



SIAYA MUNICIPALITY

INTEGRATED URBAN DEVELOPMENT PLAN



FOREWORD

This plan is a spatial development framework for Siaya Municipality, which will form the basis of local, intermediate and detailed plans for the municipality. The planning area is earmarked for rapid economic development induced by Siaya town which serves as the administrative headquarters of Siaya County. Siaya Municipality is the first municipality in Siaya County. The plan is a critical utility for management.

Municipalities as vast regions endowed with multiple jurisdictions, existing and potentially diverse and complex scenarios are best managed in accordance with Integrated Strategic Urban Development Plans. The proposals in this plan are hinged on ensuring that the vision of a balanced, economically vibrant and prosperous, socially cohesive, and functionally interlinked Municipality is realized.

In order to ensure the relevance of this municipal plan, a commitment should be made to have it reviewed at least once every five years and cascaded as detailed plans that are in turn reviewed after every two years. This plan challenges the planning fraternity to apply proactive interventions to sustain the paradigm shift in the management of urbanization, spatial planning, the territorial economics we apply, the technology we deploy, the investments we make, our socialization and societal value systems, and the dominant world view in the planning landscape.

Chairperson

Siaya Municipal Board

EXECUTIVE SUMMARY

The Plan is a strategic vision that defines the development for the municipality. It is a medium-term plan spanning a period of five (5) years with yearly periodical reviews. The preparation of Siaya Municipality Integrated Strategic Development Plan is in line with the Urban Areas and Cities Act of 2019. The purpose of this plan is to provide a municipal spatial structure that defines how its space is utilized to ensure optimal and strategic use of land. This is imperative as it will facilitate the achievement of the land policy principles of equitable access to land, security of land rights, strategic and productive management of land resources, transparent and cost effective management of land, sound conservation and protection of ecologically sensitive areas, elimination of gender discrimination in law, customs and practice related to land and property in land and encouragement of communities to settle land disputes through recognized local community initiatives consistent with the constitution (Constitution of Kenya,2010). Further, the Plan provides strategies and policies to deal with municipal challenges including urbanization, spatial imbalances/inequalities, rural development, climate change & environmental degradation, transportation and underutilization of the massive resources available in the municipality. The approved Siaya County Spatial Plan presents the overall spatial structure and growth strategies. In the same approach, this Integrated Urban Strategic Development Plan delimits the growth and development of Siaya Municipality to provide a more detailed spatial structure. Overtime, lack or poor planning has led to uncoordinated and unguided development resulting not only in duplication of efforts but also in resource wastage and unbalanced development. The Plan will thus provide a spatial framework upon which the various sectoral plans and policies will be anchored. The specific objectives of the IDEP are: To Integrate land use and infrastructure planning to improve the built, economic and social environments of the municipality; to reduce land use conflict and enhance urban safety; to promote economic development and efficient use of land and protection of significant natural and heritage features; to provide strategies for adaptation to climate change, including reduced vulnerability to natural disasters; to create the municipality's character and ensure compactness of its spatial form and design; and to provide a framework of plan implementation, organization and administration requirement and resources for implementing the plan. The plan is divided into six chapters as outlined below. Chapter one gives the introduction and background of Siaya Municipality highlighting its location, vision, mission, objectives, scope of the plan and organization of the plan among others. Chapter two provides the policy, legislative and institutional framework. Chapter three delves into the situational analysis of the Municipal, providing a physical, social and environmental scan of the Municipality. Chapter four the Municipal planning and design concepts. Chapter five outlines the plan proposals highlighting the strategies that will be in place and the projects and programs to be implemented. Finally, chapter six presents the implementation framework, monitoring and evaluation framework.

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Chapter 1

1.0 Introduction

1.1 Background

Municipalities, all over the world serve as centers of settlements and economic activities characterized by urban, peri-urban and rural landscapes. Pressure and demand for land is attributed to increasing population, infrastructural and economic development among other competing uses. Thus, developing strategic municipalities must ensure careful allocation of this scarce resource to ensure optimal use while ensuring harmony. Land use planning comes in handy as a tool to ensure spatial order, use and avoidance of adverse human developments. The process is described as iterative, interactive and participatory mandated by enabling legislations, guidelines and standards.

This plan presents the Siaya Municipality Integrated Strategic Urban Development Plan 2023 - 2027. It aspires to accelerate development and realize the aspiration of transforming the municipality into a modern competitive, liveable and economically vibrant entity in the next 5 years. Thus, the plan is a critical instrument in developing and managing the urban area as it addresses the spatial, social, economic, and infrastructural aspects of the municipality. This is done along several themes: Transportation; infrastructure and services, climate change and environment, social inclusion, housing; local economic development and governance.

1.2 Location of the Municipality

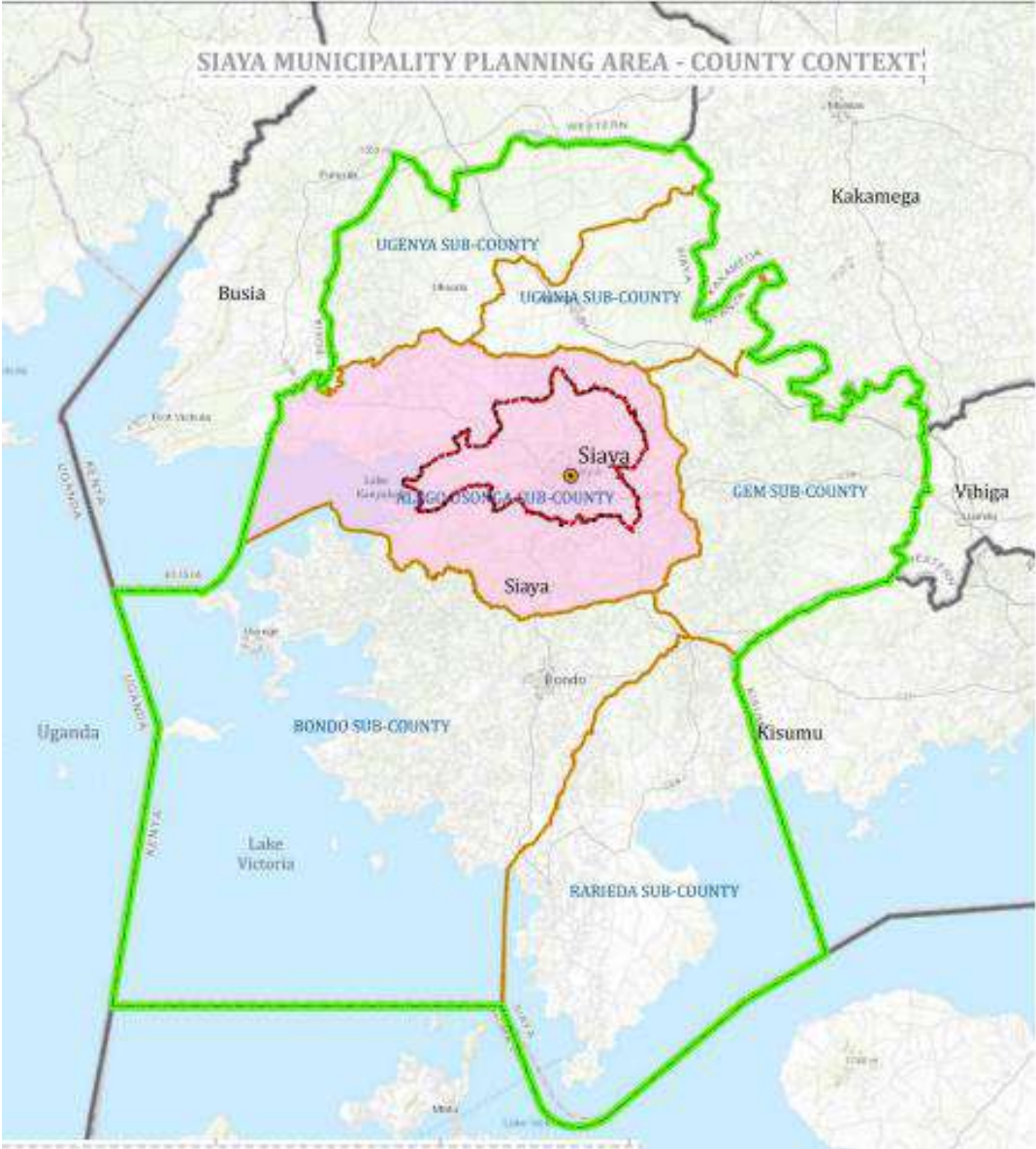
1.2.1 Regional Context

Siaya Municipality is one of the 59 municipalities established across 45 counties in Kenya under the provision of UACA 2011 (amended 2019). The municipality is located in Siaya county one of the counties in Nyanza region. Siaya County borders Busia County to the North, Kakamega and Vihiga County to the northeast, Kisumu County to the southeast and shares a Lake Victoria Border with Kisumu County to the south. The municipality is approximately 74km from Kisumu City; Nyanza region headquarters.

1.2.2 Local Context

The municipality is located in Siaya County, Kenya. Geographically, the municipality is located at latitude 0° 3'45.01"N and longitude 34°17'16.10"E and covers an area of 156 km². Administratively Siaya municipality is the county headquarters. The municipality boundary covers

four wards/administrative units which include: Central Alego, Siaya Township, South East Alego and North Alego.



Map 1-1: Locational Map - County Context

1.3 Vision

The vision of the plan is to promote a balanced, economically vibrant and prosperous, socially cohesive, and functionally interlinked Municipality.

1.4 Mission

To facilitate efficient and effective urban management for strategic urban development to all residents of Siaya Municipality.

1.5 Objectives

1.5.1 Specific objectives

- To Integrate land use and infrastructure planning to improve the built, economic and social environments of the municipality.
- To reduce land use conflict and enhance urban safety.
- To promote economic development and efficient use of land and protection of significant natural and heritage features.
- To provide strategies for adaptation to climate change, including reduced vulnerability to natural disasters.
- To create the municipality's character and ensure compactness of its spatial form and design.
- To provide a framework of plan implementation, organization and administration requirement and resources for implementing the plan.
- To promote gender mainstreaming.

1.6 Scope of the Plan

The IDEP covers a detailed analysis of the sectoral and spatial structure of Siaya Municipality. It covers a land surface area of 156km². The Plan is a medium-term spatial planning framework and development strategy with a planning horizon of five (5) years from 2023-2027 and shall be subject to five (5) year reviews. It discusses the current situation in Siaya municipality highlighting the sectoral and thematic constraints that inhibit the economic vibrancy, environmental sustainability and community development. The Plan offers the Spatial Development Strategy for the municipality that depicts all existing physical features, spatially illustrates development projects. It aims to address pertinent issues such as human settlement patterns, urban and rural development, utilization of natural resources, transport and infrastructural development and attracting suitable investment in the municipality.

1.7 Organization of the Plan

This plan is organized into six (6) chapters, namely: Introduction –provides the background to the plan including the vision, mission, objectives, scope and methodology. Legislative, policy and institutional framework; planning area; economy, urban infrastructure; Housing and social infrastructure; emerging planning issues; plan proposals; and implementation framework.

1.8 Methodology

The process, rationale and framework for spatial planning is provided for by the Constitution of Kenya 2012, County Government Act 2012, Physical Planning Act cap 286 and other legislations. The process was thus participatory and involved open forums which brought on board key stakeholders and professional experts. Synthesis and evaluation of the plan was carried out through a participatory process. In conclusion, the process was holistic to accord an inclusive and integrated strategic development plan that articulates the County Government of Siaya’s vision and development agenda. The planning process is summarized in the diagram below: -

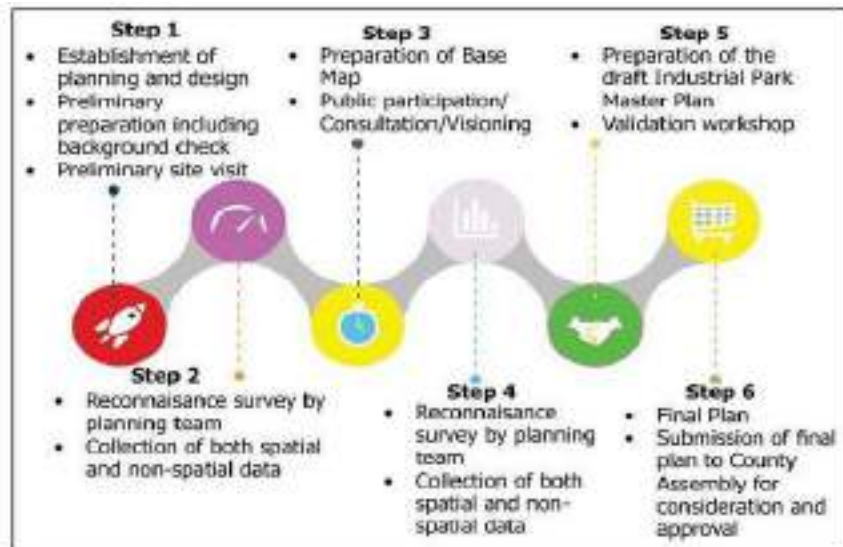


Figure 1-1: Methodological Approach

Chapter 2

2.0 Policy, Legislative and Institutional Framework

2.1 Overview

Urbanization is among the world's serious challenges that must be addressed. Urbanization challenges include; poor & inadequate social amenities, overstretched physical infrastructure, poor & inadequate housing and imbalanced financial flow. The government of Kenya has put in place a number of policies and instruments to address these challenges as highlighted in this chapter.

2.2 Policy Framework

2.2.1 The Kenya Vision 2030

This is a Kenya development blueprint document developed in 2008 that provides the guideline for the transformation of the country into a newly industrialized, middle-income country by 2030. The document envisions that the developments will provide a high quality of life to all citizens in a clean, safe and secure environment. The Kenya Vision 2030 recognizes the need for 'an adequately and decently housed nation in a strategic environment as an integral part of transforming the country into a newly industrialized middle-income country by 2030. The document outlines three initiatives aimed at enhancing equity in accessing adequate housing. These include housing development initiative for the production of 200,000 units annually by the year 2012 up from 35,000 units in 2008 and mortgage financing mechanisms to create a variety of housing investment facilities to provide affordable finance to Kenyans. There are other initiatives to enact a housing legislation to consolidate all housing related legislations into one law.

2.2.2 National Housing Policy

The policy was developed in 2004 and reviewed in 2010 for the purpose of alignment with the Constitution of Kenya 2010. The policy was developed with a broad objective of providing adequate shelter and a healthy living environment at an affordable cost to all socio-economic groups in Kenya in order to foster strategic human settlements. The policy identifies widespread poverty, rapid urbanization, inadequate supply of urban land suitable for housing development, limited access to housing finance, lack of proper management and maintenance of existing stock, lack of infrastructure and social facilities, inappropriate legislative and institutional framework as the main causes of poor housing conditions.

2.2.3 National Land Policy (Sessional paper No. 1 of 2017)

This policy was developed to guide the country towards efficient, strategic and equitable use of land for prosperity and posterity. It provides the overall framework and defines the key measures required to address the critical issues of land administration, land use planning, restitution of historical injustices, environmental degradation, conflict resolution, proliferation of informal settlements, outdated legal and institutional frameworks, and land information management. The key principle in the policy is land use planning which is recognized as essential for the efficient and strategic utilization and management of land and land-based resources throughout the country.

2.2.4 National Urban Development Policy (NUDP)

This policy was developed in 2012 with the aims to strengthen development planning, urban governance and management, as well as to promote urban investment and delivery of social and physical infrastructure in all urban areas under a devolved system of governance. The policy seeks to promote the global competitiveness of Kenyan urban areas through the promotion of Local Economic Development (LED). This is envisaged to achieve through the promotion of local physical and economic planning as well as the creation of a framework for the promotion of LED and public private partnerships in urban development. The policy also seeks to promote agglomeration economies through the development of new specialized urban core areas and metropolitan regions to spearhead growth and investment in thematic areas and sectors of the national economy.

2.2.5 National Environment Policy

The policy was developed in 2013 with an aim at integrating environmental aspects to the national development planning process. It gives comprehensive guidelines for achieving strategic development with regard to the effects of development on the environment. The provisions are crucial in ensuring the development of environmentally strategic human settlements.

2.2.6 National Water Policy

The was developed in 2007 to guide the provision of safe water for household consumption and sets out the framework for the water sector reforms to overcome the institutional and operational weaknesses in the sector. The provisions in this policy are useful in planning for water and sanitation services within the affected informal settlements.

2.2.7 The National Spatial Plan (2015-2045)

This is a long-term development plan prepared in 2015 for the whole country. It gives the direction and the trend of spatial development for the whole territorial boundary up to 2045. The Plan provides national physical planning policies aimed at guiding micro-level physical development plans. The plans envisaged under this project would be prepared in furtherance of the broad provisions of the national spatial plan.

2.2.8 The Strategic Development Goals (SDGs) of 2015

These are 2030 Agenda for Strategic Development, which was ratified by all UN member states at the 2015 United Nations General Assembly. They are 17 in number with 169 targets which are critical to the world's pandemics. The plan prepared should therefore address issues like; eradication of extreme poverty, tackling global inequality and climate change, promoting strategic urbanization and industrial development, protecting natural ecosystems, and fostering the growth of a peaceful and inclusive communities and governing institutions.

2.2.9 Siaya County Integrated Development Plan 2023-2028

Siaya County Integrated Development Plan 2023-2028 is a policy blueprint that will guide development in the county between 2023 and 2028. The document debates county's spatial development framework, natural resource assessment, key county development priorities, strategies and programs to be implemented in the next five years. This plan is therefore prepared in line with the CIDP in term of development strategies and strategies.

2.2.10 Bottom- Up Economic Transformation Agenda (BETA) 2022-2027

The Bottom-Up Economic Transformation Agenda 2022-2027 is the manifesto of the Kenya Kwanza administration that runs over five years. Bottom- Up Economic Transformation Agenda was ratified in 2022 to spear head economic transformation under five key priorities including Agriculture, MSME Economy, Housing and Settlement, Healthcare, as well as Digital and Creative Economy. The priority

interventions proposed in the plan are expected to contribute toward six broad objectives including lowering the cost of living, eradicating hunger, managing unemployment, improving fiscal performance, stabilizing foreign exchange and ensuring inclusive economic growth.

2.3 The Legal Framework

2.3.1 Constitution of Kenya, 2010

This is the supreme law of the Republic of Kenya. The constitution provides the basis and the principles for planning. In the Fourth Schedule, Part 1 (21) it decrees to the National Government to set the general principles of land planning and the coordination of planning by the counties and in Fourth Schedule, Part 2 (8) its tasks County Governments to undertake County planning and development. It further gives the National Land Commission the function to monitor and have oversight responsibilities over land use planning throughout Kenya under Article 67 (2)(h).

Article 43(1)(b), besides, the bill of rights under the constitution states that every person has the right to a clean and healthy environment (42); the highest attainable standard of health; clean and safe water in adequate quantities; and that every child has the right to shelter and health care (53). This affirms that housing is recognized as a basic human right in Kenya and therefore concerted efforts must be made towards the realization of this right. In fact, the constitution bestows on the state and all its organs a fundamental duty to observe, respect, protect, promote and fulfill the rights and fundamental freedoms, and hence calls upon the state to take legislative, policy and other measures, including the setting of standards, to achieve the progressive realization of these rights.

2.3.2 The Physical and Land Use Planning Act, 2019

This an act of parliament to make provision for the planning, use, regulation and development of land. This act provided for preparation of various land development plans, inter-county physical and land use development plans, integrated county physical and land use development plans, city physical and land use development plans, urban area physical and land use development plans and sectoral plans on the National Physical and Land Use Development Plan.

Section 46 (e) mandates the county government to prepare local physical and land use development plan for urban areas, municipalities and cities providing guideline framework for building and work development. Section 48 of the same act provides that all the maps prepared in the above plans should be Geographical Information System based map.

2.3.3 Urban Areas and Cities Act, 2019

The Act establishes a legislative framework for the classification of human settlements as urban areas or cities, besides laying out a framework for governance and management of urban areas and cities and participation by the residents in the same. The statute establishes city, municipalities and town management committees to oversee the affairs of each respective urban area, especially with respect to:

- i. Developing and adopting policies, plans, strategies and programs;
- ii. Formulating and implementing integrated development plans;
- iii. Controlling land use, land subdivision, land development and zoning by public and private sectors for any purpose within urban areas and cities;
- iv. Developing a framework for the spatial and master plans for each respective city or municipality;
- v. Promoting and undertaking infrastructural development and services within the city, municipalities or towns; and
- vi. Administering and regulating the internal affairs of each respective urban area, municipality or city.

In this respect, the Urban Areas and Cities Act provides the objectives and institutional framework for implementation of the plans envisaged under this project.

2.3.4 County Government Act, 2012

This Act bestows County Assemblies with the mandate to approve county development plans. The statute further establishes County Executive Committees to monitor the process of planning, formulation and adoption of the integrated development plan by a city or municipality through provisions like county integrated development plans, county sectoral plans, county spatial plans and cities and urban areas plans. The Act further stipulates that each city or municipality shall have land use plans, building and zoning plans and development control plans. In addition, the Act provides that city or municipal plans shall be the instrument for development facilitation and control within respective cities or municipalities.

2.3.5 Land Act, 2012

The Land Act, 2012 was meant to revise, consolidate and rationalize the hitherto existing land laws; to provide for the strategic administration and management of land and land-based resources;

and for connected purposes. According to the Act, there shall be equal recognition and enforcement of land rights arising under all tenure systems and non-discrimination in ownership of, and access to land under all tenure systems as expressly identified under the Constitution. This Act provides for the conversion of land from one category to another for the various listed purposes which include land use planning. It also prohibits the allocation of public land that has not been planned and that does not have development guidelines.

2.3.6 Environmental Management Coordination (Amended) Act, 2015

This Act provides for the establishment of an appropriate legal institutional framework and procedures for the management of the environment. It recognizes that every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance that same environment. It is therefore necessary to have provisions in the spatial development framework on land to ensure the protection and conservation of the environment. The regulations for environmental control and management that the Act provides will be useful in the preparation of the integrated strategic urban development plan for Siaya Municipality.

2.3.8 National Land Commission Act, 2012

The Act provides for the establishment of the National Land Commission. It states the functions, powers, composition and administrative duties of the members of the commission. The general function of the commission is the management and administration of public, private and community land.

2.3.9 Health Act No. 21 of 2017

This Act of Parliament makes provisions for securing and maintaining the health of the public. Relevant to Siaya Municipality. The Act can be used by local authorities to prohibit informal traders from transacting business in unsanitary conditions. It sets standards to be observed by people who wish to carry out trade in foodstuffs and the conditions under which such trading should be done.

2.3.10 The Survey Act, 299

This Act makes provisions in relation to the conduct of land surveys in Kenya. The Act offers guidelines for aerial surveys for mapping purposes or other similar purposes, including procedures in carrying out such surveys. The survey work to be carried out as part of this project will proceed in accordance with the provisions of this Act.

Chapter 3

3.0 Situational Analysis

3.1 Physiographic Profile

3.1.1 Relief and Topography

The altitude of the municipality rises from 1,140m on the shores of Lake Victoria to 1,370m above sea level on the North. The highest point in the municipality is Mbagha hills 1370m and the lowest point is 1190m Kalejuok dam. The municipality is engulfed between River Nzoia and Yala. The low altitude areas of Boro, Uranga, Uyoma and Wagai receive less rainfall and thus are suitable for cotton growing and drought resistant crop varieties.

3.1.2 Hydrology and Drainage

Siaya municipality falls between two drainage regions that is river Nzoia and its tributaries drainage basin and river Yala and its tributaries drainage basin. The two major rivers Yala and Nzoia dominates the drainage of the municipality being the major source of water infrastructure for the town.

3.1.3 Geology and Soils

The municipality is composed of Nyanzian and Kavirondian rocks, known as the Nyanza Craton, considered as oldest rocks in the country. The Nyanzian system is mainly composed of lavas and pyroclastic with minor sediments and banded ironstones. These rocks include basalts, desites and rylites, that consist of rough and fine aggregates used in the construction industry. The main soil type is ferrasols and its fertility ranges from moderate to low with most soils being unable to produce without the use of either organic, inorganic or in most cases both types of fertilizers. Most of the areas have underlying murram with poor moisture retention.

3.1.4 Climate Condition

The Municipality experiences a bi-modal rainfall, with long rains falling between March and June and short rains between September and December. The rainfall amount in the municipality ranges between 800mm –2,000mm per annum. Temperatures vary with altitude rising from 21°C to 22.50° C. Humidity is relatively high with mean evaporation being between 1,800mm to 2,200mm per annum in the municipality. The relative humidity ranges between 73 per cent in the morning and 52 per cent in the afternoon.

3.2 Biological Environment

3.2.1 Flora

The planning (Siaya Municipality) area mainly has grass, some shrubs and minimal number of trees similar to many areas within the municipality. Grass and trees grow on the seasonal floodplain and stands of acacia occur throughout the landscape of the municipality.

3.2.2 Fauna

The variety of wildlife found in the adjacent regions around the municipality which include hippopotamus (Lake Victoria, River Yala), crocodiles (Yala Swamp, parts of the Lake Victoria), Sitatunga (Yala Swamp), monkeys and leopards.

3.3 Structuring Elements

There are a number of structures that defines the Developments in the municipality. The topography of the municipality is a major structuring element that define in the development. Mbag Hill is the highest point in the municipality and developments seems to be oriented away from Mbag Hill. Dams in the municipality like; Abura, Kalenyjuok, Futro, Nyalnawe, Koga, Sandhof, Uranga and Tinga Dams are part of the structuring element. Roads are also part of the elements defines the development in the region. Most of the developments in the municipality tries to take the shape of the road and road-junctions. Public and private institutions like universities are also part of the structuring elements. Some of the developments in the municipality mushrooms around Jaramogi Oginga Odinga University of Science and Technology (Siaya campus) University College, Kenya Medical Training College and Siaya Institute of Technology.

3.4 Population and Demographics

3.4.1 Population size and composition.

Siaya municipality has a population estimated at 80,424 persons with 33,153 being in the urban region and 47,271 being in the peri-urban region.

Table 3:1: Current Population Distribution in Siaya Municipality Per Sub-Location

Sub-Location	Area within the Planning Area (Km ²)	Density (persons per km ²)	Males	Females	Total
Karapul	10.70	1,597	8,031	9,057	17,088
Ulafu	8.22	369	1,395	1,638	3,033
Bar Agulu	12.80	548	3,297	3,714	7,011
Mulaha	13.55	792	5,151	5,581	10,732
Nyandiwa	14.59	780	5,576	5,804	11,380
Koyeyo	6.36	380	1,136	1,281	2,417
Ojwando A	17.84	201	1,685	1,901	3,586
Ojwando B	5.99	423	1,193	1,345	2,538
Obambo	14.42	268	1,816	2,049	3,865
Komolo	10.82	468	2,431	2,633	5,064
Nyalgunga	12.63	431	2,613	2,831	5,444
Kadenge	3.51	-	-	-	-
Nyamila	4.20	353	697	786	1,483
Hono	8.54	533	2,185	2,367	4,552
Gangu	3.08	-	-	-	-
Kaugangi/Hawinga	3.20	-	-	-	-
Kakumu/Kombewa	5.87	380	1,048	1,183	2,231
TOTAL POPULATION			38,254	42,170	80,424

Adopted from KNBS, 2019

Table 3:2: Projected Population of Siaya Municipality

Year	2019	2020	2023	2025	2030	2033
Population	80,424	82,193	87,618	91,473	101,535	108,236

Source: KNBS, 2019

3.4.2 Population Structure of Siaya Municipality

The population structure reveals a population of a higher percentage of young generation. The figure 3-1 shows the pyramid of Siaya municipality population structure.

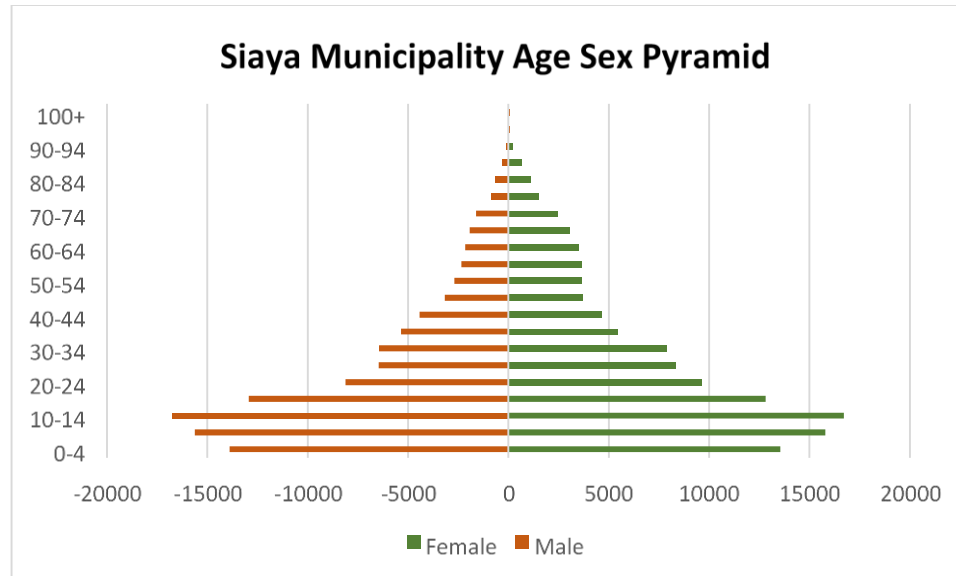


Figure 3-1: Population structure in Siaya Municipality

3.4.2 Demographic Characteristics

Indicators of Well-being: From the 2021 Kenya Continuous Household Survey, it reveals that the Siaya Municipality has poverty level of about 34.2%. This shows that the municipality has declined across the past years. The notable poverty decline could be attributed to the fact that more resources have been devolved and the municipality is the county headquarters. There have also been many pro-poor programs such as; social protection programmes for the poor and vulnerable groups, initiatives for the less privileged where both the incidence and depth of poverty are high, and affirmative action in public procurement and access to credit in favor of the youth and women.

Literacy: The survey from Kenya National Bureau of Statistics (2019), 89% of the population have primary level of education while 68% of the population have secondary education.

Life Expectancy: The average lifespan in municipality is estimated to be 40 years under today's social, economic and health conditions, a staggering 16 years shorter than Kenya average of 56.6 years, and more than a quarter century shorter (Kenya Institute for Public Policy and Research, 2014). It is reasonable to believe that the unfavorable conditions that prevailed during the period of economic sabotage resulting in collapse of local industries had a negative impact.

Morbidity and Mortality: From the survey done by KNBS (2019), most deaths at infant stage is caused by malaria taking 54%. Other causes of death are respiratory diseases, and diarrhea. It is

important to note that the burden of non-communicable conditions in the county such as cardiovascular diseases, diabetes, cancers, mental health, has not been quantified but also causes a number of deaths. The current child mortality rates for the county (NNMR 39/1000 live births, IMR 111/1000 live births, U5MR 159/1000 live births) are among the highest in the municipality. Majority of these deaths are due to preventable and treatable illnesses. Of importance also is the fact that the majority of childhood deaths are due to an underlying factor of HIV/AIDS and malnutrition.

Fertility: The fertility rate of the municipality has been reported to declining in the region with households recording average of 3 persons per household, mostly because of the increasing demand for smaller families and use of modern contraception. Addressing barriers to access and use of family planning would further reduce fertility.

3.5 Gender Mainstreaming

Siaya Municipality recognizes that urban planning is part of the larger context of urban governance and management, and recognizes the systemic impacts of discrimination- the examining of urban governance with gender and socio-economic dynamics of the urban in mind is a critical starting point in the assurance of equalities, inclusion, and urban sustainability

More specifically, low-income women, men, and other marginalized groups require further attention and inclusion in policies, projects, and decision making. Therefore, by pursuing Gender mainstreaming across the municipal functions, and service delivery offers an opportunity to create inclusive cities respecting the human rights of women and men of all ages and of diverse backgrounds. Only when the diverse experiences and needs of women and men are integrated into urban planning and design will it be possible to form inclusive urban planning procedures, public spaces, and land management

To this end, the Siaya Municipality has established a Gender Participatory Framework Policy that provides a uniform approach towards mainstreaming gender in the area of jurisdiction including among others:

- a) A framework for action in inculcating gender sensitivity in the Municipal's mandate and intentionally address underlying barriers such as gender stereotyping, gender discrimination, and gender influence on career choices.

- b) A Gender-friendly environment for both the Municipal and private sectors within the municipality with appropriate support systems and incentives.
- c) Improved municipal's capacity on gender competence at all levels through a range of measures relevant and applicable.
- d) Interconnectivity of the social, economic, institutional, and systemic gender transformational measures across the Municipal's ecosystem
- e) A guide for statutory requirements on the gender-responsive workforce.
- f) Gender-focused capacity building and knowledge management for Municipality.

The established gender policy is considered a guide for the Municipal as it delivers on its Mandate espoused in the Urban and Cities Act, 2019. Generally, it applies at the following four levels:

- a) **Institutional level:** mapping and analyzing the existing gender-based situation and the ongoing different programs, projects, policies, processes and administrative operations, both quantitatively and qualitatively, seeking to identify gender gaps and inequalities so that appropriate measures to address the gender disparities can be determined.
- b) **Policy level (the Board):** Mapping and analyzing the existing gender issues within the institution and sectors to inform responsive policy decisions and interventions.
- c) **Programmatic level (Technical):** an in-depth focus at the training programming cycle, inculcating gender training needs assessment, designing programs/projects, establishing monitoring and evaluation systems, and gender-responsive indicators.
- d) **Partnerships level (Private Sectors and Donors):** striving to foster strategic partnerships (with the private sector, development partners, and non-state actors) for the advancement of a gender-sensitive and responsive urban Centre ecosystem (Municipality).

In a nut shell, the Gender Participatory Framework serves as a guide for all stakeholders of Siaya Municipal programs, projects and regulatory measures to understand gender issues, the importance of gender mainstreaming in the urban sector, and how to incorporate a gender perspective into each stage of a project and policy development cycles. Its main focus is on Urban development project strategies and priority issues especially on the Municipal management, planning, master

plans for urban planning, smart cities, sustainable urban development, development and utilization of Geospatial information, and Transit Oriented Development (TOD)- creating vibrant, livable, and sustainable communities.

3.6 Land

3.6.1 Land Tenure

Land ownership in Siaya county is categorized as either private land, public land and community land as per land registration act 2012. Private land forms most of the land in the county which is owned by private individuals. The total area coverage of the municipality is 156.52 km².

Table 3:3: Land Use Categorization

Use	Area (Km²)	Percentage
Peri-urban	133.561	85.44
Urban Areas	3.319	2.12
Water bodies	17.36	11.11
Wetlands	2.08	1.33
	156.52	100.00

Source: Siaya Municipality Draft Spatial Plan (2023)

3.6.2 Mean Holding Size, Land Suitability, Use and Availability

The average smallest land size in Siaya Municipality is approximately 0.5ha. Due to the higher percentage of the land in Siaya Municipality being on a freehold tenure system, it is difficult to come up with developments unless county government buys the land from the individual land owners.

3.6.3 Percentage of Land with Title Deed

As at 2012, 70% of land owners had title deed. Most of these titles however, bear the names of the forefathers while the current occupiers of the land are third generation owners with no titles. This means that there is limited collateral for securing loans to undertake different kind of business, hence reducing the possibility of micro-investments within the municipality and the county at large. During the plan period, efforts are expected to be made to formalize land ownership.

3.6.4 Incidence of Landlessness

Siaya Municipality, majorly inhabited by families that trace their land ownership mostly based on their ancestral lineage. The culture of land ownership is under threat following the emerging trend of leasing or selling land for commercial endeavors. This trend is likely to lead to cases of landlessness in the near future.

3.6.5 Land Conversion/Change of Use

Siaya municipality has rapidly urbanization report high rate of population increase annually. The demand for housing in municipality has put pressure on the available land for settlement. Agricultural land in the peri-urban areas are gradually getting fragmented as people constructs new homes. Although the majority of the peri-urban land is predominantly used for crop farming, deforestation is gradually making the land fallow.

3.6.6 Land Use

There are major categories defining land use in Siaya Municipality. They are; Residential, Commercial, Industrial, Recreational, Educational, Agricultural, Wetlands, and water bodies. Analysis of land use in the municipality over the period from 1984 to 2014 reveals a decline in land cover, especially on the fragile ecosystems.

- I. Siaya Municipality land has been classified into the following uses;
 - i. Settlement- these entails the built environments for both residential and commercial purposes.
 - ii. Transportation- these covers lands under roads, rail and airstrips in Siaya County.
 - iii. Vegetation cover-these includes the forested areas especially along hilly grounds like in Mbaga Hill.
 - iv. Water bodies -includes land occupied by rivers, lakes, streams, ponds, shallow wells and wetlands.
 - v. Agricultural lands- This category entails cultivated land, fallow land, farm houses, horticultural, range land as well as crop fields. The main food crops include; maize, sorghum, millet, beans, cowpeas, cassava, sweet potatoes, groundnuts and finger millets while the main cash crops include cotton, rice, sugar cane and groundnuts.

3.7 Economy

3.7.1 Overview

Siaya town suffers from lack of industries. Although there exists minimal juakali industrial outfits, there is a need to rethink on the strategies of uplifting cottage industries /indigenous industries in the town by the local community. It is the county headquarters of Siaya County that links Bondo Town, Kisumu City, Busia Town through Ugunja and Port Victoria through Nyadorera. This being the case many economic activities in the municipality revolves around along basic farming and trade. Transportation activities such as Bodaboda, small scale business in households and fishing related activities, dominate the economic sector. Tourism in Yala wetlands as well as investment into cultural and historical sites like mama Sarah Obama is slowly but gradually gaining prominence in the area. Hospitality industry by means of building hotel, bars and lodging activities is on the upward trend. Hotels like distinction gardens, Siaya County Club, Audrey Premier and Hotel and Summit have set the pace in bar & lodging business in addition to conferencing facilities. There are also small scale food kiosks that needs nurturing that keeps many households in terms of employment creation the residents of Siaya.

3.7.2 Farming as an Economic Activity

The main food crops in Siaya municipality include; maize, sorghum, millet, beans, cowpeas, cassava, sweet potatoes, groundnuts and finger millets while the main cash crops include cotton, rice, sugar cane and groundnuts. Some of the emerging crops in the county include: irrigated rice, palm oil, chili, passion fruit and grain amaranth. Vegetables produced in the county are: tomatoes, onions and kale while fruits grown in the region are; mangoes, pawpaw, bananas, oranges and watermelon.

3.7.3 Fisheries

Kenya's fisheries resources are an important source of food, employment and foreign exchange earning in Kenya. It is estimated that the fishing industry employs over 48,400 artisan fishermen and that 5,000,000 persons are engaged directly or indirectly in fish processing and trade. Siaya Municipality is endowed with an estimate of 1000 km² of water mass making fishing to be one of the major economic activities. However, it's imperative to note that Over-fishing in breeding grounds in bays along the lakeshore and trawler fishing has negatively impacted on strategic exploitation in the industry. The Lake is significant for biological diversity of fish species as well

contribution to the blue economy. The Lake Victoria, Lake Kanyaboli, Rivers Yala and Nzoia and other surface water bodies in the municipality provide necessary grounds for fishing activity and fish production in the municipality. Landing beaches under the authority of Beach Management Units (BMU) in coordination with Fisheries Department promotes strategic utilization of fishing resources. Fisheries in the County are two folds: capture fisheries from Lake Victoria and Kanyaboli, and culture fisheries (aquaculture).

3.7.4 Tourism Sector as an Economic Activity

The municipality has only one gazette game reserve which is Lake Kanyaboli Game Reserve under the Kenya Wildlife Services (KWS) and yet to be fully developed to attract more tourists, though has high potential. The settlement patterns within the county coupled with the high population density possess as a major constraint to large scale wildlife conservation. There have been several investments in cultural heritage sites, hotel development, and attempts to link the municipality with the Western Kenya Circuit tours and travel investments. Siaya County Tourist Guide (2016) enumerates some of the destination sites with potential for tourist attractions (sightseeing, Bird watching, picnics, camping, educational facilities, Nature Photography, Fishing, Boat rides, Water sports, Canoeing, Nature walk, Nature drive, Biking, Wildlife safaris, Recreational sailing, cruise tourism, sport fishing, film tourism, hill hiking, cave camping. Kayaking, Beach Volleyball) and cultural activities (traditional dances, Nyatiti players, Orutu players, Dodo dancers, Dirges, Tero buru.

3.7.5 Traditional Music/Instruments

1. Traditional musical instruments: Nyatiti, Orutu, Ohangla, Peke, Tung, Bul;
2. Traditional Weapons: Orujie, Mbidho, Kuot, Luth, Okumba, Ligangla, Tong, Atheno, Okot, Okol
3. Traditional Attire/Regalia: Pien gugru, Pien Nya diel, Akala, Kond Tigo, Chieno, Olemo
4. Traditional Dishes: Aliya, Atururu, Atuago, Hariadho, Ogira, Atipa, Riga, Rabuon.
5. Traditional Artifacts: Da pii, Pand Nyaluo, Mbir, Osero, Koo, Owes, Kom Nyaluo, Oliho, Aguata, Haiga, Tao, Agul, Odheru, Nyiedh, Hamiero, Osieke, Ralung, Pong Nyatieng.
6. Cultural festivals: Got Ramogi Festivals, Siaya County

3.7.6 Hotels and Hospitality

The municipality currently does not have any classified hotel. However, there are 89 unclassified hotels with a gross bed capacity of 1,780. In addition, there are 619 bars and restaurants. Where international visitors can find accommodation include: Siaya County Club, Summit, Distinction Gardens, Namsagali Gardens, White Hotel within Siaya Town.

3.7.7 Industrial Production

Industrial production in the municipality is still low compared to other established towns with raw materials, hence no major processing and/or manufacturing industries. There are a few firms that use local raw material for industrial processing such as rice milling, sugar juggaries, bakeries and jua kali industries. In terms of industrial potential, the County have available raw materials that include fish, mangoes, hides and skins, cotton, sand and underlying rocks. These industrial potentials can be harnessed with requisite human resource, available land, ready market, infrastructural development, credit finance, and political goodwill. Revival of growing of cotton and ginneries can boost the future textile industry in the County. Jua Kali Industry can be credited to be the main driver of industrial development in the municipality as it provides as an avenue for industrial incubation and employment, especially in Jua Kali garages (mechanics), metal fabrication, and carpentry (wood joinery).

Siaya Municipality hosts Kenya Industrial Estate site in Siaya Town, formerly established to act as industrial incubation centres, though not actively busy as was expected. It is expected to establish industrial incubation centres in each of the 30 wards and at the same time revive the Jua kali Sheds.

3.7.8 Trade and Commerce

The following factors influence trade patterns in Siaya Municipality: Proximity to Kisumu and Busia, quality of service roads serving the market centres (accessibility), security, economic viability, availability of auxiliary services such as banking, credit facilities, general infrastructure in the trading centres.

3.7.9 Small and Medium Enterprise (SME) and Medium Sector Enterprises (MSE)

On average 9 out of 10 new jobs are created in the informal sector. Majority MSEs are in the agriculture at 46. % followed by Trade at 41% and Small Manufacturing 9%. Services and

Transport form the 4%. Half of the MSEs collapse within the first three years of their establishment; 65% their businesses are not registered and majority operate on temporary structures/market stalls. There are 17 registered MSE associations in the County each with an average of 300 members and 6 MSE SACCOs. Most of the products are made for local markets since most operator's lack creativity and innovation; they copy and replicate similar products from their business colleagues with the resultant effect of market saturation.

The MSE Sector plays an important role towards the County's economic growth, employment creation, poverty reduction and development of an industrial base and therefore must be prioritized. To effectively address these challenges, there is a need to come up with a disaggregated MSME's Data Profile, Construct and Equip industrial development Centers, promote creativity and innovation, Development of Business Information Center and creation of a County Revolving Fund of which all these do not exist in the County. There is also need to develop a County Industrial Development Policy to facilitate investment of industries with much focus on provision of incentives

3.7.10 Employment

The informal sector is one of the biggest employers of the majority of the municipal population. Welding, furniture wares, vehicle mechanics, boda transport, footwear are common undertakings in the market centres. The location of the activities within the trading centres is an area of conflict that require planning intervention. Majority of the informal economic activities are domiciled in key trading centres. In Siaya municipality 11% of the residents with no formal education are working for pay, 13% of those with a primary education and 22% of those with a secondary or above level of education. Work for pay for those with secondary or above level of education is highest in Nairobi at 49% and this is twice the level in Siaya (Table 3.2). Siaya Municipality has both formal and informal employment scenarios.

Majority of the employees are from the formal employment from the government offices.

Table 3:4: Overall Employment by Education and levels in Siaya County

Education Level	Work for pay	Family Business	Family Agricultural Holding	Intern s Volunteer	Retired Homemakers	Full-time student	Incapacitated	No work	Number of Individuals
Total	15.4	13.5	44.1	1.2	0.7	13.1	0.9	5.2	413,673
None	10.5	10.1	62.5	2.0	0.4	0.5	3.3	4.7	38,443
Primary	13.2	14.4	47.1	1.0	7.0	11.6	0.7	5.0	263,720
Secondary	22.4	12.8	30.5	1.3	5.9	20.7	0.5	0.5	111,510

Source: International Development (2019)

3.7.11 Financial Institutions

The municipality has a few banks. Most of the banking services are located in Siaya town. Examples include Kenya Commercial Bank, Equity Bank, Co-operative Bank, Post Bank, and Kenya Women Finance Trust. Their location and bias deny banking services to majority of small-scale traders in the county. All trading centres host Bank Agents, M-pesa and M-shwari as important financial services that has supported small-scale traders in financing their businesses. Financial services from the main stream banks are limited and restricted to bias lending terms. However, the prevalence of informal banking merry-go-rounds, Kenya Women Finance Trust, Mshwari services is helping alleviate this problem.



Plate 3.1: Kenya Commercial Bank -Siaya Branch

3.7.12 Trade and Commerce Emerging Planning Issues

- Poor Roads in most parts of the municipality
- Limited access to credit facilities and if they exist access is difficult
- Unplanned locations for informal economic activities
- Limited capacity to diversify and keep trends with change of times and opportunities
- Lack of planning interventions for trading centres
- Limited banking services in most trading centres
- Inadequate creativity and innovation in business enterprises
- Most employment is in the informal sector (lack of formal employment)
- Low agricultural and industrial productivity results in low traded goods and services

3.7.13 Economic Sector Challenges

Some of the common economic base sector challenges that require interventions include (Lake Basin Economic Blueprint, 2019). Challenges include:- Low domestic savings and investments, Low per capita income growth, High Levels of unemployment and poverty, High energy cost, Inefficiencies in rail and port (water and air) operations (including ferry services), Poor business environment: inadequate entrepreneurial skills, Major economic and social disparities, Rapid population growth (rural -urban migration and urbanization), High dependence on rain-fed agriculture (in arable land), Declining fish resources (Lake), Untapped tourism (ecotourism) potential, Slow structural transformation (agriculture to industry), Narrow range of export products, Health services affect the population well-being perform productive services, Governance in the economic sector

3.8 Settlement Patterns and Infrastructure

Human activities locate themselves spatially over land to live, work and socialise. This, over a period, leads to growth of settlements of different size, form and structure. The configuration of different uses within a settlement and the resulting flows amongst them may be described as the structure of the settlement. The distribution of people and activities over a spatial frame, the connectivity amongst them and the inter-flows, may be described as the settlement pattern. At any period of time frame there will be established an equilibrium amongst the different factors affecting them. Any change in any of these factors will result in disturbance and re-organization of either the structure of the settlement or the pattern of distribution of the settlement. Their spatial pattern is influenced by factors such as land, climate, water, transport, infrastructure, politics, security among others.

3.8.1 Rural Settlements

Rural settlements in the municipality are generally homogeneous, sparsely populated and engaged primarily in agriculture and allied activities as the predominant economic activity.

3.8.2 Urban Settlements

Urban settlements in the municipality are heterogeneous and densely populated. Primarily, urban centres contain non-agricultural components of economic activities such as commerce, industry and services. Siaya town is the highest rank of urban centre within the municipality. It has an estimated urban population of 22,586 (2009 census). It serves as the county headquarters as well

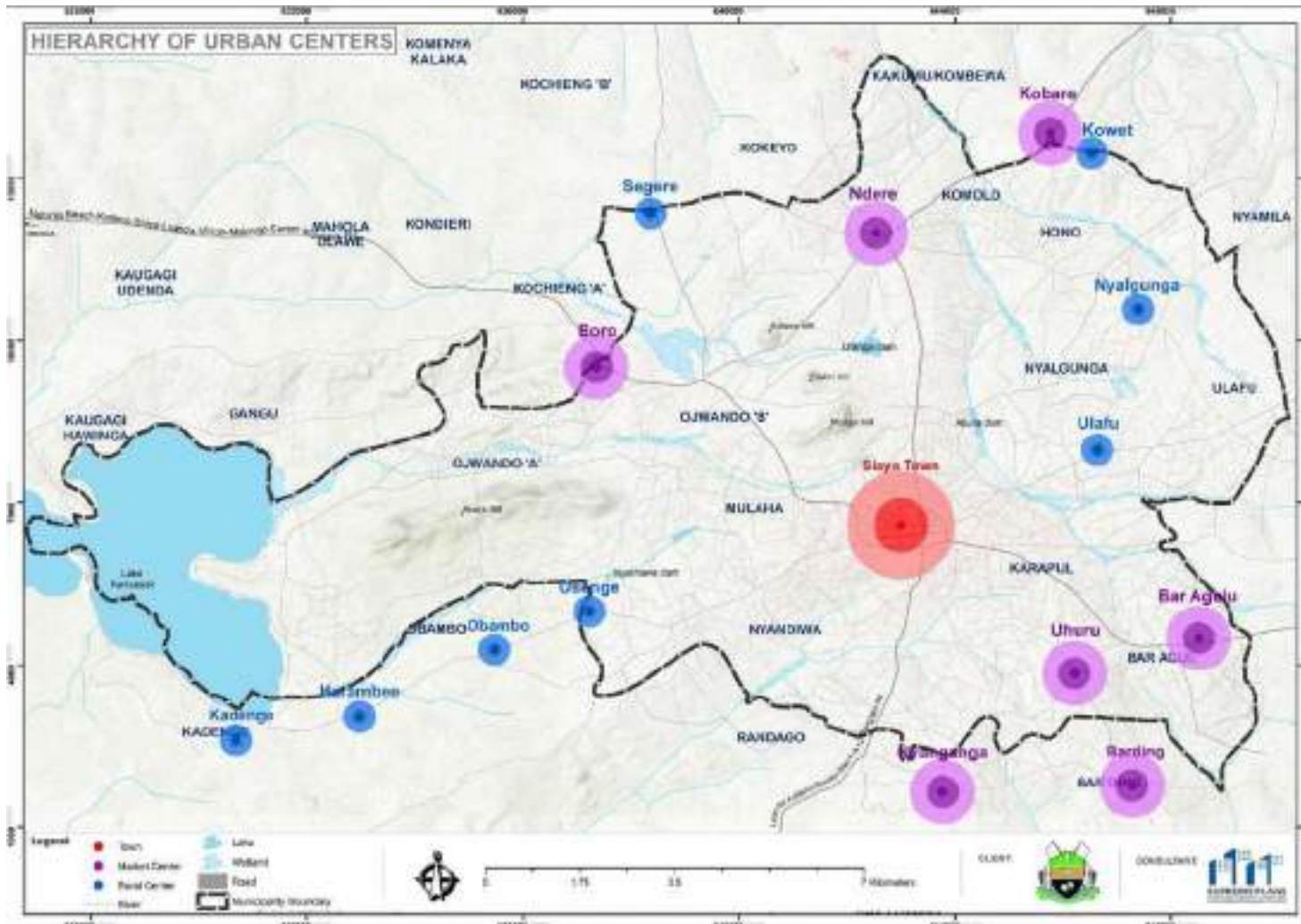
as commercial and education town. Other urban centres within the municipality includes Boro, Mbaga, Ndere, Segere, Liganua, Southlands, Rabango, Ramba, Ombwede, Awelo, and Usenge.

3.8.3 Urban Infrastructure

Urban infrastructure includes basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, and public institutions including schools, post offices, and prisons. This section profiles the municipality's infrastructure and gaps.

3.8.3.1 Transport

Siaya Municipality is a high movement area. With 24.9% of the county's urban population, intense movement takes place within, from, into and through the town. Although the town is fair in terms of traffic, it is likely to experience negative impacts of high-volume traffic in the future. With devolution, the intensity of movements is bound to accelerate and increase in a short period of decades. Concerted and effective planning, development, operation and management of the transport system of the region are critical for the strategic development.

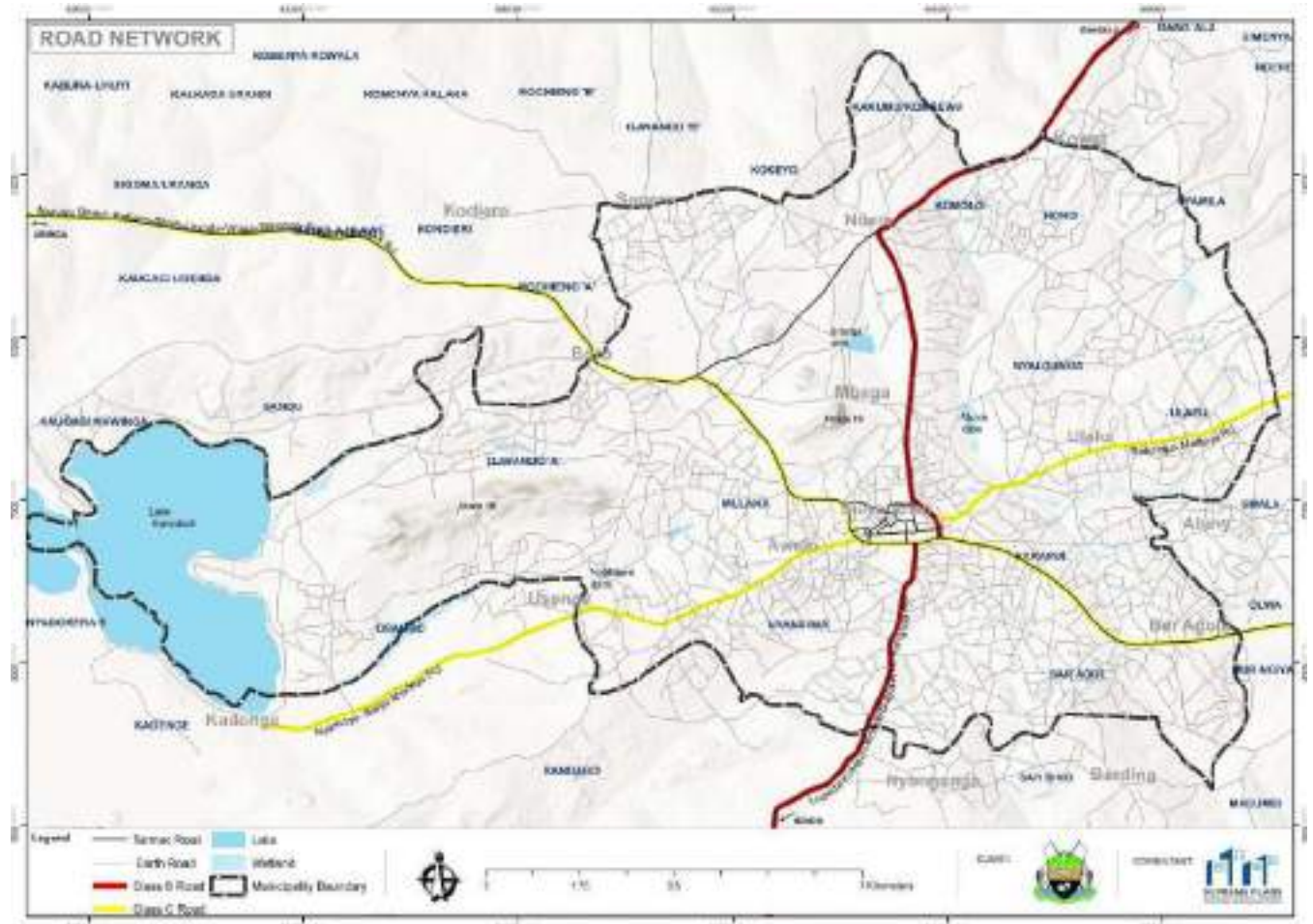


Map 3-1: Spatial Distribution Of Urban Centres And Rapid Socio-Economic Development After Connectivity

Source: Siaya Municipality Draft Spatial Plan (2023)

1. Existing Transport System

Transport network in the municipality is predominantly characterized by regional and local roads.



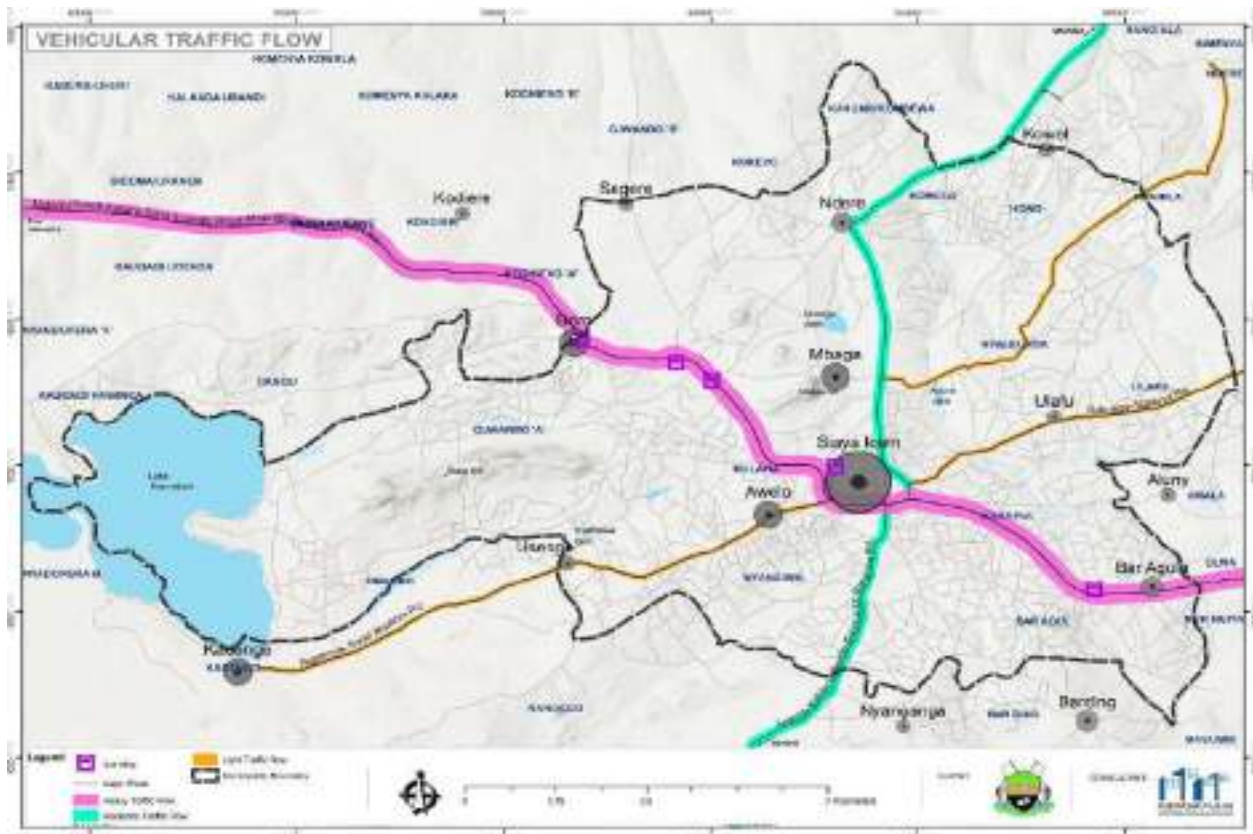
Map 3-2: Road Network in Siaya Municipality

Source: Siaya Municipality Draft Spatial Plan (2023)

Regional roads include Kisumu-Siaya Nyadorera (C29), Bondo-Siaya (D246), and Siaya-Ugunja (C28). They cater to county traffic enabling movement of traffic from one sub county to the other. Local roads include urban and rural access roads.

2. Public and inter mediate transport

The major public carriers in the municipality are buses and matatus with motorcycles being used for short distances. Buses are majorly used for distant regional movements as well as intercountry travels. There exist organized bus companies and SACCOS that manage operations for efficient movement. However, there exists major shortcomings in the public transport system such as: stiff competition for traffic, thin profitability margins, inadequate designated parking, poor fleet maintenance and low productivity. Comparatively, motorcycles have higher frequency and quick response to passenger demands than Matatu and bus service. The worst criticisms about motorcycles are: High accidents, low carrying capacity, over speeding and unlicensed drivers.



Map 3-3: Vehicular Traffic Flow Map

Source: Siaya Municipality Draft Spatial Plan (2023)

3. Air transport

The municipality hosts one (1) airstrip namely Gombe which is poorly maintained. The Location of Airstrips in the Municipality is however located 74km from Kisumu International Airport.

4. Non-motorized transport

Walking is a key element of a balanced transportation system. It is an integral element in the majority of trips made by other modes. In Siaya, it is the most predominant mode of travel. With the affordability levels still very low, walking has become the means of mobility for a large number of people. While with increasing income levels, the share of walking trips would come down, walking as a mode would still be the choice for a large number of people. There is a need for promoting walking, both as a primary mode as well as an access mode to transit system, through appropriate development strategies. Owing to the fact that the majority of people walk, the municipality lacks proper pedestrian facilities to facilitate walking. Thus, there is a need to designated walkways and install critical infrastructure that guarantees safety.

3.8.3.2 Energy

The municipality has immense opportunity for development of power sector to meet the future power demand. The efficient, reliable and strategic energy services will provide the impulse for the development of various sectors of the economy including agriculture, tourism, communication, industries, trade and commerce among the others. An integrated approach is thus suggested for power generation and planning in the region. A rapid population growth and expected higher per capita income will lead to increase in demand of power. The level of energy consumption of the region directly depends on the economic growth. To bridge the demand gap, there is a need to explore the development of alternative energy potential, such as wind power, solar energy, biogas among others.

3.8.3.3 Sewerage and Sanitation

Organized sewerage and sanitation facilities are available only in selected areas of the municipality, majorly Siaya town. There exists predominant dependence on pit latrines followed by septic tank. Open defecation is also in practice. There is a serious deficiency in system provision with very low coverage.

3.8.3.4 Drainage

The municipality has a naturally undulating terrain with a large network of natural streams form an excellent combination, which assists drainage evacuation immensely. Rainwater harvesting is also practiced quite extensively. In Siaya town, combined sewers are also in place to provide relief. As such, no serious drainage problem has been identified, though no organized drainage system exists. Large scale development activities, as likely to be taken up through the planning horizon, may cause problems of water logging, especially in low lying areas. A planned approach, therefore, is required to be initiated in this sector. Further, there lacks a structured policy or strategy on urban and rural storm water management. Stagnated storm water drainage in any locality has negative environmental and health impacts, and causes inconvenience to the community.



Figure 3-2: Storm Water Management Infrastructure

3.8 Housing and Social Infrastructure

3.8.1 Housing in Siaya Municipality

According to 2019 population and Housing Census, Siaya municipality has a population of 80,424 persons with a growth rate of about 2.2%. Thus, projected population will be 101,535 in the year 2030. This high population growth will require adequate housing and reasonable standards of sanitation as provided for under economic and social rights in Kenya Constitution 2010. The 2009 census showed that housing conditions in Siaya town is unsatisfactory.



Figure 3-3: Siaya Municipal Estates

Siaya municipality has serious demand to housing. This comes as a result of increasing urban population of the municipality that is expected to double within a very short time due to huge influx of students. The emergence of a university campus of Jaramogi Oginga Odinga University has created demand for housing to the lecturers to students.

In Siaya Municipality housing remains a challenge that requires an attention both from the private and the public stakeholders. Some parts of the Urban and peri urban comprise pockets of single-story buildings to small household mixture of permanent and semi-permanent dwellings. Mainly the houses are made of wood and corrugated iron (mabati) roofs. Although grass thatched houses still exist the numbers are gradually declining. Land ownership in Siaya municipality is controlled by the private landlords who in most cases do not have income to put up modern and decent housing. The Municipality has to work on ways of activating affordable housing programmes that

would enable the residents of the municipality to access decent living conditions. Clean and safe, affordable & decent housing is a basic right to all the estates in Siaya Municipality.

Siaya Municipality currently has a number of houses that were transferred from the defunct local authorities. These houses are characterized by brick/stone wall, tiled roofing, small family spaces, poor sanitation and drainage facilities, poorly maintained solid and liquid waste management, lack of basic lighting and security infrastructure, etc. These houses require serious refurbishment to meet the standards of safe, secure and decent housing to the employees of the municipality. The housing typologies are as shown in the photograph attached.

3.8.2 Municipal Social Infrastructure

3.8.2.1 Education

Education is an important inducer of economic growth and development of any society. The most important element for future economic and social success is development of inclusive and quality education. This would have to be understood as an important part of the spatial development strategy, aiming support in enhancing qualities of education for the whole county, and for all. Findings indicated a strong link between poverty with reduced achievement in education. Siaya municipality has a number of education institutions ranging from preprimary centres, primary schools like Awelo Primary School, Karapul Primary School, Mulaha Primary School, Township Primary School, Anduro Primary School; Some of the secondary schools include Boro Secondary School & Siaya Township Sec School; Middle level colleges are also coming up like Siaya Institute of Technology(STTI), Siaya Medical Training College (KMTC) and of latest university education has got a boost into town through the school of Agriculture of Jaramogi Oginga Odinga University of Science and Technology (JOOUST) referred to as Barack Obama University. Many secondary schools within and outside the municipality are producing a good number of students that are ready to join TIVET Training Centres.

To achieve access to quality education for all, the county ought to focus on the distribution of schools, their accessibility and quality of infrastructure. Therefore, Location and access of education facilities are important principles in planning. The goal is to ensure access to services in areas underserved (administrative principle) through a hexagonal lattice analysis. On the other hand, location serves as an important factor leading to the success of any educational facility

(Location-allocation principle). A strategic location provides high-quality service to the community at a low cost.

3.8.2.2 Health Facilities

An efficient and effective healthcare is a right to all people staying in a municipality. It is one of the social pillars of vision 2030 as well as the agenda on strategic development. As a municipality, the Siaya municipality residents are highly concerned about improved healthcare in terms of the provision of basic health infrastructure and access. There is a lot of attention being focused on community and public health as well. The Kenya Constitution 2010 Article 43 (1a) provides for the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care. Additionally, Article 56 (1e) states that the government shall put in place affirmative action programmes designed to ensure that minorities and marginalized groups have reasonable access to water, health services and infrastructure. In its Fourth Schedule, the Constitution highlights the devolved health functions which include county health facilities and pharmacies; ambulance services; promotion of primary health care; licensing and control of undertakings that sell food to the public; veterinary services (excluding regulation of the profession); cemeteries, funeral parlours and crematoria; and refuse removal, refuse dumps and solid waste disposal. Siaya Municipality is the home to level four facility located at Siaya

Referral Hospital right at the headquarters of the municipality. This facility attends to the needs of all the six sub counties of Siaya county and hence it needs the maximum attention to continue offering services to the residents. Other medical facilities in the municipality includes health centers & dispensaries. Health facilities requires sufficient land sizes for expansion. They also require ease of access by residents of the municipality. The level of medical supplies and staff should match the needs of the health facilities as well. Other private initiatives in terms of health improvement in the municipality comes from the private sector contribution of Burma Hospital and Siaya Medical facility.

3.8.2.3 Recreational Facilities

Siaya municipality is endowed with the potential create amenities for social inclusion, interaction and recreation. Public spaces in the municipality that exists needs activation with possible design to invite participants and residents to use. The municipality at the moment doesn't have a modern social hall or Amphitheatre where people can meet and hold events. Apart from small halls that

can accommodate very few people at Boro and Karemo, the municipality requires a hall that can be used for events. Public parks exist but have not been developed either for public utility in the best way possible. The municipality has Ahindi Garden space and Assembly park which can form good sites for public meetings and community recreation.

3.8.2.4 Information and Communication Technology (ICT) Hubs

ICT is central in providing linkages between all levels of government, the private sector and urban communities towards achieving strategic development. The Government of Kenya realized the role ICT plays in the socio- economic development of the nation. This is evidenced by the National ICT Policy based on the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007. The National ICT Sector Master Plan (2008 – 2012) outlines the roadmap and implementation strategy for making ICTs more accessible and affordable to the entire population. This is to enable the Republic of Kenya to be a fully-fledged knowledge and information society by 2030 (GoK, 2007).

Siaya Municipality still remains challenged in terms access of public internet access either through cable or wireless means. Members of the municipality requires first class service timeliness by way of internet. Currently as it the internet is restricted to offices and cybercafes run by private practitioners in Siaya town. ICT drives bossiness by its nature by replying on the innovativeness of the technology itself. It would be proper that planning of ICT infrastructure of the municipality go beyond the public office spaces to even private spaces within the outdoor environment especially on locations of parks that are strategic and central to the life of the residents. This can be in the form of Wi-Fi-connections that allow small scale traders and businesses to thrive. Online business opportunities cannot be harnessed without the use of technology-oriented processes that relies on the internet.

3.8.2.5 Sports Facilities and Stadium

Siaya Municipality is setting up a stadium within Siaya. It is expected that upon completion,

Siaya Municipal Stadium will take care of 20,000 people within the municipality. This would go alongside the improvement of various sporting facilities and training materials. Issues to do with improvement of physical infrastructure are good but should be seen to go alongside the quality human resource meant to offer services and train the residents of the municipality.



An example of a gymnasium without a coach would not be a good idea for such

Figure 3-4: Sport Facilities and Stadium

centres in the municipality. Siaya Municipality currently lacks physical infrastructure for training.

3.8.2.6 Cemeteries and Crematorium

Siaya Municipality doesn't have a mortuary and a crematorium despite having a mortuary. This happens due to cultural practices by the Luo community that predominantly occupies Siaya Town. Other tribal groupings are gradually getting to the municipality to do business and therefore the presence of such services core to the community of urban residence would be important.

3.8.2.7 Prisons

Siaya municipality has one prison located at "Kombul" in Siaya Township ward. The prison has enough land and capacity to handle issues required by the municipal government.

3.9 Water, Environment, Climate Change and Natural Resources

Environment refers to the sum total of the surrounding livelihoods of most county residents depend on natural resources that are highly vulnerable to environmental degradation and the effects of climate change. Rapid population growth places enormous pressure on natural and environmental resources such as fisheries, forests, water, and land. The municipal management is keen in identifying and marking the environmentally fragile and sensitive areas that are thus suitable for

conservation. Everybody in the municipality has a right to a safe and clean environment Siaya Municipality.

3.9.1 Water Resources in Siaya Municipality

Water resources in Kenya are increasingly being polluted by organic, inorganic and microbial matter. The impact of pollution on water resources is manifested by water of poor quality which gives rise to water toxicity to mammals and aquatic life loss of aesthetic value by becoming unsuitable for recreational activities, high cost of water supply as polluted water is expensive to treat, eutrophication, de-oxygenation, acid rain and habitat modification. The report by NEMA (2004) indicates that per capita waste generation ranges between 0.29 and 0.66 kg day⁻¹ within the urban areas of the country. The municipal waste generated in the urban centres, 21% emanates from industrial areas and 61% from residential areas, an indication that residential areas in the urban centres are the major sources of wastes generated.

Types of Water Sources: The main water sources in Siaya town are from the surface water, groundwater and run-off water. Other sources include protected springs, dug wells and dams. Recent rehabilitated dams include Ufinya, Sandhof, Nyalnawe, Koga, Futro and Uranga provides essential services to the municipal residents under the support of the World Bank to the County Government of Siaya in the Municipality.

Access to Water: Piped water in the town is provided by The Lake Victoria South Water Service Board (LVSWSB) under Siaya-Bondo Water and Sanitation Company Limited (SIBOWASCO). There are also individual initiatives to provide water for domestic purpose through shallow wells and roof catchments. The dominant sources of water in the town is piped water.

3.9.2 Wetlands

Siaya Municipality lies in a lowland and is often prone to serious flooding when it rains. This affects the drainage of many parts of Siaya town that extends to the residential estates like Awelo, Rabango, Mbagha, & Anduro. Poor drainage affects the transport infrastructure road maintenance in Siaya town due to surface runoff. Yala wetland in the municipality is a permanent wetland. A number of policies guides investment and practice on environmental management;

1. Wetlands Management and Coordination Policy, 2013

The goal of this policy is to ensure wise use and strategic management of wetlands in order to enhance sustenance of the ecological and socio-economic functions of Kenya's wetlands for the benefit of present and future generations. This is based on the principles and values of, among others, wise use, precautionary principle, public participation, devolution and ecosystem-based management, taking cognizance of the national and international cooperation.

2. Forest Policy, 2014

This Policy proposes a broad range of measures and actions responding to the challenges faced by the forest sector. It is based upon the views and expert opinions of those participants drawn from the public and private sector, and civil society organizations. A number of strategic initiatives have been introduced to improve and develop the forest resource base; integrate good governance, transparency, and accountability, equity and poverty reduction into the forest.

3. Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy This Policy's focus is on the interlinkages between strategic national development and climate change. Climate change adversely impacts key sectors that are important to the economy and society: Environment, Water and Forestry; Agriculture, Livestock and Fisheries; Trade; Extractive industries; Energy; Physical Infrastructure; Tourism; and Health. This Policy therefore elaborates intervention measures that can help to achieve the goal of low carbon climate resilient development

3.9.3 Waste Management

Currently Siaya Municipality does not have a functional designated waste management site. Collection of wastes in the municipality occurs through a manual system where casuals are employed on a contractual basis to collect wastes and deposit at designated bins. The wastes are then transferred by means of tractors to a temporary dumpsite located in town. Plans are underway to invest in a more efficient system of waste handling that meets the set standards and demand of the municipal residents.



Figure 3-5: Solid Waste Management in the Municipality

3.9.4 Green Open Spaces

Green and open spaces include forests, hills and protected green areas. Siaya Municipality has a number of green spaces available in town and within the peri-urban areas. Quality open space provision plays an important role in improving the quality of life of residents. It provides a quiet, breathing space and acts as a carbon sink, allowing for a range of environmental benefits. All areas should be supplied with open space based on population density at an average ratio of around 11 square meters per resident, or around 0.4 ha for 1,000 for residential neighbourhoods (ISUD, 2013). Some of the open spaces are potential and forms suitable sites for recreational facilities. Examples includes Ahindi Garden, Governors Park and Cooperative Open Square.



Figure 3-6: Ahindi Garden Park in Siaya Town

3.9.5 Environmental Hazards and Disasters/Flooding

Environmental degradation in Kenya contributes to climatic change which leads to high costs of living in urban utilities like water, electricity bills, health bills etc. Natural and human induced hazards pose a threat to human life, property and environment. Natural hazards include dry spells, soil erosion, drying-up of water sources, lightning and hailstorms, among others. Disasters occur when natural hazards interact with vulnerable people, property, and livelihoods causing varying damage depending on the level of vulnerability of the individual, group, property or livelihoods. Siaya Municipality and its immediate environs is always prone to some level of flooding that poses a threat to transportation and sanitation to the residents. Large pools of waste pose as a health hazard in terms of offering breeding conditions for insects and mosquitoes which are vector agents for various diseases in the municipality. A healthy urban populace is a necessary asset for urban development.

Floods are mostly experienced during the high rainfall season. The main causes of floods are deforestation, land degradation, poor environmental planning, inappropriate soil and water conservation measures, poor agricultural practices and climate change related issues. Impacts of floods in the town are loss of lives and property, an outbreak of waterborne diseases infrastructure destruction, displacement of people, soil erosion that will result in silting of rivers and blockage of drainage systems. The flooding creates the stagnant water which in turn provides a breeding site for mosquitoes that cause malaria.

3.9.6 Forests and Hills

Destruction of forests and hills in the county, and the resultant biodiversity loss is a key environmental challenge. The environmental challenges are aggravated with increased population growth, agricultural expansion, over-dependence on wood fuels, and low levels of afforestation and accelerated deforestation in the county. The loss of forests and wetlands are envisaged to increased loss of habitat, change micro-climate, loss integrity of ecosystem, crop yields as well as a decrease in food security. Wood fuel harvesting has been recognized as a major reduction of forest cover. The following data provide information on the number and size of gazetted forests and forest production. Siaya Municipality has two main forests at Mbaga Hills and Aduwa Hills. The rest are manmade forests arising out of exotic tree plantations or agroforestry.

3.9.7 Disaster Management

Disaster preparedness and management is a key concern in an urban area. Human induced and natural risks must be considered as much as urban planning is concerned, as they both can endanger the sustainability of the physical and social environment. The municipality is susceptible to flooding and fire incidences. Other disasters include landslides and collapsing of mines. Disaster preparedness in the municipality is low, despite regular floods due to heavy rains. Siaya Municipality has two functional fire engines although a fire station is missing.

3.9.8 Pollution

Increased population in Siaya Municipality has contributed immensely to water, land, air and noise pollution. Human activities such as brick making, open solid waste disposal both at the municipal market and residential areas. Water pollution arising out of poor farming practices along the steep slopes is rampant in some areas of the municipality. Contamination of underground water resources is a common thing in the municipality.

3.9.9 Biodiversity

Biodiversity is the representation of the millions of different species on the earth and the genetic diversity within these species. Humans depend on Biodiversity to survive on planet Earth. Certain organisms have economic value such as plants being made into medicine such as Aloe Vera which is found in other parts of Alego Usonga in Siaya Municipality. These plants have value to the ecosystem and are a source of natural beauty and recreation. Diseases or insects such as armyworms, crickets and grasshoppers which are part of the ecosystem have at times wiped out a food crop in Siaya municipality.

3.9.10 Emerging Development Issues

- Sporadic flooding causing threat to life and property.
- Erosion causing hazardous consequences to water flows, land, forests, objects and other immovable properties.
- Insufficient preservation, protection and rational exploitation of natural resources
- Poor environmental sanitation
- Low public awareness on sanitation and hygiene
- Poor waste management
- No waste recycling

- No separation of wastes at source
- Loss of Biodiversity
- Inadequate coverage of the sewerage system within the municipality.
- The existing sewerage system is ineffective since there is no complete treatment of effluents which are then discharged into the aquatic environment.
- Encroachment of wetlands.
- Waste water from municipal sewage treatment system.
- Soil erosion due to poor land use practices.
- Contamination of water sources.
- Poor waste disposal.
- Littering of polythene wastes.

3.10 Municipal Governance

Capacity to enforce municipal planning regulations is insufficient and should be given special attention. The regulation of land and property development, through statutory plans and development permits, is a vitally important role of the urban planning system. Thus, the municipality requires capacity to oversee planning, implementation of plans, development control and enforcement.

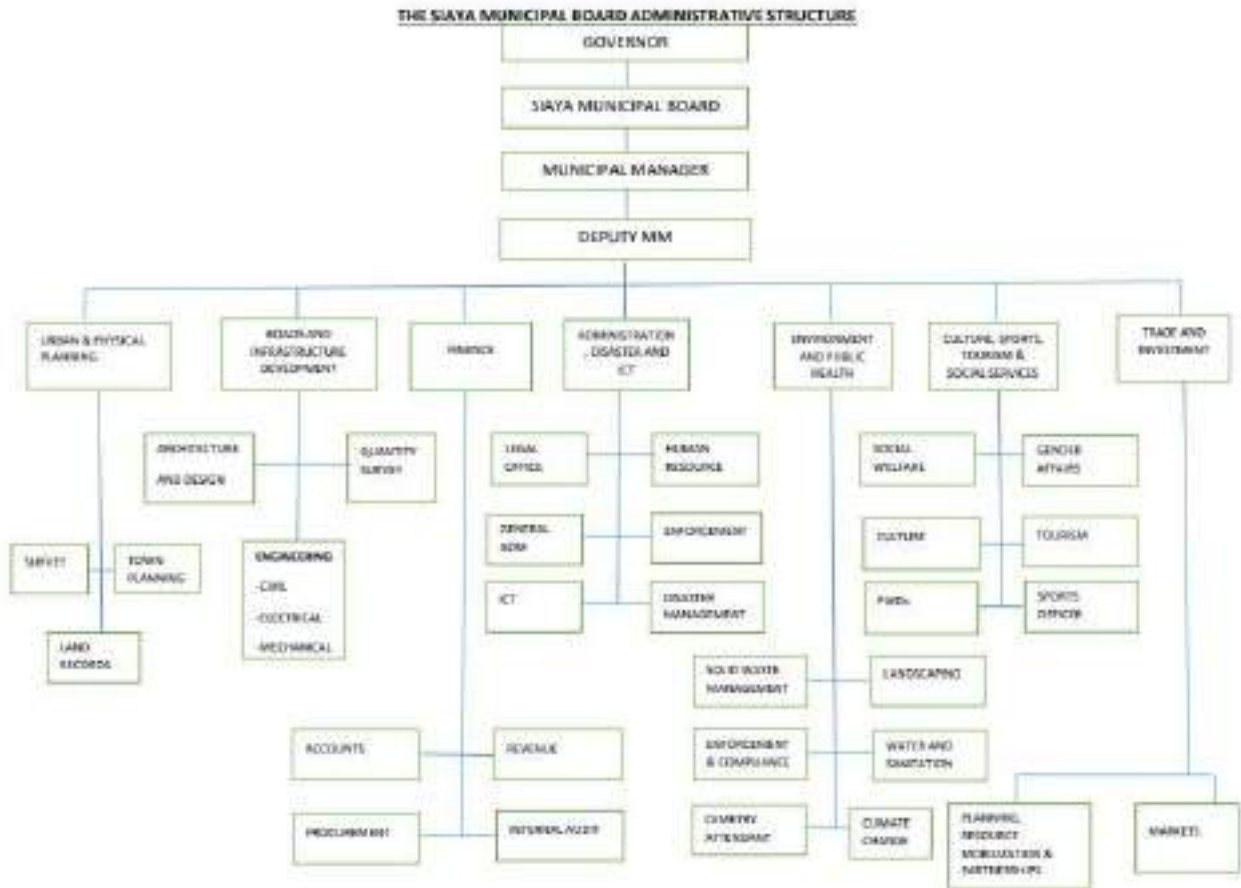


Figure 3-7: Siaya Municipality Administration Structure

3.11 Emerging Planning Issues

3.11.1 Strategic Opportunities

The municipality is strategically positioned in Siaya county with vast opportunities that give it a competitive advantage for growth and development. These include: -

- Strategic location of the municipality in Siaya County with regional connection to Kisumu, Kakamega, Vihiga and Busia Counties.
- The municipality serves the county headquarters which makes it a strategic location for growth and development.
- The topography of the planning area undulates gently and the soils present no major challenge for urban development. Equally there is ample land for future urban expansion;

- The presence of institutions of higher learning such as Jaramogi Oginga Odinga University of Science and Technology (Siaya campus), Kenya Medical Training Centre and Siaya Technical Training Institute affords an opportunity for forward and backward industrial development;

3.11.2 Urban Growth Dynamics

Urbanization in the planning area is characterized by:

- Uncontrolled urban expansion and sprawl characterized by low-density development and vacant or derelict land imposing several disadvantages, such as higher infrastructure costs, poorly-planned land use and increasing energy consumption and air pollution due to the greater impact of motorized transport. The result is a ‘patchwork’ of different developments, including residential settlements interspersed with vacant land;
- Low densities which have translated into greater demand for land and corresponding infrastructure;
- The urban form in the commercial nodes is largely linear following the main transport network. This has implications of making service and infrastructure provision costly;
- There is also urban sprawl where growth of the urban area is occurring through the process of scattered development of miscellaneous types of land use in isolated locations on the fringe, followed by the gradual filling-in of the intervening spaces with similar uses. This is not only producing an inefficient and unpleasant environment on the urban fringe, but adversely affecting the inner urban area and the rural areas as well;
- The various commercial nodes have no identifiable urban form or structure, and no clear neighborhoods to form activity organizing elements. As well these nodes have no evident functional specialization.

3.11.3 Economy

The economy of the commercial nodes within the municipality does not seem to relate to the expected forward and backward linkages of industrial development

- There is very little subsidiary industrial development in the commercial nodes and most of the economic activities are commercial concerns with little industrial or manufacture component.
- The few light industrial activities are often unplanned and crop up along road reserves and open spaces;
- The economic activity in the commercial nodes is by and large service oriented (business outlets) with considerable informal proportions.

3.11.4 Settlement patterns and Infrastructure

The municipality is characterized by low levels of services and infrastructure provision with dense and scattered human developments:

- Unplanned rural developments and market centres
- Low investment in urban and rural drainage facilities and inadequate drainage management and design;
- The lack of pollution-abating infrastructure, involving sewer systems and control over industrial discharges inflicting adverse impacts on watercourses. Byproducts of human settlements, such as solid wastes, are not properly managed thus the likelihood of affecting groundwater quality through the percolation of residual liquids
- Absence of a reliable garbage collection and disposal. Part of the population in poor neighborhoods dumps the trash on the streets and in the drainage system;
- Limited road paving and ancillary services and facilities;
- Poor connectivity among activity areas and between the commercial nodes;
- Lack of road safety mechanism and high accident risk from trail traffic;
- Non-provision for pedestrian movement along the major roads;
- Poor road conditions;
- Inadequate water and energy reticulation;
- Inadequate provision and maintenance of public recreational facilities;

3.11.5 Housing and Social Infrastructure

The apparent challenges in housing and social infrastructure provision include:

- Lack of zoning and provision of quality residential neighborhoods;

- Individual housing initiatives are not supported by the requisite infrastructure and Services;
- Absence of social housing programmes to target the poor;
- Development control mechanisms to regulate housing development are ineffective;
- Informal residential settlements are characterized by: Lack of basic services— water, sanitation, waste collection, storm drainage, poor access, street lighting, paved footpaths;
- Inadequate schools and health care facilities within easy reach;
- Inadequate safe-public children play areas;
- Inadequate meeting areas.
- Lack of designated cemeteries
- Poorly maintained recreational spaces e.g. green spaces

3.11.6 Environment and Natural Resources

- Siaya municipality faces a number of environmental issues such as: Solid waste, collection and its management: This is a major challenge because a large amount of solid waste is left by the side of streets, to decay, which is a major source of health concerns. Further, there are no appropriate mechanisms to collect and dispose waste generated;
- Liquid wastes discharged into terrestrial and freshwater environments leading to contamination of drinking water sources from untreated domestic and industrial wastewater and from agricultural runoff;
- Un-serviced settlements or settlements provided only with rudimentary infrastructure;
- In the low-income neighborhoods air and water pollution cause chronic and infectious respiratory disease, water-borne diseases such as diarrhea and intestinal worm infections, increased mortality rates particularly among children;
- Loss of green space, destruction of special local ecosystems, noise pollution, and aesthetically unpleasant sights and smells;
- Lack of waste treatment;
- Degradation of water caused by waste disposals;

- Lack of drainage and other facilities for poor neighborhoods.

Chapter 4

4.0 Planning and Design Concepts

4.1 Spatial Design

The Plan asserts that the municipality's intensification and expansion must include good design. To achieve this, any public or private development proposals are expected to incorporate the following principles:

Identity: recognize and respond to landscape, ecology, heritage, built form, peoples and communities which establish the context for municipality's unique sense of place;

Adaptability: allow the municipality to accommodate a rich mix of uses, activities, urban form and architecture;

Integration: support uses, activity centers, energy systems and movement networks that are well connected; and

Efficiency: optimize the full potential of a site's intrinsic qualities.

The existing urban development pattern and trends suggest opportunity for integration of Transit corridor cum ring development, Nodal-Oriented Development and Balanced Regional Development Strategy as models for planning and development of Siaya municipality. This is with Siaya town constituting a higher urban place providing higher value goods and services; followed by Boro, Mbaga, Ndere, Segere, Liganua, Southlands, Rabango, Ramba, Ombwede, Awelo, and Usenge.

4.2 Intensification

Over time, the plan provides for the emphasis to shift away from outward growth of the municipality in favour of both high rise and high-quality infill development. This intensification is not targeted toward a uniform level of density but spans a spectrum. The highest level of intensification is targeted at two types of areas: along transit corridors and within urban centers. A center is defined by the Plan as: a concentrated mix of public and private activities in Figure a defined area, including shopping, offices, public transport nodes and community facilities.



Figure 4-1: Illustrative design of Spatial Intensification

The greatest growth is meant to occur within a centre's walkable catchment, i.e. the area in which people can be expected to easily walk to access a Centre's focal point. 11 urban centres are identified throughout the municipality. Each urban centre is placed in a hierarchy that reflects its development potential and role within the municipality. For example, Siaya town is at the top of the hierarchy and aims for high rise development, 24-hour economic activity and quality housing. This is followed in ranking by other centres depending on their level of infrastructure and population catchment. Each urban centre will receive a specific planning framework through the Strategic Development Plan. Some centres are described as regeneration centres, requiring mixed public sector actions to address economic, social or physical inequalities. Others are market attractive centres in which there is strong market growth potential requiring limited public sector support. Where an area's character, environment or heritage is risked, growth is deprioritized.

4.3 Expansion within a Rural Urban Boundary (RUB)

Siaya Municipality is growing. The question is: where? Measures to address this question should focus on curbing expansion through the use of urban limits. The Plan aims to build upon the urban limits concept with the imposition of a Rural Urban Boundary. The objective is to ensure that growth over the Plan's 5-year life occurs predominantly within the boundaries of the RUB. The RUB will give effect to the model of a "quality, compact municipality" which foresees a mixture of growing Siaya both upward and outward.

4.4 Edges

Streams traversing the municipality are the vital lateral reference for the residents. The streams and wetlands offer unique opportunity to attain a balanced urban environment design which can be reached by the following means of landscape transformation:

- Development of "green belt" along the streams and wetlands
- Development of spatial planning framework of social oriented landscaped public recreational spaces;
- Establish buffer zones to regulate encroachment of agricultural and urban activities.

4.5 Connectivity

The main roads that traverse and provide accessibility to the municipality (Kisumu-Siaya Nyadorera, Bondo-Siaya-Ugunja), are the primary transportation corridors that structure the municipality. They act in cahoots with the edges to define the possible activity and governance sub-areas. These are essential design elements upon which the transport system of the town will be hinged. Further, rural roads act as structuring elements for rural development. The municipality has a fair coverage of roads but requires rehabilitation and expansion. Pedestrian development facilities are poorly developed.

Chapter 5

5.0 Plan Proposals

5.1 Settlement Patterns and Infrastructure

This section discusses planning proposals as strategies for developing human settlements and infrastructure. It presents urban growth dynamics, transportation, housing, Energy, sewerage and sanitation.

5.1.1 Strategy 1: Urban Growth Dynamics

The Siaya Municipality Strategic Urban Development plan 2023-2027 aims to promote a compact urban form with a hierarchy of commercial and mixed-use nodes of varying scale and function offering a range of easily accessed quality services and complement the town's identity. Urban limits the development of human settlements shall regulate the spatial form and use of space in the municipality.

5.1.2 Strategy 2: Enhancing Inter-Urban Connectivity to Facilitate Spatial and Social Interactions

With the targeted strong growth in the economy and population of Siaya municipality, rapid growth in intra- and inter-regional freight and passenger transportation demand is inevitable. If left unchecked, growth in the transportation sector is expected to add pressure in terms of traffic and safety concerns. There is a need to develop Public transport parking as destinations and urban activity nodes: this will provide a place of transfers between motorised and non-motorised transport modes such as cycling and walking. They should preferably be located near major activities, employment nodes and higher residential areas and integrate into one another in order to increase public transport use and enable easy movements. To actualize this, there is a need to: provide additional services in the bus parks (e.g. shopping facilities). This might even create opportunities for side businesses and generate extra revenues for public transport operators (e.g. renting the premises to shopkeepers); Integrate transit stops and bus parks into design and layout of the activity centre; providing passage and operator facilities and security and safety installation such as queue railing, toilets, seating facilities etc.; redesign and improve the condition of existing bus park in Siaya town. Stringent measures should be adopted to regulate on street parking on motorised modes; and designate bus parks in other emerging urban centres of the municipality.



Figure 5-1: Illustrative Design of Streetscapes

5.1.3 Strategy 3: Integrate Pedestrian Friendly Facilities to Facilitate Non-Motorized Transport.

Non-motorized transport (NMT) has a benign environmental impact. It is the main mode of transport for the poor, and in some a significant source of income for them. It therefore has a very significant poverty impact. As the main transport mode for the work journeys of the poor, it is also critical for the economic functioning of the municipality. This shall be achieved through the following actions: -

- the provision of safe, adequately segregated infrastructure;
- direct routings without major intersection conflicts with motorized traffic;
- secure bicycle parking to preclude theft;
- Local cycling master plan that should be the basis both for planning infrastructure specifically for bicycles and for incorporating cycling into general traffic infrastructure and management planning;
- monitoring, enforcement, and legal penalties, particularly on vehicle infringements to run or park in NMT space;
- Establishment of strong, physically enforced, traffic calming structures.

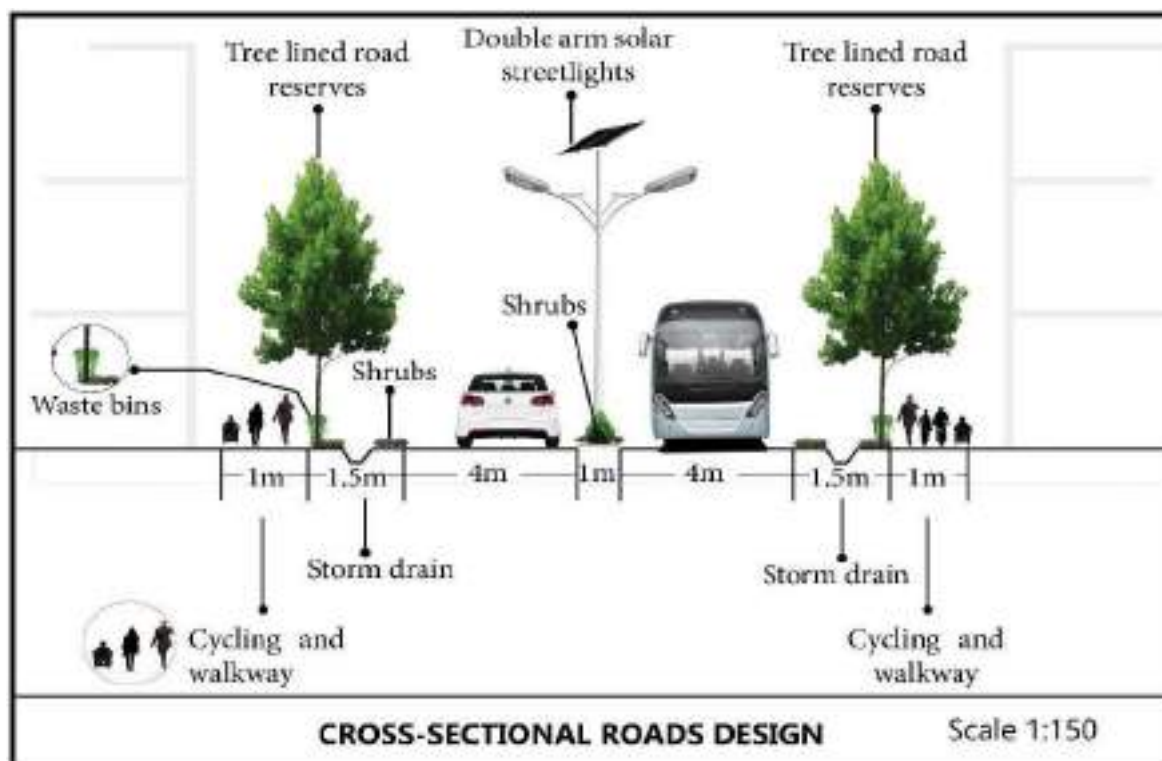


Figure 5-2: Cross-sectional Design of an Integrated Transport System

5.1.4 Strategy 4: Rural area transportation

The most desired future for the municipality is a strategic and accessible rural area. Thus, there is a need to improve public transport service in the rural areas. Most rural areas have access to roads (either tarmac or murrum). Mostly, motorcycles facilitate movements in the rural areas with little access to various public transportation modes. Looking into the future, public transport needs to be opened up for the rural areas to facilitate daily ridership and reduction of carbon footprints of the municipality. Therefore, there shall be need to provide high capacity vehicles (matatus and buses) from rural areas to urban areas. Progressively, the municipality should shift modes from use of motorcycles to public transportation.

5.1.5 Strategy 5: Provision of Affordable Quality Housing in Urban and Rural Areas of the Municipality

For the municipality to materialize its goal of ensuring access to decent housing for all, stakeholders in the building industry should work together. Communication amongst the stakeholders, planners, architects, engineers, contractors, developers, manufactures and the county government is vital to create common goals. The Municipality shall: -

- **Expedite building approval process:** integrate development control standards with regular development, approval and inspection process; ensure compliance to building codes and standards as verified on plans, drawings and reports and part of regular planning application submissions.
- **Develop prototypes of affordable-decent housing in Siaya Municipality:** At the beginning, the municipality should take a leading role in developing building prototypes which includes residential housing, schools, and other public institutions. This can further be actualized through pilot demonstration and joint venture project for constructing affordable-decent housing for offices, commercial and residential buildings.
- **Ensure access to energy for new buildings and energy efficiency improvement for existing buildings (Retrofitting):** The municipality should identify candidate buildings (commercial and offices) for retrofitting demonstration projects; and provide subsidies and tax incentives for building owners.
- **Institutional:** The municipality to conduct a needs assessment and urban capacity for housing; Identification of areas and locations to put new houses (Affordable housing locations); Allocation and clearance on land for housing development; and negotiated purchase approach of land for consolidation
- **Social:** Creation of mixed communities – impact on type and size of housing; provision of affordable housing; and monitoring of affordable housing
- **Financial:** Establishment of a constructive partnership between public and private sectors; establishment of housing development funds; establishment of a housing fund at the Government level; and promotion and provision of housing on subsidized and nonprofit rents
- **Spatial:** Creation of strategic housing environments; Strategic land use; linking development with public transport; Re-designation of business and other functions onto housing; Promotion of mixed-use development; and greenery in housing areas & quality design that meets urban standards.
- **Rural Buildings:** Vernacular architecture is a common practice in most of rural housing as they are constructed by empirical builders without the intervention of professional architects. Therefore, the municipal board shall ensure conservation and promotion of

vernacular housing in the rural areas. This is important in ensuring heritage and identity preservation

5.1.6 Strategy 6: Promote Access to Clean Energy to Supplement Other Energy Sources in the Municipality

Green energy has been designated as a primary option to overcome dependence on fossil fuels and also as a solution towards energy crisis and global warming. In order to promote the use of clean energy in the municipality, a shift towards renewable as an alternative energy is necessary. To achieve this, there is a need to establish advanced energy system i.e. smart grid, decentralized electricity generation; and provision of incentives, subsidies and derivation of tariff rate for the municipality; Harness solar energy by encouraging solar PV as PV roofing, PV farm and PV on public infrastructure; and develop infrastructure for wind energy by identifying strategic potential locations.

5.1.7 Strategy 7: Sewerage and Sanitation

The coverage of sewerage infrastructure is skewed to the major urban centre (Siaya town) while the rest of the municipality. The underserved areas of clustered human activity require installation of this crucial infrastructure. A detailed master plan of the sewerage system as well as reservation for land is necessary. In the rural areas, quality sanitation facilities are required. The municipality in its initial stages need to develop prototypes for eco-toilets in collaboration with non-governmental and partner organizations.

5.1.8 Strategy 8: Drainage

The municipality is currently lacking an efficient drainage system for flood management. As such, there is a risk for stagnation of water causing environmental and health risks. The municipality should therefore establish a drainage plan that details slope and discharge of storm water. Drainage channels should further be integrated along road reserves. Improving vegetation cover will also help in controlling floods.

5.1.9 Strategy 9: Strategic Solid and Liquid Waste Disposal Mechanism

Sewerage and sanitation facilities are important to any urban facility. Siaya Municipality has sewerage system but not fully functioning. Predominant dependence is on pit latrine followed by septic tank. Open defecation is also in practice. Therefore, there is a serious deficiency in sewerage system in the municipality. Solid waste management is also a big problem with the municipality. The municipality doesn't have a designated dumping site and therefore it is

difficult to control solid waste disposal in the municipality. The plan therefore proposes the following strategies:

- **Operationalization of the sewage treatment plant:** The current sewerage system is not in operation. This will involve deploying the sewerage network to be accessible to every individual household and industries in the municipality.
- **Decentralization of the current sewerage system for each town:** The current sewerage system is for both Bondo town and Siaya Municipality. In the current status the sewerage system will be overstretched in operation. Decentralization of the sewerage system will involve Siaya municipality installing their pumping station and a treatment plant.
- **Establishment of designated landfills:** The dumping sites and disposal sites establishment should be done location where ground water will not be polluted. Trees to be planted on those locations to help in purifying the environment. The municipality should have an operational mechanism of collecting solid waste in the municipality i.e installing skip at every residential and market center.
- **Reuse of the sewer:** This will be possible for a fully operational sewerage system. The system will produce a large quantity of sewage which can be used for other activities like irrigation of crops or forest, ground water recharge and reuse in the industries.

5.1.10 Strategy 10: Social Development

Some of the strategic proposal in addressing social problems are as follows: -

- Lack of employment opportunities - Training, facilitate further employment, utilize county administrators' and focus on jobs for women and disabled
- Support poor people who lack skills to be able to access income generating activities- Meet community and private sector demands, focus on youth, combine hard & soft skills, follow-up support, standardize and accredit courses, workshops provided as part of a set.
- Disadvantaged areas especially in urban centers are more affected by gang activity, crime and substance abuse - To develop holistic strategies to address gangs, substance abuse & youth development.
- Municipality should facilitate access to housing opportunities - Focus on urbanization, continue to recognize & upgrade informal settlements, education of new homeowners

- To focus on Early Childhood Development - Integrate services for ECD (health, education, social) within the County and other sectors, use grants and mentorship to help unregistered centers, ECD provision in informal settlement projects, nutrition-al programs.

5.1.11 Strategy11: Industrial Development

- Siaya Municipality needs to reserves sites for industrial parks. Additional capital should be budgeted to start industrial and incubation parks.
- Diversification and upgrading based on both agriculture modernization and higher value-addition and introduction of new technology in industries
- Crude and outdated methods of mining i.e. for bricks and sand harvesting. Proper training in geology to the affected members
- Revitalize the collapsed sugarcane and cotton industries
- Demarcate more land for industrial use in Siaya municipality i.e. Juakali sheds/stalls
- To develop processing industries for both livestock products and by products. Cottage industries and indigenou industrial products would do.

5.1.12 Strategy 12: Water supply and Resources Development

Water resources being limited, exploitation management of available resources against various heads of consumption must be worked out to take care of the current and the future generation. In Siaya Municipality, both surface water and ground water resources are currently exploited to meet the high demand for water. Water resources that can be used within the Municipality include: rivers (Yala, and Nzoia), lakes (Lake Victoria and Lake Kanyaboli), wetlands (Yala Swamp), and dams. These resources should however be planned and protected for current and future generations. The following strategies have been developed to ensure that a strategic water consumption in attained in Siaya Municipality, which include:

- **Protection of water intake points:** Siaya municipality has a water supply system managed by Siaya Bondo Water and Sewerage Company (SIBOWASCO). The company has its inlet at the southern part of Yala River and supplies both Siaya Municipality and Bondo Town. A protection buffer of 50m radius of trees should be provided to prevent pollution of water and conservation as well. Other water intake points like springs, dams and boreholes should be protected as well. The planning standards recommends the following protection radius.

Table 5.1: Recommended Protection Belts for Water Sources

Protection belt	Direct protection	(Radius)	Indirect protection	(Radius)
Borehole	10m		50m	
Well	10m		50m	
River	10-50m		50m	
Dams	10m		30m	

- Centralization of the water supply system:** Currently the water supply system in the municipality is not efficient. SIBOWASCO is overstretched with the large area of coverage. The plan proposes installation of water reservoirs for every town to improve the water supply within the municipality. More water supply connection should also be done in the municipality to every household and industries.

5.1.13 Strategy 13: Environment and Natural Resource Management

The plan proposes a strategic municipality with proper resource management. The strategy covers for: reforestation of gazetted forest areas like Mbagwa forest, planting of trees along the roads and proper landscaping of the municipality and the open spaces. The plan proposes partnerships and engagement with local communities in the ownership and management of environmentally sensitive areas. Additionally, an environmental management plan and policy guidelines mandating 10% increment of tree cover should be enforced on individual and public land holdings in urban and rural areas.

5.1.14 Strategy 14: Economic development strategy.

The Municipality is the headquarter of the county government and therefore should depict the economic status of the county. The plan should therefore have proposed activities that will increase the revenue generation for both the municipality and the county. The plan proposes the expansion of SMEs and by infrastructure development in trading centres (markets): electricity (street lighting, solar powered), water and sanitation, establishment of stall markets which will expand the local economy. The plan also proposes financial enhancement to local traders: credit facilities, revolving funds, banking facilities. The plan also proposes hospitality

and tourism sector to be expanded so as to promote tourism county which will improve the cash flow in the municipality.

Chapter 6

6.0. Plan Implementation Framework

6.1 Introduction

Having considered the growth scenarios and the development strategies to be adopted for the realization of strategic growth of Siaya Municipality, it is recommended that the County Government of Siaya should adopt robust development paradigms known to promote strategic urban growth and which can be summarized as follows: -

- i. Adoption of new legal and institutional framework for plan implementation by passing bylaws for the development control and decentralization of planning to sub-county levels. The County Government of Siaya should establish well-staffed and equipped planning units in all the sub-counties to ensure that there is a well-coordinated plan implementation and development control.
- ii. Undertaking comprehensive capacity building in all the departments of the county government so as to empower various plan implementing departments in fulfilling their mandates.
- iii. Mobilization of adequate resources for the implementation of the plan. This should draw on a range of sources including annual budgets, donor funding and public-private partnerships.
- iv. Adoption of a result-based management approach to the implementation, monitoring and plan review.

This chapter therefore provides the implementation schedule for the proposed projects, the stakeholders involved in the implementation of the plan as well as ways and means for easing of funds. While the overall implementation of the plan is the responsibility of broad-based stakeholders, provision of leadership and coordination in the implementation of the same is the responsibility of the County Government of Siaya.

6.2 Project and Programs

It is envisaged that the proposed facilitative, productive and perceptive projects will be implemented for the strategic development of Siaya Municipality. While facilitative projects or programmes enables the production sector to effectively and efficiently operate, productive projects or programmes directly produces goods and services thus creating employment opportunities and income enhancement. On the other hand, perceptive projects are those

projects or programmes that improve the image (aesthetics) of the town thus giving the town a unique identity which attracts potential investors. The facilitative projects include but not limited to the proposed: -

- i. Expansion of water supply and development of sewer reticulation
- ii. Transportation projects which include development and rehabilitation of roads, bus park and other parking areas for different modes of transportation
- iii. Expansion of power supply in the town and its environs and augmenting the same with alternative sources of energy such as solar.

The productive projects include the establishment of the proposed and expansion of the existing industrial establishments such as the small-scale (jua-kali) industrial developments, the furniture workshops, bread bakery and fruit juice industries, flour milling, timber yards, animal feeds and plastic recycling industries, milk processing and cooling plant, steel rolling and EPZ among others.

The perceptive projects include: -

- i. Expansion of the green spaces and implementation of landscaping schemes as earlier discussed. ii. Greening of the properties and rehabilitation of degraded sites within the municipality and its environs.
- ii. Expansion of the existing stadium in Municipality town into a modern stadium integrated with high altitude athletics training center and a golf club.

6.1.1 Quick Win Projects

Quick win projects are those projects which are proposed to be implemented within a period of 100 days upon the approval of this plan. These projects which require low funding have high visibility and are effective in rallying support for the planning activities. The proposed quick win projects thus include: -

- i. Establishment of an adequately staffed and equipped physical planning unit for Alego Usonga Sub-County to implement, monitor and enforce the plan.
- ii. Formation of Community forum for the implementation and monitoring of the plan.
- iii. Implementation in a phased-out manner the transportation proposals which include among others development, upgrading and rehabilitation of roads, bus park and other parking areas for different modes of transportation.

- iv. Establishment, upgrading and/or rehabilitation of storm water drainage system in the town.
- v. Implementation of beatification projects in the C.B.D and residential neighborhoods
- vi. Rehabilitation of degraded sites within the town and its environs.
- vii. Provision of waste management facilities.
- viii. Establishment of a system of scrutinizing development applications, approvals and supervision.
- ix. Extension of power supply and popularization of the use of alternative sources of energy
- x. Development of Adult Skills Acquisition Centre with modern teaching and learning equipment's
- xi. Rehabilitation and expansion of educational facilities to accommodate rising student population.
- xii. Demarcation of buffer zones for the fragile ecosystems.

6.1.2 Short Term Projects

Short term projects are those proposed projects and/or programs envisaged to be implemented within a period of 1 to 5 years upon the approval of the plan. These projects which are low in cost fulfil the immediate needs of the community. Equally, the implementation of the projects does not involve many Actors. The above being the case, the below stated projects among others are recommended as short-term projects: -

a. Public Utility

- Acquisition of land for the expansion of the cemetery.
- Development and/or rehabilitation of public toilets within the C.B.D and other proposed commercial nodes.
- Enhancement of waste management in the town through the installation of waste receptacles as well as acquisition of land for solid waste landfill.
- Sinking of boreholes and safeguarding strategic springs for community water uptake
- Phased out implementation of water supply and sewer reticulation
- Improvement on the reliability of power supply by the KPLC as well as popularization of the use of alternative sources of energy.

a **Safety and Security**

- Installation of street lights.

b **Transportation**

- The provision of safe, adequately segregated infrastructure;
- Direct routings without major intersection conflicts with motorized traffic;
- Secure bicycle parking to preclude theft;
- Local cycling master plan that should be the basis both for planning infrastructure specifically for bicycles and for incorporating cycling into general traffic infrastructure and management planning;

c **Social Infrastructure**

- Upgrading of the facilities in the health centre to include maternity ward, disaster rescue centre and an incinerator.
- Establishment of a National Polytechnic
- Establishment of vocational training facilities within the town
- Upgrading of Jaramogi Oginga Odinga University of Science and Technology
- Barack Obama Campus to full-fledged University College of Agriculture and technology
- Construction in phases the proposed primary and secondary schools

d **Public Purpose**

- Acquisition of land for the expansion of national and county government offices as designated in the plan.

e **Recreation**

- Upgrading of the current stadium to international standards.
- Provision of community halls at the neighborhood levels
- Development of parks, playgrounds and squares in all the residential neighborhoods.
- Incorporation of library in all the community halls within the town.

f **Local Economic Development**

- Development of the proposed markets in the designated areas as per the plan

- Provision of infrastructure and services such as water, sewer, paved roads, solid waste collection points and electricity to the proposed and existing development nodes.
- Development of ICT park and Data Processing Zone
- Construction of livestock market and a modern slaughter house
- Development of industrial sites for woodwork and metalwork as per the plan.

g **Governance**

- Equipping and adequately staffing the service providing departments.

6.1.3 Medium Term Projects

Medium term projects are those proposed projects and/or programmes envisaged to be implemented within a period of 5 to 15 years upon the approval of the plan for they require collaboration of more stakeholders. These projects include: -

a. **Utilities**

- Implementation into phases water supply and sewer reticulation proposals

b. **Economy**

- Development of residential hotels, conference facilities, shopping malls and a cultural center
- Development of medium industrial and business parks as designated in the plan.

c. **Housing**

- Upgrading and granting security of tenure to all the informal settlements.
- Upgrading of all public housing in the town.

d. **Recreation**

- Expansion of the existing stadium municipality into a modern stadium integrated with high altitude athletics training centre and a golf club.
- Development of a regional museum to preserve the traditional artefacts.

6.1.4 Long Term Projects

Projects enumerated herein are proposed to be implemented within a period spanning to 15 years and are therefore expected to be achieved by the end of the planning period. These

projects require to be implemented in phases for they need large outlay of capital investments and feasibility studies. They are exemplified by: -

a Transportation

- Paving all the internal roads with bitumen material.
- Acquisition of land and development of pedestrian streets within the town.
- Acquisition of land and expansion of Siaya Airstrip as per the plan.
- Construction of underground parking facilities in all the modern commercial buildings.
- Construction to bitumen surfaces all roads leading to major market centers in the municipality.

b. Economy

- Establishment of light industries as earlier discussed in the designated areas.

c. Utilities

- Completion of the last phase of water supply and sewer reticulation project.

6.2 Coordination Framework for the Plan Implementation

At policy level, coordination focuses on facilitating: -

- i. The implementation of strategies and measures by the stakeholders
- ii. Dialogue between all the stakeholders and the county government to create conditions that favors the adoption and implementation of the plan.

At operational level coordination is mainly concerned with improving efficiency of actions through: -

- i. Information exchange
- ii. Facilitation of administrative procedures
- iii. Availing financial flow for the implementation of critical activities, directing resources to priority areas and avoiding overlap of activities.

To enhance good coordination, it is recommended that: -

- i. Immediate enforcement of the plan be undertaken
- ii. The quick win projects should be undertaken to pave way for the implementation of short term, medium term and long-term projects and/or programs.

6.3 Financing Framework

The implementation of Siaya Municipality Integrated Development Plan (2023-2027) by the County Government of Siaya requires the best elements of organization and financial stability. Therefore, the below stated measures should be undertaken for the county government to have a well-organized and coordinated departmental structures and organizations capable of implementing the plan: -

I. Public Finance

Central Government Funds

- Funding from KeNHA and KURA
- Funding from the Kenya Airport Authority (KAA)
- National Government Constituency Development Fund (NGCDF)
- Remittances to the County Government by the National Treasury
- The Women Enterprise Development Fund (WEDF)
- The Youth Enterprise Development Fund (YEDF).
- The Constituency Bursary Fund.

Projects

The above stated funds should be able to fund the following proposed projects: -

- i. Acquisition of land for the expansion of Siaya Kisumu road into a dual carriageway
- ii. Development of fully equipped and staffed Siaya County Referral Hospital and the proposed health center complete with incinerators and disaster rescue center
- iii. Upgrading of the Siaya Airstrip for it to be utilized by the commercial aircrafts.
- iv. Establishment of the National Polytechnic and other vocational training institutions.
- v. Landscaping of the municipality CBD
- vi. Acquiring land for solid waste landfill

II. The County Government's Finances

Sources of finance for the county government includes but not limited to remittances by the national government treasury, parking fees, property taxes (land rates and contributions in lieu of rates), market cess and slaughterhouse fees, single business permits, stall charges as well as public private sector partnerships. These funds are viable in financing the following projects:

-

- a Redevelopment of the sub-county government offices to accommodate the expanded functions.
- b Settlement of the recurrent expenditures.
- c Upgrading the health facilities.
- d Rehabilitation and construction of new schools, vocational centers and polytechnics.
- e Relocation and redevelopment of modern multi-storey and open-air market stalls
- f Development of modern public housing and upgrading of slums
- g Acquisition of land and construction of the proposed bus-park
- h Upgrading of public parks in the municipality

III. Loans, Grants and Donor Funds

Local and international funding mechanisms provide the best options for funding the following projects: -

- i. Upgrading the health facilities.
- ii. Rehabilitation and construction of new schools, vocational centers and polytechnics.
- iii. Relocation and redevelopment of modern multi-storey and open-air market stalls
- iv. Development of modern public housing and upgrading of slums
- v. Acquisition of land and construction of the proposed bus-park
- vi. Upgrading of public parks in the municipality
- vii. Construction of the ICT park
- vi. Expansion and construction of the water supply and sewer reticulation within the municipality
- vii. Provision of trainings and awareness creation on environmental governance.

IV. Public - Private Sector Partnership Funding

Projects include: -

- i. Funding of SMEs by the micro finance institutions
- ii. Provision of street lights, water supply, solid and liquid waste management.
- iii. Housing provision

- iv. Development of residential hotels and restaurants complete with conference facilities.
- v. Conservation of parks and playgrounds among others.

V. Community Participation Framework

Continued involvement of the community in this process is aimed at achieving acceptability of the plan. Towards this end, the following undertakings will be done with full community participation:

- i. Formation of community based environmental management committees
- ii. Community members to set up neighborhood policing units.
- iii. Continuous monitoring of the plan implementation by the community.

6.4 Monitoring and Evaluation of the Plan

For the assessment of the impact, effectiveness and efficiency of the plan, it is imperative that monitoring and evaluation processes be strengthened. In this regard, more attention should be granted to the critical programs and projects that form the vital path to the achievement of the municipality's vision. Whereas monitoring of the identified projects enables keeping track of the progress, evaluation enables the proponent of a project to estimate the impact of the project and/or programme and to decide whether adjustments need to be made. Collectively, these helps in the assessment of progress, identify difficulties, ascertain problem areas, promote credibility and build public confidence by reporting on the results, helps formulate and justify budget requests, identify promising practices as well as enable the implementation of immediate remedial actions to put the project and/or programme on course.

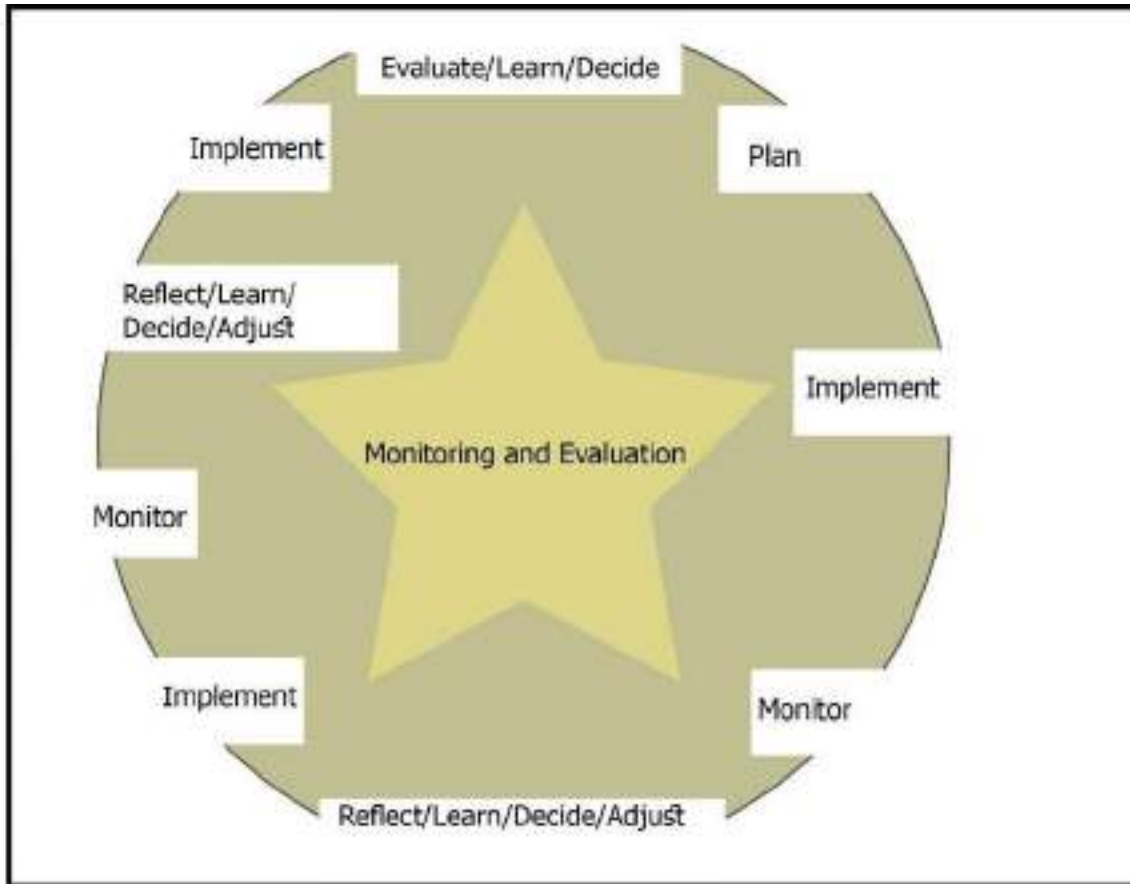


Figure 6-1: Evaluation Concerns

Source: (Researchers, 2019)

Proper implementation of an effective monitoring and evaluation system should entail an effective institutional setup for coordination and implementation, adequate involvement of the various stakeholders with adequate resources allocated for monitoring and evaluation activities. To effectively monitor implementation of programs, projects and activities within the plan period, participatory monitoring and evaluation approaches should be adopted at all levels of planning including the community level as a means of promoting teamwork and stakeholders' involvement in the plan implementation. This plan proposes that this should be continuously used complete with provision of feedback mechanisms on progress and impacts. Some of the questions that the evaluation of the Siaya Municipality Integrated Urban Development Plan (2023-2027) should rationalize include: -

- i. Does the plan continue to relate to the policy framework?
- ii. Does it continue to reflect the municipality's development priorities?

- iii. Are the objectives still relevant?
- iv. Will achievement of the plan's outputs ensure attainment of its purpose and/or goal?
- v. Are there any unstated assumptions which are, or could become problematic?

6.5 The Plan Implementation Matrix

Sector	Projects and Programmes	Actors	Time Frame	Cost
Housing and Human Settlements Development	<ul style="list-style-type: none"> ✓ Technical assessment of land suitability and infrastructure requirements for residential developments ✓ Development of focused public investment plan to outline the location and timing of planned public infrastructure. ✓ Audit of the existing housing stock and project the future housing requirements ✓ Allocation of land for new housing and allied infrastructure to cater for the needs of the projected population growth. ✓ Public housing development and restricting subdivision of land within the town ✓ Slum upgrading as well as prohibiting illegal conversion of residential buildings and set-backs into other users ✓ Promotion of public-private sector partnerships in housing provision ✓ Promotion of the use of locally available building materials. ✓ Instituting development approval reforms to improve efficiency. ✓ Facilitating property mapping, planning, surveying and titling processes for acquisition of land (property) ownership documents. ✓ Implementing the comprehensive public transport strategy as contained in the plan to 	<ul style="list-style-type: none"> ✓ Local community ✓ National Government ✓ National Land Commission ✓ County Government of Siaya ✓ NGCDF Committee ✓ CBOs ✓ NGOs 	Short term before 2027	Approximately Ksh 900 million per year per

	support the activity corridors and other growth areas.			
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	<ul style="list-style-type: none"> ✓ Enforcement of the development control standards recommended in the plan as well as encouraging mixed developments especially where the nodes are well served by public transport ✓ Implementation of best practice urban design principles in the growth nodes to establish and maintain higher levels of amenity and functionality Development of commercial and industrial centres at strategic points of the town and its hinterland to act as activity corridors supporting the development of the public transportation network ✓ Extension and/or development of roads, water, sewer, electricity and adequate storm water network in the existing and proposed residential areas ✓ Establishing an efficient solid waste collection point in the residential neighborhoods. 	<ul style="list-style-type: none"> ✓ Local community ✓ National Government ✓ National Land Commission ✓ County Government of Siaya ✓ NGCDF Committee ✓ CBOs ✓ NGOs 	Long Term	

Industrial Development	<ul style="list-style-type: none"> ✓ Development of the existing industrial developments as well as developing the proposed industrial and business parks in different parts of the town as designated by the plan. ✓ Encouraging mixed (light, medium and heavy) industrial investments in the town 	✓ Ministry of Trade and Industrialization	✓ Immediately (Within the first 100 days after the approval of this plan) and continuously	
	<p>Development and reserving sites for small-scale woodwork and metalwork industries in a number of neighborhoods within the town</p> <p>Allocation of land for varied industrial developments within the municipality</p>	✓ County Government of Siaya	Short Term	Approximately Ksh. 467 million per year.

	Improvement of road linkages to the urban hinterlands for efficient collection of the raw materials and for the marketing of the finished products.	Local community	Medium Term	Approximately Ksh. 467 million per year.
	Provision of support infrastructure such as sewer, water, energy among others on the designated industrial sites	Private developers	Medium Term	
	Establishment of Public-Private Partnership for the provision of financial support and land incentives to industrial start-ups	Ministry of Lands	Long Term	
	Improvement of livestock and crop husbandry to achieve diversified agricultural production.	Kenya Industrial Estate (KIE)	Long Term	

Commercial Developments	Land allocation for the formal and informal commercial activities within the CBD and within the residential neighborhoods	Ministry of Tourism	Short term	Ksh. 1.5 billion
	Creation of conducive working environment for the formal and informal commercial sector activities e.g., reducing time for registering business to at least two weeks.	County Government of Siaya		
	Establishment of business parks to act as commercial activity incubators	County Government of Siaya		
	Establishment of semi-open markets and shops in the residential neighborhoods as well as development of allied infrastructure that sustains such activities	County Government of Siaya	Short term	
	Extension of financial and technical services and assistance to informal sector and small-scale traders	County Government of Siaya		

	Review of rates, stall charges and business permits in order to provide conducive environment upon which such commercial ventures can thrive			
	Development of empowerment/skill acquisition center			
	Development of shopping malls, residential hotel			

	and conference facilities as designated in the plan to spur tourism			
	Provision and improvement of infrastructure and services such as sewer, water, paved roads, public conveniences and solid waste management as well as electricity to the proposed and existing commercial nodes to act as an incentive to investors.	<ul style="list-style-type: none"> ✓ Local community ✓ National Government ✓ National Land Commission ✓ County Government of Siaya 	Short Term	
	Provision of I.C.T park and Data Processing Zone	<ul style="list-style-type: none"> ✓ Siaya ✓ NGCDF Committee ✓ CBOs 		
	Establishment and/or strengthening tertiary institutions to provide entrepreneurial training Enhancing security within the town through regular police patrol and installation of CCTV cameras among others	<ul style="list-style-type: none"> ✓ Local community ✓ National Government ✓ National Land Commission ✓ County Government of Siaya 	Medium Term Before By 2027	
	Building capacity of the Private Sector through targeted training, information sharing, dialogues and promotion of joint ventures between the county government and the sector	<ul style="list-style-type: none"> ✓ National Land Commission ✓ County Government of Siaya 	Long Term	

	Undertaking periodic compliance monitoring audit on registered SMEs, to ensure that statutory obligations are fulfilled.		Before 2027	
	Conservation of habitats for animal species such as baboons, monkeys, birds, butterflies and snakes that can to use as tourism base. Maintenance of the Siaya Stadium and development of other sports grounds in market centers.			
Educational Facilities	Development of schools as designated by the plan	✓ The National Government	Short Term	Approximately Ksh 30 million per year
	Development of a new National Polytechnic and vocational training facilities as designated by the plan	✓ Ministry of Education ✓ PTAs		
	Addressing the general imbalances in the distribution and accessibility to all primary and secondary schools.	✓ CBOs ✓ NGOs		
	Rehabilitate and expansion of facilities in all existing schools to accommodate rising student population.	✓ Ministry of Education-Inspectorate of		

	Equipping and maintaining appropriate landscaping in the schools to create environment conducive to teaching and learning.			
	Allocation of land and development of Adult Skills Acquisition Centre			
	Quality assurance and adherence to regulatory policies governing the educational institutions			
	Deployment of staff in the urban and peri-urban schools to a recommended teacher pupil ratio of 1:40.			
	Provision of support infrastructure such as water, energy, roads among others to education facilities	✓ Parents	Medium Term	
	Encouragement and facilitation of the participation of the private sector, religious institutions and other stakeholders in the provision of education facilities and services.	<ul style="list-style-type: none"> ✓ Private Developers ✓ Sponsors ✓ County Government of Siaya ✓ Local radio stations ✓ Chiefs barazas and Schools 	Long Term	-

Recreational Spaces and Biodiversity Conservation	<ul style="list-style-type: none"> ✓ Establishment of urban park and picnic site, walkways, arboretum, fountains, monuments and museum ✓ Implementation of landscaping and beautification schemes as well as greening (tree planting) within the C.B.D, along the major roads, within institutions such as schools and in open spaces within the neighborhoods as means of conserving the environment and to mitigate the ravages of the climate change to adopt the human settlement to the prevailing environmental circumstances ✓ Development of a regional museum to preserve the traditional artefacts. ✓ Provision of community halls I the residential neighborhoods ✓ Development of parks, playgrounds and/or village squares in each residential neighborhood and communities. 	<ul style="list-style-type: none"> ✓ County government of Siaya ✓ NEMA ✓ Local Community ✓ Private Investors Donor ✓ Agencies ✓ National Government 	<p>Immediately</p>	<p>Varies from Ksh 1.5</p>
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Environmental Conservation	<ul style="list-style-type: none"> ✓ Implementation of landscaping and beautification schemes as well as greening (tree planting) within the C.B.D, along the major roads, within institutions such as schools and in open spaces within the neighborhoods as means of conserving the environment and to mitigate the ravages of the climate change to adopt the human settlement to the prevailing environmental circumstances Development of a regional museum to preserve the traditional artefacts. ✓ Provision of community halls I the residential neighborhoods ✓ Development of parks, playgrounds and/or village squares in each residential neighborhood and communities. ✓ Incorporation of library in each community hall, public grounds/village squares in the surrounding communities. ✓ Encouraging the private sector to develop clubs, restaurants, eateries and residential hotels complete with conference facilities ✓ Enactment of by-laws requiring that permission must be obtained from the county government before a tree is cut ✓ Enactment of by-laws committing developers to implement a landscape scheme 	<ul style="list-style-type: none"> ✓ County government of Siaya ✓ NEMA ✓ Local ✓ Community ✓ Private ✓ Investors ✓ Donor ✓ Agencies ✓ National Government 	Short Term	Varies from Ksh 1.5 million to Ksh 250 million
	Enacting by-laws controlling approvals of outdoor advertisement (billboards), signs boards and other structures	National Government -	Short Term	

	Rehabilitation of the degraded sites within the C.B. and the other neighborhoods within the town and hinterland.			
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	<p>Reclamation of the swamps and flood prone areas</p> <p>Strict observance of the riparian reserve to buffer the water body from adverse anthropogenic activities.</p> <p>Enacting of by-laws ensuring that excavation and demolition materials are appropriately dumped as well as backfilling of open holes and abandoned construction sites and/or quarries</p> <p>Discouragement of human settlements on flood prone and hill-slopes</p> <p>Management of alien plant species invasion into the town</p> <p>Popularization of the use of non-motorized mode of transportation</p> <p>Provision of the necessary infrastructure which supports public transportation and non-motorised modes of transportation</p> <p>Enactment and enforcing by-laws controlling open burning of wastes in the town and ensuring that all the health facilities have incinerators</p> <p>Enforcement of NEMA standards and statutory regulations on industrial emissions and noise levels</p> <p>Popularization of the use of cleaner domestic energies such as electricity, liquefied petroleum gas and alternative (green) energy such as solar energy to control indoor air pollution</p>	<p>✓ Public Works National</p> <p>✓ National Government</p> <p>✓ Water Resources Management Authority (WRMA)</p> <p>✓ County Government</p>	Medium Term	
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Public Purposes				
Health Facility and Services	Expansion of Siaya County Referral hospital and Health Centre complete with rescue centers and incinerators	County Government of	Short Term	An average of 7.5 million per

	Improvement and maintenance of the landscape and buildings of all health facilities.	Siaya Private Developers		project per year
	Equipping and staffing the facilities			
	Establishing Public-Private Sector Partnerships for the provision of health services	Ministry of Health	Medium Term	
	Provision of support infrastructure such as water, sewer, and electricity among others to all health facilities.			
Security Facilities and Services	Development of modern Administration police line with residential facilities.	National Government – Ministry of Internal Security National Police Service County Government of Siaya	Short Term	Approximately Ksh 29 million
	Adequately staffing and equipping the facilities with disaster management installations.			
	Provision of support infrastructure such as adequate housing, water, sewer, and electricity among others to all the facilities.			
	Improvement and maintenance of the landscape and buildings of all the security stations.			

Public Utilities				
Water Supply	Incorporating a local water company to harness the local water resources and to expand the existing reticulation.	National Government	Short Term	Approximately
	Development of water treatment plant, reservoir and pumping stations			

	Establishment of sustainable water distribution supply system for cost recovery with consumers properly fitted with water meters for an efficient, transparent and accountable system of revenue collection.			Ksh 29 million
	<ul style="list-style-type: none"> ✓ Installation of water storage tanks at strategic positions within the settlement and expanding the services to new development areas. ✓ Drilling of boreholes, shallow wells and development of other safe sources of water for the supply to the town after treatment. ✓ Partnership building for the operation of water sources and reticulation systems. ✓ Fencing around all the shallow wells to protect them from pollution ✓ Safeguarding underground water quality through adherence to public health stipulations and standards ✓ Enforcement of approvals for sinking wells to enhance the achievement of safety standards. 	<ul style="list-style-type: none"> ✓ Management Authority (WRMA) ✓ NGOs ✓ Private developers ✓ County Government of Siaya ✓ NEMA 	Medium Term	A total of Ksh 2.5 billion

<p>Sewer Reticulation</p>	<p>Instituting an immediate phased out construction of a sewerage system within the town to cover all neighborhoods and commercial nodes – starting with the C.B.D of the town</p> <p>Development of sanitary solid waste management site cum sewer treatment site.</p> <p>Regular Maintenance of the sewerage line and treatment plant.</p> <p>Instituting an effective monitoring and control measures to regulate the discharge of toxic waste into the sewer.</p> <p>Increasing the number of public conveniences/sanitary facilities in the town</p> <p>Instituting effective waste monitoring and control measures to regulate the discharge of untreated toxic wastes into open dumps.</p>	<ul style="list-style-type: none"> ✓ National Government ✓ Water Resource Management Authority (WRMA) ✓ NGOs ✓ Private developers ✓ County government of Siaya 	<p>Immediately</p> <p>Short Term</p>	<p>A total of Ksh 200 Millions</p>
<p>Transportation and Traffic Management</p>	<p>Provision of system of roads that can take the traffic generated within the town out of the town</p> <p>Upgrading (widening) the narrow roads and rehabilitating the roads by making them all weather.</p>	<ul style="list-style-type: none"> ✓ The Kenya Roads board KeNHA 	<p>Short Term Before 2027</p>	<p>90 Million Per Km</p>
	<p>Installation of street furniture such as streets lights, planting trees along it, providing pedestrian and cycling paths, providing lane markings and road signage and traffic lights.</p>	<ul style="list-style-type: none"> ✓ KURA ✓ KeRRA 	<p>Medium Term</p>	

	<p>Expanding the Siaya-Lwanda Road into a 60m dual carriage way with designs taking into consideration motorized and non- motorized modes of transportation.</p> <p>Development of bus and lorry parks and other parking spaces within the town and its environs.</p> <p>Creation of pedestrian streets or walkways and integrating the drainage systems with road networks.</p> <p>Provision of routes and parking for the None – Motorized Modes of transportation</p> <p>Development of bus stops, interchanges at major crossings within the proposed express way</p> <p>Initiating private sector-led development of decent taxi service system for the town.</p> <p>Provision of on-street and off-street parking facilities at appropriate locations</p> <p>Enacting by-laws enforcing strict parking standards for offices, shopping plazas, churches, hotels, restaurants, bars and eateries.</p> <p>Acquisition of adequate way leaves for road widening by engaging the affected plot owners along each road</p> <p>Maintenance of roads linking the town to other urban centres in the region</p>	<ul style="list-style-type: none"> ✓ Private Developers ✓ County Government of Siaya ✓ Land owners ✓ Traffic police ✓ Motorcycle operators ✓ The Public 		
	<p>Construction of motorcycle parks in the town with adequate public conveniences such as passenger waiting sheds, storage facilities, fast food kiosks and toilets among others</p>			

	Construction of motorbikes and bicycles tracks and footpaths, footbridges and tunnels along busy motorize routes.			
	Strict observance of development control measures such as the setbacks and			
Storm Water Drainage Network	Extension of storm water drainage to other parts of the town	KeNHA	Immediately	Approximate Ksh 150 million
	Construction of the drainage network intertwined with the road network			

Storm Water Drainage Network	Demolition of structures on the drainage way leaves and flood prone areas.	<ul style="list-style-type: none"> ✓ KURA ✓ KERRA ✓ Private Developers ✓ County Government ✓ Siaya Land owners ✓ The Public Business Community 	Immediately	Approximate Ksh 150 million
	Unblocking the drainages channel along the roads			
	Conducting regular routine maintenance and cleaning of the storm water drains			
	Provision of the slab covers for all open concrete roadside drains to prevent direct dumping of solid waste into them.			

<p>Electricity and Alternative Energy Sources</p>	<ul style="list-style-type: none"> ✓ Extension of the electricity supply and transformer installations to the developed areas and proposed new development sites. ✓ Development of power sub-station as designated by the plan ✓ Popularization of alternative sources of energy such as solar energy within the town to complement the current electricity supply. ✓ Installation of solar powered street lights throughout the town. ✓ Enforcement of the by-laws relating to the preservation of power way-leaves. 	<ul style="list-style-type: none"> ✓ County Government of Siaya ✓ Kenya power Western region 	<p>Immediately</p>	<p>Approximately Ksh 800million</p>
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Fire Station, Disaster Preparedness and Management	<ul style="list-style-type: none"> ✓ Establishment of a fire station within the municipality with at least a fire engine with adequate members of staff to serve the municipality and its environs ✓ Undertaking the development of the proposed water reticulation with fire hydrants ✓ Establishing Disaster Preparedness and Management section within the county government ✓ Enactment of Disaster Preparedness and Management by by-laws ✓ Enforcement of zoning regulations to ensure separation of conflicting land uses so as to reduce chances of fire disasters ✓ Establishment of disaster rescue centres within the health facilities as earlier discussed ✓ Initiating public-private sector partnerships to encourage private hospitals, NGOs and other stakeholders to operate ambulance services and establish the centre for disaster preparedness and management ✓ Enacting building by-laws for all the public buildings to be equipped with firefighting equipment such as horse reel, fire extinguishers and fire hydrants 	<ul style="list-style-type: none"> ✓ County ✓ Government of Siaya ✓ National Government ✓ Private Developers ✓ NGOs 	<p>Immediately (within the first 100 days after the approval of this plan) and continuously</p> <p>Short Term Before 2027</p>	<p>Approximately Ksh 125 million</p>

Public Cemetery	Acquire land for establishment of a public cemetery and crematorium.	County Government of Siaya	Short Term Before 2027	Approximately Ksh 150 million
	Enforcement of by-laws prohibiting burials within the town boundaries and sensitization of the residents to undertake burials in the designated cemeteries.	Development Partners		

Solid Management and Sanitation Enhancement	<p>Acquiring land for solid waste landfill for the Municipality</p> <p>Enforcing by-laws compelling all the health institutions and clinics to install incinerators for the management of the hospital wastes</p> <p>Allocating spaces for primary waste collection areas (receptacles) before being transferred to the dumpsite</p> <p>Establishing measures for cost recovery and income generation by the county government – levying charges on dumping in the site and for providing refuse collection service to general public.</p> <p>Fencing of the dumpsite to keep away stray animals and children from accessing the site</p>	<ul style="list-style-type: none"> ✓ County Government of Siaya ✓ National Government - Private Developers ✓ NGOs 	Immediately	Approximately Ksh 500 million
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	<p>Landscaping the dumpsite and planting it with trees and scented flowers to screen off the nuisance and to obviate smell.</p> <p>Repairing and/or constructing the road leading to the dumpsite to all weather standards to enhance accessibility.</p> <p>Encouraging safe scavenging in waste collection - plastics and metals from the dumpsite for sale to reduce the amount of waste on the dumpsite.</p> <p>Enforcing by-laws prohibiting indiscriminate dumping of wastes</p> <p>Enforcement of by-laws relating to proper disposal of industrial/workshop refuse/effluents as well as provision of disposal sites/facilities for small-scale industries and roadside workshops that cannot afford private treatment plants.</p>			
	<p>Provision of adequate refuse dumping facilities within the urban area for prompt evacuation of waste to dumping sites.</p>	<p>National Government</p>	<p>Immediately</p>	<p>Approximately Ksh</p>

	<p>Implementation of street cleaning through monthly public environmental clean ups</p> <p>Enforcement of by-laws requiring every development to provide adequate sanitary facilities to the residents and/or clients of the establishment.</p> <p>Instituting public-private sector partnerships in the provision of public toilets in all existing and proposed public places and in major activity areas</p> <hr/> <p>Public awareness creation through campaigns on benefits of hygiene and clean environment</p> <hr/> <p>Capacity building in solid waste management by either increasing the solid waste management equipment and staff or building public – private sector partnership by out sourcing environmental management services.</p>			500 million
	<p>Popularization of the adoption of appropriate methods of waste disposal and treatment at the household level such as such as composting, waste separation and recycling</p> <p>Enactment and enforcement of by-laws that focus on health, hygiene and general sanitation (strict enforcement of Public Health Act – Cap 242).</p>	<ul style="list-style-type: none"> ✓ County Government of Siaya ✓ National Government - Private Developers NGOs 	Long Term	
Land Management	<p>Incremental implementation of the zoning regulations such as minimum plot sizes, coverages, ratios and users as proposed in this plan</p> <p>Instituting appropriate fiscal incentives to development and disincentives for idle holding of land for speculations</p>		Immediately and Continuously	Approximately Ksh 160million

	Establishment of public land reserves (land banks) to prevent urban sprawl			
	Establishing Private-public-partnership in land management through the incorporation of the private sector, the Civil Society organizations (CSO), Community Based organizations (CBOs) and Non-Governmental organizations (NGOs)			
	Popularization of informal dispute resolution methods in matters concerning land			
	Establishment of cadastral and land registration systems for the town			
	Establishment simplified user-friendly Land Information System and Geographical Information System (G.I.S) for the town accessible to the citizens – to be manned by qualified and competent ICT and GIS Experts			