNHA, Development partners
Poor road condition.	To improve functionality of the roads	• Grading and Murraming of the identified primary roads in the short term and progressive upgrading to bitumen standard in the long-term. • Installation of drainage infrastructure and integration with natural systems. • Provide closed drainage channels in urbanized areas. • Installation of non-motorized transport (NMT) facilities. • Installation of missing or broken bridges and culverts.	Short - long term	Kehancha municipality, County Government of Migori, KeRRA, KURA, Development partners
		• Physical separation of Non-Motorized Transport (NMT) and Motorized Transport (MT) traffic within urbanized areas. • Provide roadside trees and shades with benches at frequent intervals. • Provide crosswalks (raised zebra crossings) of at least 2m width at all intersections (signalized and	Short – Medium term	Kehancha municipality, County Government of Migori, KURA, KeRRA, KENHA, Development partners

Minimal facilities for non-motorized transport (NMT)	To enhance road safety	uncontrolled) and at frequent intervals in midblock locations. • Development of NMT Corridors in sections within the Kehancha and Ikerege to promote safety. • Provide garbage/trash bins and drainage facilities along NMT routes • Provision of footbridges next to Igena and St' Kizito primary. • Proper road marking and Installation of signage to improve safety. • Prohibiting street parking and temporary structures (TOL) on the roads. • Provision of street lighting facilities.		
Inadequate provisions for persons living with disability	To enhance safety and accessibility by all.	• Provide complete streets and NMT corridors • Provide wide NMT/PWD corridors (minimum 3m width) • Provide appropriate access, exit and entrances at designated bus terminus. • Designate and reserve strategic parking spaces for PWDs in commercial, residential and public facilities.	Continuous	Kehancha municipality, County Government of Migori, NGOs, Development Partners
Road encroachment by TOL and Road side parking		• Prohibiting temporary structures (TOL) on the roads. • Prohibiting street parking on the highways. • A minor terminus/transit station is proposed Namba Junction while bus stops will be provided at the major urban areas an industrial area.	Short – Medium term	Kehancha municipality, County Government of Migori, KENHA, Development partners
Inadequate terminus facilities at	To improve functionality	• Provide adequate space for matatus and integrated boda-boda operator's space.	Short medium long term	Kehancha municipality, County Government of Migori,

Kehancha bus park	of Public Transport	• Formulation of a detailed plan for the proposed Namba junction facility. • Provide adequate parking space for trucks and trailer operators. • Provide support services such as public toilets, water point and commercial spaces. • Establish safe and convenient entrance and exit points (minimum 7M). • Establish Boda-boda sheds in all the urban centers and key transport nodes. • Prohibiting temporary structures (TOL) within the terminus.		
Inadequate public and private parking spaces	To provide adequate private parking spaces	• Establishment of open parking space in the CBD- Designating streets in the CBD where parking is allowed & paving of the same	Short medium long term	Kehancha municipality, County Government of Migori, NLC
Inadequate parking for trucks and trailers	To create ample parking space. To curtail street parking	• Establishment of trucks trailer parking at Msikitini area.	Long term	Kehancha municipality, County Government of Migori, NLC and Development partners

a) Road Transport

This section highlights interventions aimed at improving the road network and reinforcing road hierarchy. The recommended ranking comprises of primary, secondary, link, bypasses and local access roads. Roads has been classified as primary and secondary roads. Primary Roads connect Kehancha CBD to nodes of regional, national and international importance. These roads include Ntimaru-Kehancha Road (D201), Ololunga) - Kehancha - Muhuru Bay Road (C13) and Isebania – Kehancha – Kegonga – Ntimaru Road (E166) which are the main movement corridors. The following is recommended to improve their functionality. Secondary roads are roads that connect Kehancha to nodes of county importance. The following is recommended;

Actions on secondary roads

- Progressive upgrading to bitumen standard
- Widening of road reserves to a standard size (20-25M) to ensure smooth functionality.
- Road marking and Installation of signage to improve safety.
- Installation of standard drainage infrastructure including closed drainage in urbanized areas.
- Provision of grade-separated junctions at the intersections with the highway.
- Installation of NMT facilities with well-designed tree lines within urbanized areas.

Strategies adopted to leverage the opportunities and counter the challenges identified include:

Table 11- 10: Secondary roads to be upgraded

NO.	ROAD STRETCH	ROAD NO	DISTANCE COVERED IN KM	CURRENT SURFACE	UPGRADE TO
	Naora- Kugitura- Nyabokarange		8	Earth and Murram	bitumen
1.	Bikarabwa - Nyamotambe -Gokeharaka		10	Earth and Murram	bitumen
2.	Ikerege- Robarisia - Ihore		5.3	Earth and Murram	bitumen
3.	Gwikonge – Masangora Siambori		11	Earth and Murram	bitumen
4.	Kebobono - Komomange -Kurutiange		9	Earth and Murram	bitumen
5.	Komasincha - Kurutiange		4	Earth and Murram	bitumen
6.	Ikerege-Nyamagagana	E1007	5.7	Earth and Murram	bitumen
7.	Komotobo-Kebarisia	R1	6.70	Earth and Murram	bitumen
8.	Nyametaburo-Kiomakebe	URA5	4.99	Earth and Murram	bitumen
9.	Gwikonge-Nyaigutu	URA7	13.88	Earth and Murram	bitumen

10.	Nyamagagana - Kombe	URF2	7.46	Earth and Murram	bitumen
11.	Masangora-Gwikonge	URF4	6.70	Earth and Murram	bitumen
12.	Getontira-Nguku	URP6	3.00	Earth and Murram	bitumen
13.	Komotobo-Kebarisia	R1	6.70	Earth and Murram	bitumen
14.	Sakuri-Maeta	R2	11.86	Earth and Murram	bitumen
15.	Nyabohanse-Getonganya	R6	12.25	Earth and Murram	bitumen

Source: Geoplan consultants ltd, 2023

11.4.5. PHYSICAL INFRASTRUCTURE DEVELOPMENT STRATEGIES

Physical infrastructure in Kehancha is divided into four broad categories. These are environmental, transportation, energy and utility and waste management. Strategies adopted to leverage the opportunities and counter the challenges identified during situational include:

Table 11- 11: Physical infrastructure development strategy

Issues	Strategic Objective	Action	Duration	Actors
Lack of a comprehensive solid waste management plan	To solve solid waste management menace in the municipality	• Regular collection of solid waste and transportation to the dumpsite • Placement of skips in al market centers • Procurement of solid waste infrastructure such as skip loaders to support the handling and collection of solid waste • Provision of incinerators organize public sensitization to create awareness to the members of public on waste management.	Short-term	• County government of Migori • Development partners
Inadequate water supply within the municipality	To expand the water reticulation system to supply water to the entire planning area.	• Prosecute those who vandalize water related infrastructure, • Establishment of water kiosks in the town centres.	Medium-term	• MIWASCO • Development partners (Water trust fund)

	To protect and preserve natural water sources	• Prohibit encroachment of the wayleaves by developers. • Allow only environmentally friendly activities within the wetlands • To initiate dredging of the existing water pans		• County government of Migori
Lack of a comprehensive sewerage system	To provide a comprehensive sewerage system for the town. To reduce water and land pollution.	• Construct a sewer treatment plant • Develop a proper sewer network within Kehancha town • Construct and maintain public toilets within markets, CBD, bus parks and the public parks	Short-term Medium-term Short-term Short-term Short-term	• National Environmental Management Authority (NEMA) • MIWASCO • County government of Migori • Development partners
Lack of proper articulate storm water drainage systems	To develop a storm water drainage system in Kehancha municipality	• Construction of storm water drainages along road reserves.	Long-term	• KURA • KENHA • KeRRA • County government of Migori • MIWASCO
Inadequate supply of electricity in the municipality	To facilitate even distribution of power sub-stations	• Building power stations to create more homes to the national grid		• Kenya Electricity transmission company (KETRACO) • National Government

	throughout the planning area. To advocate for renewable energy sources such as solar energy	• Encouraging private sector participation in the development of cheap and clean energy sources • Encourage use of solar energy at household level. • Installation of solar powered street lights in the town centers.		• County government of Migori.

11.4.6. SOCIAL INFRASTRUCTURE DEVELOPMENT STRATEGIES

Table 11- 12: Social infrastructure development strategy

Issues	Strategic Objective	Action	Duration	Actors
Inadequate tertiary education facilities	To improve transition in education from secondary schools to colleges or university	• Establishment of two- university colleges in the municipality. One in Tarang'anya and another in Ikerege.	Mid-term	• Ministry of Education • NGOs, Faith-based organization • County government (provide land) • Ministry of ICT • Ministry of Lands, Public works, Housing and Urban Development • Commission of University Education (CUE
Poor road infrastructure making accessibility to schools difficult	To improve access to schools from the lowest level to the highest (ECDE to tertiary institutions)	• Routine maintenance of access roads leading to schools • Upgrade of roads leading to institutions of learning to bitumen standard.	Mid-term Long-term	• County government (Roads department) • Kenya Rural Roads Authority (KERRA) • Kenya Urban Roads Authority (KURA)
Inadequate physical facilities such as laboratories classrooms and	To increase and upgrade physical infrastructure inside educational facilities.	• Taking inventory of educational facilities • Identifying areas where there's need for more classrooms or renovation	Mid-term	• Ministry of Education • County government (Department of Education)

sanitation facilities in education facilities		• Building new classrooms where there is need and renovating dilapidated facilities.		
High poverty levels at the household level - most households fall below the poverty line and thus put a low priority on education	To reduce the economic hardship to those that cannot afford basic education	• Establishment of a school feeding program in public schools and ECDE centers • Employing poor parents in the feeding program	Mid-term	• County government of Migori • Local NGOs • Faith-based organizations • CBOs
Intermittent water supply in public health facilities	To ensure access to adequate clean water in all public health facilities.	• Ensure all health facilities have access to adequate clean water	Mid-term	• County government of Migori • MIWASCO
Improper medical and solid waste disposal at Kehancha Subcounty Hospital	To improve collection and disposal of medical waste and bodies at the Kehancha Sub- County hospital	• Establish a new health facility at Ikerege • Improve staffing in all public health facilities • Upgrading of existing health facilities. • Improve sanitation and waste management through construction of proper water reticulation and hospital waste incinerator • Establishment of partnerships between county government and other health providers in deployment of incinerators.	Long-term	• Ministry of Health • County government • NGOs and faith-based organizations (USAID, Catholic Church, PEFA Church, SDA etc.) • MIWASCO • KPLC

Inadequate number of health care personnel in public health facilities.	To improve staffing in public health facilities	• Training, recruitment, and deployment of more medical personnel. •	Long-term	• KMTC Kehancha Campus • County government of Migori
Poor referral system due to lack of specialized services	To improve referral services in the Municipality	• Equip health facilities depending on the facility class and specialized services they are supposed to offer.	Mid-term	• County government of Migori Health Department •
Unreliable supply of health commodities (drugs and non-pharmaceuticals	To ensure reliable supply of health commodities	• Establish a regular supply of health commodities by working closely with the County's level 5 hospital and the Department of Health.	Short-term	• Health Department procurement office. •
Non- existent Masterplan at Kehancha Sub-County Hospital	To develop a Masterplan for all public hospitals in Kehancha Municipality	• Move with speed to create health facilities masterplans starting with Kehancha Sub- County hospital. • Create sane hospital masterplans to improve movement and operations within facilities.	Short-term	• Migori County Government
Land grabbing of the areas set aside for cemeteries	To demarcate and establish burial areas for kin of different cultures in the planning area.	• Establishment of a cemetery in Kehancha town	Long-term	• County government • Private developers (case for big housing projects) • National government • Ministry of Lands, Public works, Housing and Urban Development

Land grabbing of the public open spaces	To alienate land for public open spaces	• Allocation of space for establishment of public parks and playgrounds. • Establishment of two green parks in Kehancha CBD and one at Ikerege. • Establishment of playgrounds in residential areas. • Ensure that all public lands have title deeds	Mid-term	• Ministry of Lands, Public works, Housing and Urban Development • County government of Migori Physical Planning Department

CHAPTER TWELVE: IMPLEMENTATION FRAMEWORK

12.1 Overview

Implementation framework serves as a foundation for ensuring the proposed projects and actions are executed in accordance with the proposed strategies and within specified timeframes. Each project is assigned an implementation timeline, categorized as immediate, continuous, short-term, medium-term, or long-term. Moreover, it identifies the essential actors crucial for executing the various projects.

12.2 Implementation matrix

Implementation matrix functions as a guiding tool, delineating key projects, their respective locations, and the actors involved across various sectors. Our shared dedication to the success of Kehancha Municipality is vividly reflected in the precision of these projects, ensuring that every stakeholder comprehends their role in translating our aspirations into tangible achievements.

Table12- 1: Implementation matrix

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
Land	1. Establish a GIS-Based Land Management System	Within Planning Area	• County Government of Migori • Kehancha Municipality • Development Partners										
	2. Land-Sharing and Price Stabilization Initiative	Within Planning Area	• County Government of Migori • Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Private Investors										
	3. Regular Housing and Land Policies Review	Within Planning Area	• County Government of Migori • Kehancha Municipality • NLC										
	4. Implement Land Use Policies and Promote of Balanced Development	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	5. Acquisition of Land for Land Banking for future purposes	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	6. Inventory and Survey of All Public Land	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	7. Formulate and Implement Municipal Land Sub-Division Policies/Regulations	Within Planning Area	• Kehancha Municipality • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	8. Geological Survey	Within Planning Area	• Kehancha Municipality • County Government of Migori • NLC										
	9. Gazette the Mining Areas	Mining Areas	• Ministry of Mining, National Government • Kehancha Municipality • County Government of Migori										
	10. Prepare and Implement Special Area Plan for the Mining Area	Mining Areas	• Ministry of Mining, National Government • Kehancha Municipality • County Government of Migori • NLC										
Environment	11. Rehabilitation of Decommissioned Mining Site Rehabilitation Program	Old Mining Sites	• County Government of Migori • Kenya Forest Services (KWS)										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• NEMA										
	12. Mining Policy Development and Implementation	Gold Mining Areas Sand Harvesting Sites	• Ministry of Mining, National Government • County Government of Migori • NEMA										
	13. Environmental Impact Assessment (EIA) and Approval Process for Mining activities	Mining sites	• Ministry of Mining, National Government • County Government of Migori • NEMA										
	14. Mining Site Environmental Audit Program	Mining sites	• Ministry of Mining, National Government • County Government of Migori • NEMA										
	15. Prepare and Implement Legal Framework for Licensing of Mining Sites and Rehabilitation Sequences	Mining sites	• Ministry of Mining, National Government • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• NEMA										
	16. Public Tree Planting and Awareness Initiatives	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA										
	17. Riparian Reserve Protection and Rehabilitation Program	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA										
	18. Water Resource Management Enforcement	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • WRMA										
	19. Soil Erosion Prevention Measures	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	20. Design and Construct Storm Water Drainage Network	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • KURA • KeNHA • KeRRA										
	21. Preservation of Water Pans and Dams	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • WRMA										
Housing	22. Affordable Housing Development Program	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • Ministry of Housing, National Government • Private Investors										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	23. Informal Settlements Upgrading Program	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • Ministry of Housing, National Government • Private Investors • Development Partners										
	24. Mixed-Income Housing Initiatives	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • Ministry of Housing, National Government • Private Investors										
	25. Local Building Materials Promotion	Within Planning Area	• County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Kehancha Municipality • NEMA • Ministry of Housing, National Government										
	26. Promotion of Green Building Technology	Within Planning Area	• County Government of Migori • Kehancha Municipality • NEMA • Ministry of Housing, National Government • KGBS										
	27. Formulation and Implementation of the zoning regulations and development control guidelines	Within Planning Area	• County Government of Migori • Kehancha Municipality										
	28. Development Control and Inspections Program	Within Planning Area	• Kehancha Municipality										
	29. Basic Infrastructure Improvements	Within Planning Area	• County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Kehancha Municipality • National Government										
	30. Residential Safety Regulations	Within Planning Area	• County Government of Migori • Kehancha Municipality										
	31. Formulation, Review and Implementation of the Land-Use Policies	Within Planning Area	• County Government of Migori • Kehancha Municipality										
	32. Transit-Oriented Development Promotion	Within Planning Area	• County Government of Migori • Kehancha Municipality • Ministry of Housing, National Government • Private Investors • Development Partners										
Economy	33. Entrepreneurship Incubator Program		• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• County Government of Migori • National Government MDAs • Private Investors										
	34. Innovation and Research Collaboration	Within Planning Area	• Kehancha Municipality • County Government of Migori • National Government MDAs • Private Investors										
	35. Startup Incentive Program	Within Planning Area	• Kehancha Municipality • County Government of Migori • Ministry of Trade, National Government • Private Investors										
	36. Market Infrastructure Improvement (renovate		• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	existing market shades, storage and other facilities)		• County Government of Migori • National Government MDAs										
	37. New Market Development		• Kehancha Municipality • County Government of Migori • National Government MDAs										
	38. Establishment of Aggregation centers		• Kehancha Municipality • County Government of Migori • Ministry of Trade, National Government										
	39. Irrigation Infrastructure Development	Within Planning Area	• Kehancha Municipality • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Ministry of Agriculture, National Government • WRMA • NEMA										
	40. Establishment of Agro-Processing Facilities	Within Planning Area	• Kehancha Municipality • County Government of Migori • Ministry of Trade, National Government										
	41. Industrial Zone Creation and Development	Within Planning Area	• Kehancha Municipality • County Government of Migori • Ministry of Trade, National Government										
	42. Support for Jua Kali Industries		• Kehancha Municipality • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Ministry of Trade, National Government										
	43. Tourism Promotion and Infrastructure Development	Within Planning Area	• Kehancha Municipality • County Government of Migori • Private Investors										
	44. Survey, Acquisition and Development of Tourist Attraction Sites	Ngukumahando Caves All Tourist Sites	• Kehancha Municipality • County Government of Migori										
	45. Establish Local Credit Union	Within Planning Area	• Kehancha Municipality • County Government of Migori • Private Investors										
	46. Financial Literacy and Access Programs	Within Planning Area	• Kehancha Municipality • County Government of Migori • Development Partners • Private Investors										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	47. Taxation Reforms and Simplification	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	48. Urban Land Use Guidelines and Simplified Permit Process	Within Planning Area	• Kehancha Municipality • County Government of Migori • NLC										
Transport	49. Ntimaru-Kehancha Road Upgrading to Bitumen standard		• KURA • KeNHA • KeRRA • County Government of Migori • Kehancha Municipality										
	50. Ololunga - Kehancha - Muhuru Bay Road Improvement		• KURA • KeNHA • KeRRA • County Government of Migori • Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	51. Isebania - Kehancha - Kegonga - Ntimaru Road Enhancement		• KURA • KeRRA • County Government of Migori • Kehancha Municipality										
	52. Upgrading to Bitumen standard the Secondary Roads (width of 20m-25m)		• KURA • KeRRA • County Government of Migori • Kehancha Municipality										
	53. Widening and Upgrading of Link Roads (minimum 12m)		• KURA • KeRRA • County Government of Migori • Kehancha Municipality										
	54. Design and Construct Integrated Bus/Matatu Terminus	Ikerege Namba Junction	• KURA • KeNHA • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Kehancha Municipality										
	55. Prepare Municipal NMT master plan	Within Planning Area	• Kehancha Municipality • County Government of Migori • KURA										
	56. Construction of Walkways and NMT Infrastructural facilities	All Urban Growth Nodes	• Kehancha Municipality • County Government of Migori • KURA										
	57. Urban and street lighting initiatives	Within Planning Area	• Kehancha Municipality • County Government of Migori • KURA										
	58. Installation of Storm water drainage systems	Within Planning Area	• Kehancha Municipality • County Government of Migori • KURA • NEMA										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	59. Design and Construction of footbridges	Next to Igena and St' Kizito Primary School.	• Kehancha Municipality • County Government of Migori • KURA										
	60. Acquisition of encroached road reserves	Within Planning Area	• Kehancha Municipality • County Government of Migori • KURA • KeNHA										
	61. Construction of Boda-boda Sheds	All Urban Growth Nodes	• Kehancha Municipality • County Government of Migori • KURA										
	62. Street Beautification and Greening Initiatives	Within Planning Area	• Kehancha Municipality • County Government of Migori • KURA • KeNHA										
	63. Design and Construct Parking Facilities	All Urban Growth Nodes	• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• County Government of Migori • KURA										
Energy	64. Electric Connectivity Installation and Wayleave Preservation	Within Planning Area	• Kehancha Municipality • County Government of Migori • Kenya Power • KenGen										
	65. Promotion of Green Energy	Within Planning Area	• Kehancha Municipality • County Government of Migori • Kenya Power • KenGen • NGOs • Local Community										
	66. Construction of Power Substation		• Kenya Power • Kehancha Municipality • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
Water	67. Construction of New Water Treatment Plant		• MIWASCO • Kehancha Municipality • County Government of Migori										
	68. Prepare and Implement water supply plan	Within Planning Area	• MIWASCO • Kehancha Municipality • County Government of Migori • Private Investors										
	69. Water Supply Improvement	Within Planning Area	• MIWASCO • Kehancha Municipality • County Government of Migori • Private Investors										
Disaster Management	70. Design and Construct a fully equipped Fire Station	Kehancha CBD	• Kehancha Municipality • County Government of Migori										
	71. Prepare and Implement Disaster Management Plan	Within Planning Area	• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• County Government of Migori										
	72. Disaster Preparedness Awareness Creation Initiatives	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	73. Disaster Preparedness and Mitigation Program	Within Planning Area	• Kehancha Municipality • County Government of Migori										
Waste Management	74. Solid Waste Management Solution	Within Planning Area	• Kehancha Municipality • County Government of Migori • NEMA • NGOs • Local Community										
	75. Dumping Sites Enhancement	Within Planning Area	• Kehancha Municipality • County Government of Migori • NEMA										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	76. Design and Construction of Decentralized Sewerage Treatment Plants		• Kehancha Municipality • County Government of Migori • NEMA • Development Partners • Private Investors										
	77. Installation of solid waste incinerators		• Kehancha Municipality • County Government of Migori • NEMA • Development Partners • Private Investors										
	78. Construction of Waste Recycle Plants		• Kehancha Municipality • County Government of Migori • NEMA • Development Partners • Private Investors										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	79. Establishment of Solid Waste Collection Points	All Urban Growth Nodes	• Kehancha Municipality • County Government of Migori • NEMA • NGOs • Local Community										
	80. Creation and Maintenance of Sustainable Solid and Liquid Waste Management System	Within Planning Area	• Kehancha Municipality • County Government of Migori • NEMA • Development Partners • Private Investors • NGOs • Local Community										
	81. Installation of Garbage Collection bins and skips	Urban Growth Nodes	• Kehancha Municipality • County Government of Migori • NEMA • Private Investors										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• NGOs • Local Community										
	82. Establish a Cemetery	Within Planning Area	• Kehancha Municipality • County Government of Migori										
	83. Waste Management Sensitization Initiatives	Within Planning Area	• Kehancha Municipality • County Government of Migori • NEMA • Private Investors										
Education	84. Establishment of Two Tertiary Institutions		• Ministry of Education, National Government • Kehancha Municipality • County Government of Migori										
	85. Construction of Libraries and Innovation Centers		• Ministry of Education, National Government										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• Kehancha Municipality • County Government of Migori • Development Partners • Private Investors										
Health	86. Construction of New Health Facility	Ikerege	• Kehancha Municipality • County Government of Migori • Development Partners • Private Investors										
	87. Renovate and Upgrade of existing Health Facilities	Within Planning Area	• Kehancha Municipality • County Government of Migori • Development Partners • Private Investors										
Recreation	88. Construction of Green Parks	2No. at Kehancha CBD 1No. at Ikerege	• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• County Government of Migori • Development Partners • Private Investors										
	89. Municipal Beautification and Greening Initiative	Within Planning Area	• Kehancha Municipality • County Government of Migori • Development Partners • Private Investors										
	90. Establishment of Urban Green Spaces (botanic gardens, arboretums)	Within Planning Area	• Kehancha Municipality • County Government of Migori • KFS • NEMA • Development Partners • Private Investors										
	91. Formulation and Implementation of Municipal Public Spaces Guidelines	Within Planning Area	• Kehancha Municipality										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
			• County Government of Migori • NEMA • Ministry of Urban Development, National Government										
Urban Governance	92. Capacity Building and Training Program	Within Planning Area	• Kehancha Municipality • County Government of Migori • National Government										
	93. Inter-departmental Collaboration Framework	Within Planning Area	• Kehancha Municipality • County Government of Migori • National Government										
	94. Municipal Technical Expertise Enhancement	Within Planning Area	• Kehancha Municipality • County Government of Migori										

SECTOR	PROJECT	LOCATION	ACTORS	TIME FRAME (YEARS – FROM 2023 TO 2032)									
				1	2	3	4	5	6	7	8	9	10
	95. Adopt Multi-Agency Implementation Approach	Within Planning Area	• Kehancha Municipality • County Government of Migori • National Government MDAs										
	96. Budgetary Allocation for Urban Governance and Development	Within Planning Area	• Kehancha Municipality • County Government of Migori • National Government										

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