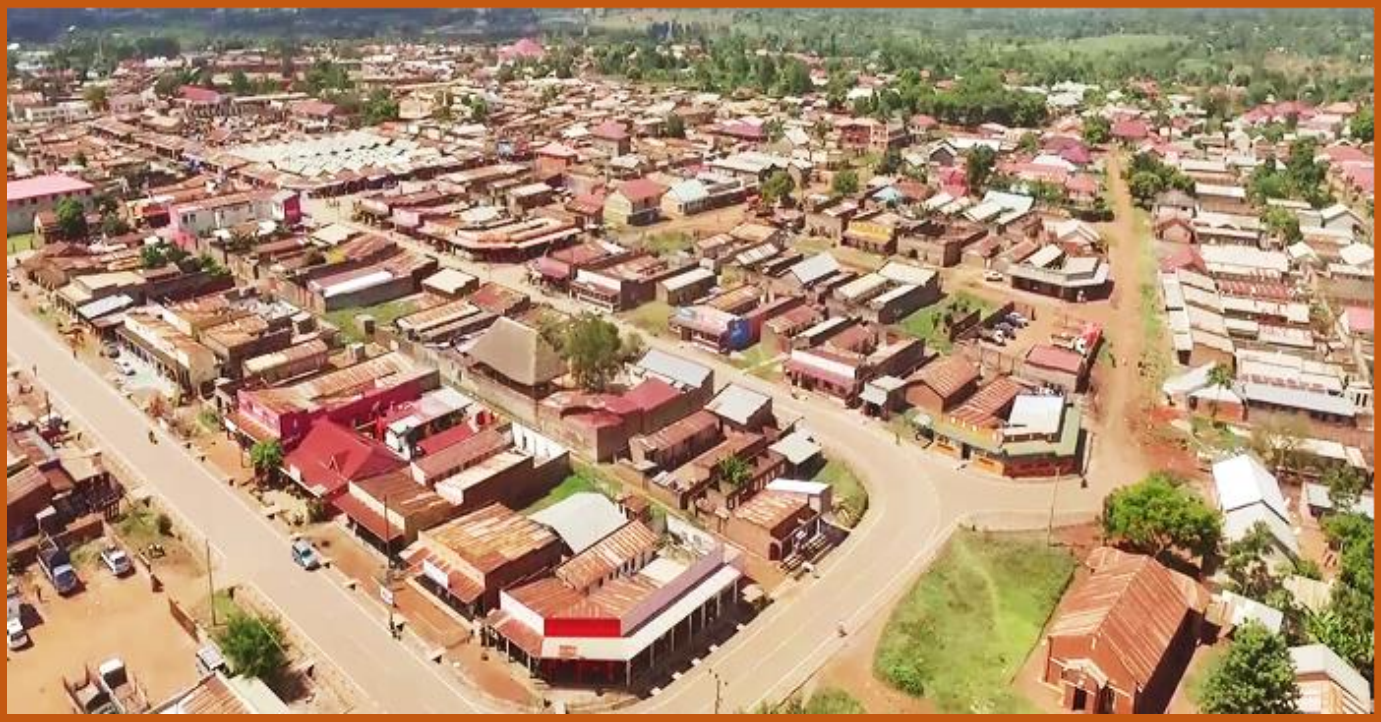
THE REPUBLIC OF UGANDA

KAMULI MUNICIPAL COUNCIL PHYSICAL DEVELOPMENT PLAN 2022 - 2032



December, 2022

GIPEA AFRICA LIMITED

FOREWORD.

It gives me great pleasure to present the Physical Development Plan 2022 -2032 for Kamuli Municipal Council. Kamuli is currently experiencing a high rate of urban expansion influence by both population migrations from different parts of the country and political decision. Unfortunately, the urbanization process has not been adequately controlled and guided leading to sprawl and poor environmental quality. The goal of this Plan is to manage the urbanization process and to guide the sustainable physical development of the Municipal Council. The formulation of the Municipal Council Physical Development Plan was therefore timely.

The Municipal Council through its Consultant M/s GIPEA Africa Limited initiated elaborative participatory planning process, which included residents of the Municipal Council, Lower Councils in the Municipal Council, Central Government, Civil Society, the Private Sector and Academia and the general community. Through planning charities, workshops and consultations, the Municipal Council drafted a new physical vision, for a well-planned, serviced and prosperous municipality Municipal Council. The Plan therefore provides a path that Kamuli Municipal Council should take in order to realize its ambition of becoming a well organised and attractive Municipal Council by the year 2032.

Kamuli Municipal Council is expected to grow to 134,412 people by 2035, from 58,984 in 2014. As the Municipal Council continues to struggle with a sprawling population from the Busoga region and immigration from the rest of country this has resulted in numerous haphazard settlements, encroachment of fragile ecosystems like wetlands and forests, air pollution, accumulation of garbage and poor living conditions in some densely populated areas of the Municipal Council. Therefore, there is an urgent need to implement the Plan so as to check on these unwanted conditions in the Municipal Council. The Plan presents ambitious but attainable development proposals and recommendations to address the existing spatial inequalities and informality. With the concerted effort of everybody within and without the Municipal Council this Plan will drive future development through a more equitable, balanced, environmentally, economically and socially acceptable manner.

In a bid to realize the vision of the Plan of transforming Kamuli Municipal Council that will benefit all of its residents and visitors, we must be determined in applying and implementing the Plan. With the continued usual cooperation and hard work, dedication and successful application, I have no doubt whatsoever that our Municipal Council Physical Development Plan 2022 - 2032 will transform Kamuli into an economically stable, attractive, sustainable and a modern Municipal Council in the entire country.

Once again, I thank everybody who made this participatory planning process possible, I am greatly humbled and congratulate the people of Kamuli Municipal Council, that this is one of the new Municipal Council Physical Development Plan in Uganda.

MAYOR
KAMULI MUNICIPAL COUNCIL

PREFACE.

It is my great pleasure and relief to see the end product of this planning process of Kamuli Municipal Council Physical Development Plan 2022 - 2032. The proposals and recommendations in this Plan for the various Lower Local Governments are products of careful consultations and presentations, surveys and analyses by the Consultant M/s. GIPEA Africa Ltd. The Municipal Council Physical Development Plan will complement the Municipal Council Five Year Development Plan as it provided the spatial dimension to sectoral distribution of the Municipal Council's resources. The Plan also establishes a coordination platform for the various sectoral plans and polices.

The Plan is a response to the impact of the urbanization and poor land management taking place in the Municipal Council, which necessitated the need for a physical spatial framework that would guide and control the urbanization process. The quest for orderly development in the Municipal Council especially in the suburban areas and access to social services has become more obvious than ever before. The Plan was formulated in consideration of several challenges facing the Municipal Council such as environmental degradation and climate change, urban expansion, unsustainable settlement structure, unemployment and limited access to infrastructure and utilities among others. This Plan therefore strives to provide and support an efficient, equitable and sustainable physical spatial framework to guide the overall development of the Municipal Council towards achieving a modern and sustainable Municipal Council.

The Municipal Council Physical Development Plan is in tandem with the Five-Year National Development Plan III and Uganda's National Vision 2040. It sets out the strategic spatial planning policies, proposals and interventions in respect to the general direction, broad land uses, physical development and conservation in Kamuli by the year 2032. In line with the national polices, the Plan emphasizes modernized agriculture, industrialization, local economic development, human capital, skill development and infrastructure development among others.

The strategies in the Plan have introduced inclusive and compact development through smart growth concept, which supports a physical and functional relationship between urban and rural areas for sustainable and balanced development. The Plan therefore is a main reference planning document by all Lower Local Governments (LLGs) and other related agencies involved in physical planning of the Municipal Council. The success of the strategies and recommendations contained in the Physical Development Plan will depend greatly on how efficient these strategies are translated and interpreted during the implementation process. The LLGs including the Division Councils as well as the private sector shall take proactive actions in order to translate the Plan into more detailed physical development and action plans thus achieving sustainable development and a transformed Municipal Council of prosperity.

It has been a long and rewarding experience working with the Consultant Team and I take this opportunity to appreciate and thank all of them individually and collectively for their commitment to the planning process. I wish to also express the profound gratitude to the Municipal Council and the Ministry of Land, Housing and Urban Development who supervised and made this planning process possible. I wish to also thank all those other stakeholders who made contributions to the successful outcome of this Plan including; the Municipal Council Physical Planning Committee as well as other partners and stakeholders like; the MDAs, the MDF and the general public who reviewed and provided feedback and comments to the Draft Plan which result into the Final Plan.

Most importantly, I congratulate the Mayor, Kamuli Municipal Council Local Government, his Executive and Council who supported this planning process and collaborated with my technical staff during the plan formulation. I commend the proposals and recommendations contained in the Plan to the residents of Kamuli Municipal Council in particular and to the citizens of Uganda in general.

Town Clerk
KAMULI MUNICIPAL COUNCIL

Table of Contents

List of Figures

List of Tables

List of Maps

List of Plates

List of Acronyms

BLB	Buganda Land Board
CBD	Central Business District
DLB	District Land Board
DWD	Directorate of Water Development
EIA	Environmental Impact Assessment
EMS	Environmental Management Strategy
GIS	Geographic Information Systems
GPS	Global Positioning System
HC	Health Centre
KMC	Kamuli Municipal Council
KMC	Kamuli Municipal Council
LC	Local Council
MoLG	Ministry of Local government
MLHUD	Ministry of Lands, Housing and Urban Development
MoW&T	Ministry of Works and Transport
MUK	Makerere University
NDP	National Development Plan
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
NWCS	National Water and Sewage Corporation
PPC	Physical Planning Committee
PPDP	Precinct Physical Development Plans
PPP	Public Private Partnership
RCMRD	Regional Centre for Mapping Resources for Development
SDP	Site Development Plan
SPSS	Scientific Package for Social Scientists
TOR	Terms of Reference
UBOS	Uganda Bureau of Statistics
UNRA	Uganda National Roads Authority

Executive summary

This report is as result of a study carried out in Kamuli Municipality which resulted into the preparation of the Municipal physical development plan. This study was conducted by GIPEA AFRICA LTD a firm which was contracted in January 2020 to prepare the Municipal Physical Development Plan.

Kamuli Municipality is one of the urban areas in Uganda. It had its first Structure Plan which prepared in 2009 and was due for review in 2019. The municipality is characterized by a combination of both urbanised and rural areas. The biggest challenge the municipality faces is the unplanned, uncoordinated, un-gazetted and uncontrolled physical developments taking place especially in the upcoming peri-urban areas of the municipality which is due to increasing influx of people from neighboring districts like Kayunga, Buyende, Jinja among others. This study report forms the basis for the preparation of the physical development plan, which will be the guiding instrument for orderly development in the municipality up to 2032.

The Kamuli Municipality planning area lies in the Eastern Region of Uganda in Kamuli District boardered by Balawoli Sub County in the North, Nabwigulu Subcounty to the Northeast and Northwest, Butansi to the Southwest, Kitayunjwa Subcounty to the Southeast and Mbulamuti Subcounty to the South. It lies along latitude 0.97472 and longitude 0.9403 North of Equator and it covers a total area of 102.65km^2. Kamuli Municipality is divided into two administrative levels namely; two Divisions and ten Wards. Kamuli got the Municipal Council status in July 2015 and was operationalized in FY 2016/2017.

A number of surveys were conducted as the first step to inform the physical planning process. Standard methods of socio-economic survey using structured questionnaires, key informant interviews, direct field observations were used during the survey. A total of 394 (3%) out of the 13,110 households were randomly sampled using a Global Positioning System (GPS) to represent the entire municipality. Remote Sensing techniques and GIS were also utilised in spatial data capture, analysis and presentation techniques. A satellite Image (Geo-eye 50 cm resolution of Nov 2019) was used for land use inventory and mapping in the planning area followed by 'ground verification' to ensure accurate representation of land use and developments in the area.

Participatory methods were also used in analysis of the existing situation in Kamuli Municipality. 6 FDGs meetings targeting farmers groups, market venders, hotel owners, youth and women, tax operators among others. 4 consultative meetings were held between the Consultant and the Kamuli Municipality Council Officials (both administrative staff and elected representatives) and other key stakeholders from central government and private sector to discuss the problems and future potential of the municipality. Also, school going children of both primary and secondary schools were interviewed to give their perspective about the future of Kamuli. The collected data was analysed with use of statistical package for social scientist (SPSS), content analysis for qualitative and narrative data. For spatial data, GIS was utilised to perform standard spatial analyses. Software such as Arc map 10.1, Arc view 3.2a, AutoCAD 16, were used to generate a number of thematic maps of the planning area.

The Plan notes that urbanization of Kamuli which started around 1970's (as a small trading centre developed by a multi-racial population, which included Indians among others) was a response from the construction of the Namsagali-Jinja Railway Lin. The Indians settled and built houses especially commercial buildings in 1928 in order to start commerce and trade business, which quite resulted into

significant growth of the centre. The physical expansion of the Town since 1974 has been "guided" by two physical planning schemes. The first one was produced in 1970s and another one in 2009. The 1970s Outline Planning Scheme covering an area of 3.2 Square Kilometer's comprising Muwebwa, Mulamba, Kasoigo and Mandwa Ward, zoned out the major land uses including residential, recreational, industrial, commercial, institutional and civic among others. This however expanded as seen in the 2009 "Structure Plan" which was a Town Council then.

There are several policy and legal instruments guiding the preparation of the Physical Development Plan, its implementation and development in Kamuli Municipality. Therefore, the preparation of this physical development plan is based on the provision of these instruments. They also form a basis for the policy recommendations of the study and the physical development plan.
The administrative structure of Kamuli Municipal Council comprises of two arms i.e., the political leadership and the technical arm. The political arm is comprised of the Executive headed by the Mayor and the policy body is the Municipal Council. The second arm is the management arm comprises of the technical staff headed by the Town Clerk (TC).

According to population census of 2014, Kamuli Municipal Council had a total population of 58,984. It was also estimated that 47.55% of this population are males while 52.45% are females. The Residents of Kamuli Municipal Council are heterogeneous, a mixture of different tribes although majorities are Basoga (87.7%), natives of the area with the most commonly spoken language being Lusoga.

An investigation of the physical characteristics revealed that Kamuli is a result of the Precambrian activity that yielded low to high fertility of soils in the northern and southern parts respectively. Most of the soils are however, sand loams that support food crops such as potatoes, maize, cassava among others. The Municipality experiences a bi modal type of rainfall. The peaks are in March –June and August - November every year. March-June is the main rainfall season in the municipality as the annual average rainfall is 1,350mm

In terms of social services, it was indicated that there was an irregularity in the hierarchy of services especially in health and education services. There was lack of adequate supervision of service delivery especially those offered by the private sector, there was absence of skilling institutions in the municipality and the public institutions offering services are operating in some squalid infrastructure for example Devine Faws primary school in Namisambya II.

The study also looked at land management where it was noted that most of the land was privately owned (75%) but majority of residents were Kibanja owners (82%) which could have a bearing on security of tenure. The land values were very high ranging from 100m – 120 million per acre. In terms of housing the biggest percentage of houses are permanent. The predominating economy was the salary/wage earners mainly by workers. Informal sector supplemented by subsistence agriculture and limited commercial farming were also common. The socio-economic study results indicated high levels of unemployment and poverty. There were high levels of unemployment especially for the youth who have resorted to drug abuse.

The survey revealed that infrastructure like roads, drainage, power, telecommunication, sewage and water supply network needs improvement and rehabilitation in places where they already exist and a "Action and Strategic Plan" was urgently needed where they don't exist. In the rural parts of the Municipal Council, roads were in bad condition characterized with a lot of pot holes, dust, galley

erosion and coupled with poor connectivity. Hydro Power is well distributed in the CBD and some other few areas of the Municipality but more efforts was required especially in the outskirts of the municipality. The main complaint on electricity from the household survey was lack of affordability. The water supply network was below the national average with complaints from people of the deplorable quality of running water in the laid pipes in many areas, drainage channels are highly clogged with silt, solids especially plastics and are poorly maintained causing flooding in low lying areas whenever it rains.

The population of Kamuli is structured as "younging" in similar way as the population of Uganda and other developing countries. The population was highest between 14 and 64 years of age. The implication of this distribution was high demand for services, housing and employment. This also correlates with the survey findings in which a significant proportion of the population was employed in jobs that would otherwise be categorized as disguised employment. Given that a significant portion of the people in Kamuli are youth, it was important that strategies for employment creation are designed to cope up with the population growth rate. The analysis of the survey carried out in Kamuli indicated that a sizeable proportion of the residents don't have stable incomes since majority are self-employed. Youth are engaged in petty trade and their small businesses have small capital. The situation was further exacerbated by lack of access to financing because of the exorbitant bank interest rate which was at 25%.

The housing condition was analysed in terms of quality and stock available for the population. The quality of housing in the municipality was generally good in terms of space available for residence. The number of rooms for housing was the basis for this analysis. This was because housing nature was predominantly permanent as indicated by the socio-economic survey. Therefore, the problem was mainly in the single roomed housing, which encourage horizontal rather than vertical development. Given the ever-increasing population, in the future this type of horizontal expansion poses a threat to space availability for infrastructure service delivery such as roads, water, telecommunication, sewage, rail link and drainage systems.

Compared to other municipalities in Uganda, Kamuli Municipality was well off in terms of numbers and distribution of social services. The challenge was only visible in terms of hierarchy, quality of service delivery and in some instance's accessibility of these services. Other services such as community and cultural centres are so inadequate yet the ones in abundance like institutions (educational, health, religious) require proper management and rehabilitation of the physical infrastructure.

From the survey, it was evident that infrastructure like roads, drainage, power, telecommunication, sewage and water supply network need improvement and rehabilitation in places where they already exist and a "Marshall Plan" was urgently needed where they don't exist. Roads outside the CBD were in bad condition with a lot of pot holes, dust, galley erosion and had issues of poor connectivity. It also has all the major arterial roads and a railway that links her to the neighbouring local governments and beyond. Therefore, there was an urgent need to carry out a physical development plan so that rehabilitation, improvement and expansion of these key infrastructural services are enhanced to develop the municipality and improve on the wellbeing of the people. This will assist the municipality to match with the rest of the country into a middle-income country by 2040 if all goes according to plan. Electricity is not well distributed especially in the newly added wards of the municipality.

Human excreta and solid waste management are key components in an urbanizing environment and where human activities are intense. Unfortunately, in Kamuli Municipal Council there was no proper solid waste management plan and strategic actions. The only existing garbage bunkers cannot be accessed by everybody in the Municipal Council leave alone being outmoded method of garbage management in urban areas. In areas where there was an aspect of dumping sites, they were poorly managed. About 94% of the generated waste in the Municipal Council was individually managed and this has caused a lot of environmental and sanitation challenges. Garbage was sometimes privately collected and taken to gazetted sites, dumped along the road side, thrown in the back yard to decompose, scatter in the gardens as manure and plastics are openly burnt polluting the air and in some areas of the CBD there was visible litter of the same.

In terms of human waste, Kamuli has three small treatment plants and these are at hospitals and Iowa state University. The luck of the centralized system to serve the entire Municipality, the residents use pit latrines (70%). Therefore, to address the threat on people's health due to improper human waste management, proper network for management of these wastes needs to be created and extended to those areas where it was lacking. A sewage management plan was also necessary and it was time to identify potential sites for sewage ponds to serve the unserved areas but which are rapidly urbanizing.

In conclusion, Kamuli Municipality exhibits fast growth process due to various factors but it also has inherent social, economic, environmental and urban management problems that are common in many urbanized municipalities of Uganda. Leveraging its capital base, natural resource base, cultural resources and heterogeneous population, Kamuli has the potential to transform into a vibrant city given its strategic location in eastern region coupled with the dynamic population and available natural resources. This implies that with such a strategy, related sectors of housing, social services, infrastructure, capacity development, education and awareness would have to be pursued for realization of proper urban development in Kamuli municipality.

Based on the above analysis the plan proposes key strategic intervention at sector level with a hope that come 2032 Kamuli Municipality will have transformant into a middle-income municipality. This was premised on the vision that in 2032 Kamuli should be a well-planned, serviced and prosperous municipality. This aims at ensuring orderly sustainable and compact development, with a strong industrial base, quality infrastructure, competitive Local Economic development, sound and resilient urban environment with good governance.

The plan therefore proposes residential areas covering 5,052.3 Ha (52%), commercial areas of 309 Ha, including the CBD, intermediate centres and local centres, industrial establishment of 51.2 Ha (0.52%), agricultural use of 1,225 ha (12.84%), civic areas comprised of 5.8 (0.06%), institutional areas covering 196.2 Ha (2.06%), environmental use covering 2,514.9 Ha (26.37%), recreational zones of 10.4 Ha (0.11%) and special areas of 110.7 Ha (5.54%). The plan further gives standards and regulations which will guide the implementation of the plan with a clear investment strategy which the municipality should use to lobby for financial support in and outside the country. It also gives a clear work plan with clear indication of various stakeholders and their role in the plan implementation.

Part I

1.0 INTRODUCTION AND BACKGROUND

1.1. Introduction

This chapter gives an overview of the background to the assignment, the objectives and scope of work and the planning horizon for the plan. It also highlights the methodology used by the consultant to develop the plan and the structural composition of the municipality. It further examines the urbanization trends generally in Uganda, the social demographic characteristics of urban population and the historical background of Kamuli Municipality which creates the need to plan this municipality.

1.2. Background

The Government of Uganda has a goal to support Lower Urban Governments in the promotion and development of sustainable, healthy and liveable urban settlements that will underscore national commitment to physical planning and a broad-based development strategy for Kamuli Municipality. The government has also made physical planning sector one of the national priorities with an aim of addressing the urbanization challenges in the country. In line with such national policies and guidelines, Kamuli Municipality decided to make the preparation of a Municipal Physical Development Plan as one of her priorities. This project is therefore, funded and supervised by the Government of Uganda through Kamuli Municipal Council. The Ministry of Lands, Housing and Urban Development (MoLHUD) is a key stakeholder involved in supervision, providing policy direction, monitoring and approval of the plan, while GIPEA AFRICA Limited is the Consulting firm which undertook the assignment.

1.3. Appointment of Consultants

After passing through the procurement process, Gipea Africa Ltd was invited for negotiations prior to the signing of the contract. The contract details services to prepare a Physical Development Plan (framework for physical development) in a participatory process and develop detailed plans of three selected wards of Kamuli-Namwendwa, Busota and Kamuli-Sabawaali to transform Kamuli Municipality to its desired future status.

1.4. Objective of the Assignment

The overall objective of this Consultancy is; to prepare through a participatory process, the Kamuli Municipal Physical Development Plan and detailed plans of three selected wards to guide the orderly physical and sustainable development of the Municipality.

1.4.1.Specific Objectives

The specific objectives of this assignment are to;

- Develop a Physical Development Plan for Kamuli Municipality that will guide developments in the municipality for the next 19 years.
- Develop an Investment Plan that will support the Municipal Council in outsourcing for financial support to implement proposed development projects in the plan.

- Develop a communication strategy that will guide the Municipal Council in sensitising the community about the importance of planning so that they can participate in the planning and implementation processes
- Develop detailed plans for the selected three Wards of Busota, Kamuli-Namwendwa and Kamuli-Sabawaali in the Municipality in order to guide future developments in the area.

1.5. Scope of work

The assignment, as defined in the TOR, includes the following tasks:

- Prepare an inception report covering methodology, tools for information gathering, literature review and work plan plus any other relevant details.
- Facilitate consultative workshop(s) and FDGs with all stakeholders, including the respective local government officials, residents, landowners, institutions involved in plan preparation, surveying and construction, security organs, NGOs, etc. for input, support and sensitization.
- Undertake fieldwork and also to assemble the necessary data on socio- economic and physical environment aspects in the municipality, including the topographic surveys.
- Prepare the necessary base maps. These were informed by accurate up-to-date spatial information obtained through verifiable appropriate methods such as topographic surveys, use of high-resolution satellite images and/or aerial photographs and drones at appropriate scale.
- Prepare Planning Area, Urban Physical Development Plan at appropriate scales (including the respective reports) in accordance with the National Land Use Policy, the Physical Planning Act 2010 and other related laws.
- Develop a costed implementation Plan to be used as a tool and basis for all major, planning and development activities i.e., budget preparation and service delivery implementation to ensure that the Municipality's resources are allocated in accordance with the Municipality's vision. The implementation strategy should also look at the ongoing initiatives within the Municipal Council
- Focus the Urban Physical Development Plan on the following themes; Housing, Transportation and Communication, Public utilities, Urban infrastructure-drainage, sanitation, roads, the environment, social facilities, Civic Activities, Recreation, Local Economic Development, Places of Worship among others. The proposals in respect of the above will take into account the Municipality`s comparative advantage, land tenure, and the vulnerable members of society particularly the youth.
- Present the plans to Kamuli Municipal Council for consideration and deposit.
- Present the plans to the National Physical Planning Board for consideration and approval.

1.6. Planning Horizon

In the planning meeting held between the consultant and the client it was agreed that the planning horizon be tagged to the national vision 2040. This will fit very well the planning horizon for the Kamuli PDP with that of the National Vision 2040. In the Inception phase it became apparent that Kamuli is growing at rate of 2.54%. While this rate was slightly lower than the national urban growth rate (3.5%), the municipality has a potential for growth given the government interventions taking place in the area such as the construction of the Isimba dam and the tarmacking and construction of a new bridge between Kamuli and Kayunga which brings Kamuli closer to Kampala the capital city.

1.7. Methodology

Various methods were employed to carry out the study and prepare the Physical Development Plan. The study of the existing situation was undertaken through a socio-economic survey that was conducted in the Municipality with a sample frame of 394 (3%) households' representative of the entire population in the two Divisions of Northern and Southern. With the help of enumerators and interpreters a comprehensive questionnaire to capture socio-economic data, welfare and views on spatial development was administered. This encouraged interactions between the Consultant and the heads of households who are the direct beneficiaries of the plan. Softwares like SPSS and excel were used to analyse the data and also generate graphics for easy interpretation and summarisation.
Also, FDGs were conducted in each of the Divisions and they were targeting women, youth and Boda Boda groups, Lorry and Taxi operators, farmers, market venders and hotel associations. In each group a target of five representatives were selected. Also, schools were targeted focusing on the young people's desires and aspirations through drawing what they want their municipality to be in 19 years from now since they are the future generation. Both secondary and primary schools were selected targeting primary fours (P4s) and sixes (P6s) for primary schools and senior twos (S2s) for secondary schools. Data collected from these groups was subjected to content analysis techniques in order to extract key issues which supported the development of proposals and the plan generally.

During the physical survey, there was also mapping exercise carried out to capture features especially social services and physical infrastructure such as health centres, markets, parking spaces, and wastes disposal points, schools, community centres, water sources among others using a hand-held Global Positioning System (GPS). The coordinates and their attributes were then entered into a booking sheet by the field officers, which were later entered in a GIS environment for analysis and mapping purposes. Software like Arc Map 10.1, Arc view 3.2a, AutoCAD 16, were used to generate a number of thematic maps for the planning area.

Remote sensing techniques combined with use of digital topographic maps for the area and Geographic Information System was used to prepare the base maps and land use map for the planning area. The images captured by the use of drones and high resolution (50cm) satellite images for 2019 supported with ground truthing techniques were used in generating a detailed land use map for Kamuli Municipality 2020.

Participatory methods were also used in analysis of the existing situation in the Municipality. three consultative community meetings two at division and one at municipal levels were held between the Consultant, Kamuli Municipal officials and different stakeholders. There is stakeholder analysis which was done by the consultant together with the technical team of the municipality to ensure fair and equal representation of all stakeholders. The Stakeholders were given a chance to answer the guiding questions on identified key thematic areas, participate in making development proposals for their areas and to discuss the problems and future development potential of the Municipality. They also participated in the development of the PDP Vision for the Municipality.

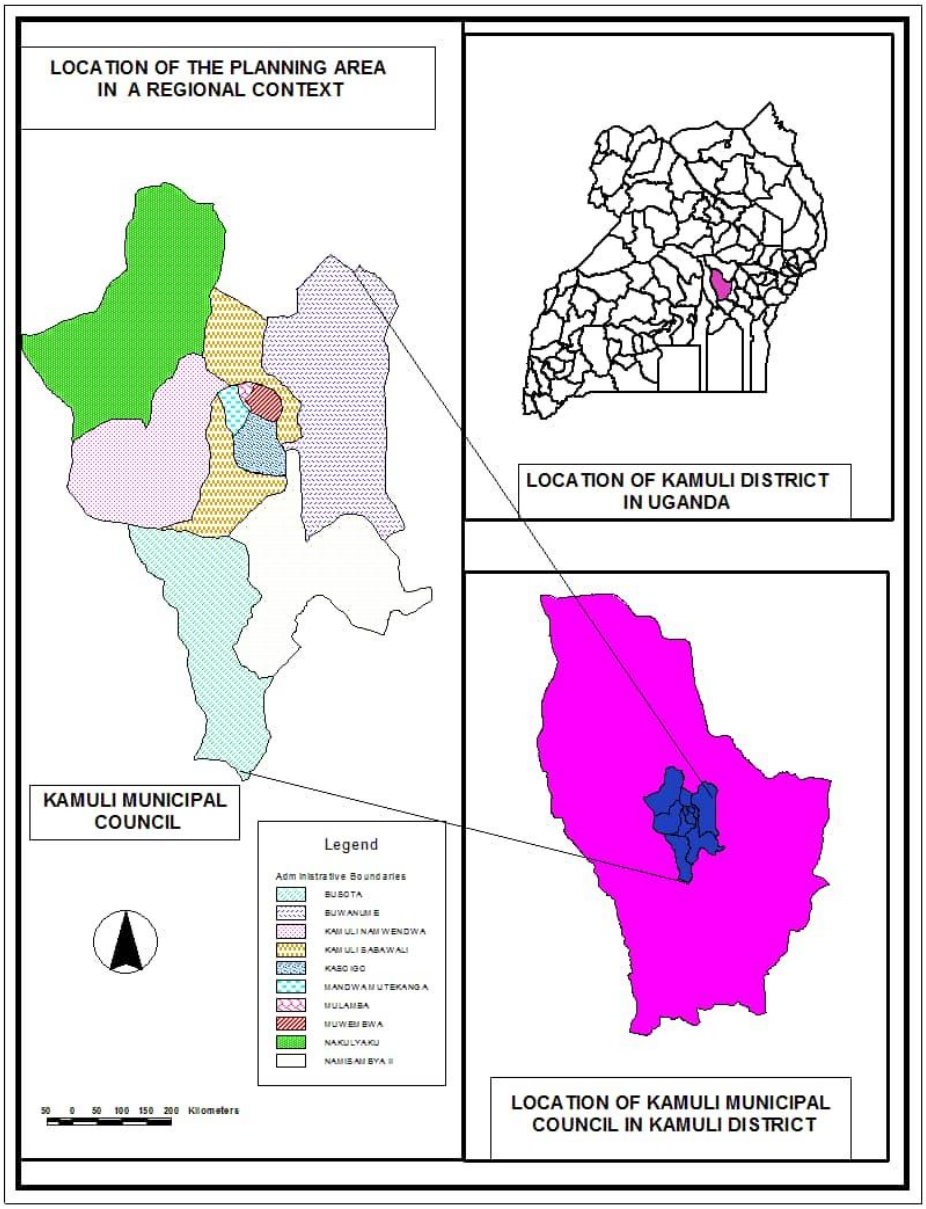
There was review of literature where documentation and secondary data materials from previous sources were examined to inform the planning process. The Kamuli Municipal Five-Year Development Plans (2015/16-2019/20), Kamuli Investment Profile and statistical abstracts were some of those reviewed. Previous reports on planning interventions like Kamuli Town Council

Structure Plan 2009-2019 were also reviewed. During fieldwork, photographs showing the existing situation were taken alongside observations during the transect walks by the Consultants to provide evidence and support the spatial analysis.

During data analysis SPSS (16.0) package was used to summarize socio-economic data, content analysis techniques were also used to analyse qualitative and narrative data. For spatial data, GIS was utilized to perform standard spatial analyses from which maps were derived to guide the plan preparation. The final outputs were presented through computer assisted cartographic outputs with the use of Arc Map 10.12 and Adobe Illustrator.

1.8. Location

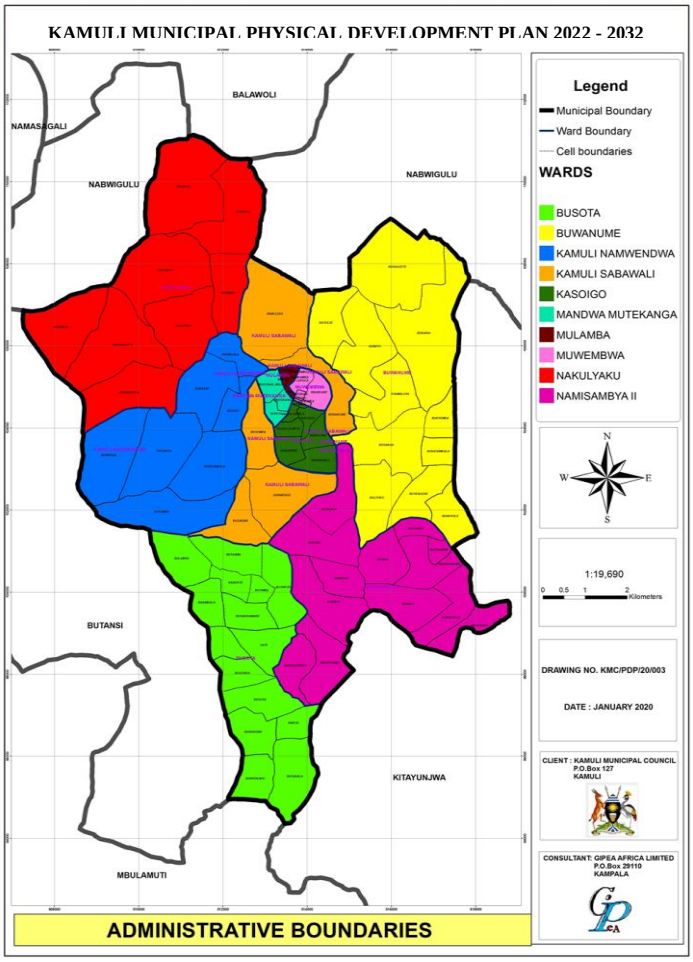
Kamuli Municipality is a local government in Kamuli District, Eastern Uganda (Busoga Kingdom) which serves as both the commercial and dormitory centre for people working in Kamuli and Buyende Districts. The Municipality is located along the major roads running from Jinja to Buyende in the North and Kaliro road in the East. It is approximately 65km by road from Jinja Town and 143 km East of Kampala the Capital City of Uganda (Map 1). It stands at 0.9448° N, 33.1267° E or latitude 0.97472 and longitude 0.9403 North of Equator. The total area coverage for Kamuli Municipal Council is 102.65km$^{2.}$ It has a population of 58,984 (National Population Census figures of 2014) and 68,563 people (as projected in the Kamuli projected 2020).



Map 1: Location of Kamuli Municipality in a Regional Context

1.9. Administrative Units

The Municipality is made up two divisions namely; Northern and Southern Divisions **(Map 2)**. However, the naming of the divisions has no relationship with the actual global positioning of the divisions on the earth surface. What is called Northern actually is in the West and what is called Southern is in the East. This may need to be corrected in future to avoid confusion. The Municipality also consists 10 Wards and 80 cells.



Map 2: Administrative set up of Kamuli Municipality 2022

1.10. Urbanization trends and the evolution of planning paradigms in Uganda

Urbanization in Uganda is relatively young compared to her East African counterparts such as Kenya and Tanzania. The roots of urbanization in Uganda can be traced back since the 1890s when the European footprint in the country started to be felt. With the building of the Kenya-Uganda railway, economic and administrative centres were established.

Persistent rural poverty that causes people to migrate to urban areas with the hope of improving their livelihood partly explains the urban population growth rate for some districts. For example, the decline in the urbanization rate of the Eastern region is partly due to out-migration from these towns to other towns in search for employment.

The remarkable economic growth and political stability over the last decade have led to the expansion of existing urban centers, in particular Kampala, and the growing of hundreds of small trading centers in the countryside, particularly along highways and major road junctions like in case of Kamuli town. Policies for the economic transformation of Uganda, which have been mainly pursued from and around the urban areas for example industrialization, are partly responsible for urban expansion. For instance, Tristar and Mukwano Group of Companies were put up in Kampala and not elsewhere yet they provide employment to many who may not necessarily have high levels of education and can be found in the rural communities.

Political/civil insecurity is another factor that has led to the increased urbanization rate in the Northern Region. Insecurity has displaced a number of people, resulting into a large influx of the population relocating to urban areas for protection. Population dynamics manifested in urban

population growth and internal migration (especially rural to urban), are by far the most significant causes of urban expansion (Dhihendra Kumar, World resource, Shauib Lwasa 2002).

This spatial pattern has continued to date. The urban centres created 'pressure zones' as occasioned by demographic shifts from rural areas to urban centres thus creating pressure on the existing facilities and infrastructure. It is therefore imperative to point out that the railway line accelerated urban growth, more so of the urban centres in the Eastern and Northern parts of the country such as Tororo, Soroti, and Lira. Later, the colonial government set up administrative centres in various parts of the country to stabilize most settlements, which laid foundation for the earlier growth of urban centres. In later years, urbanization in the country has been influenced by long distance truck drivers who often use them as stopovers during their journey to get the necessary provisions such as food and accommodation.

Uganda's rapid urbanization is happening in the face of widespread poverty, shrinking present economies and resources for local authorities. The level of urbanization in the year 2000 was rated at 14.2%, with an annual urban growth rate of 5.2 %; it was projected to reach 20.7% by the year 2015. In 1969, the city of Kampala had urbanisation rate of 100%, Jinja 25.6% and Kamuli 8.1% were above the national average of 6.6% while five towns had urbanization rate above the national average of 7.4% by the year 1980. In 1991 six towns had urbanization rate of 11.3% above the national average. In 2002 seven towns including Kampala, Mukono, Busia, Jinja, Kamuli, Kitgum, and Nebbi had rates of 12.2% which was above the national urbanization level. The proportion of urban dwellers had increased overtime from 6.6% in 1969 to 12.2% in 2002. The urban growth, registered growth rate of 8.2% between the years 1959 and 1969; 3.9% between the years 1969 and 1980; 6.3% between the years 1980 to 1991 and 3.7% between the years 1991 and 2000 (Table 1).

Between 1991 and 2002 Mukono showed the highest growth rate of 15.9%, while Soroti Municipality showed the lowest rate of 0.1%. The highest growth rates were registered in Kitgum 10.3%, Lira10.1%, Kamuli 9.3% and Kasese 9.0%. This is partly attributed to insecurity which was forcing the rural population to move to towns, which were considered then relatively more secure. The remarkable economic growth over the last decade as well as political stability have led to expansion of the urban centres and the sprouting up of hundreds of small trading centres in the countryside particularly along highways and major road junctions.

Kampala Capital City has remained the primate urban centre throughout the period 1991 - 2014. However, the proportion of Kampala city to the total urban population has declined steadily from 41 percent in 1991 to 25 percent in 2014, showing that the smaller urban areas are growing faster. Between 2002 and 2014 Wakiso Town Council showed the highest growth rate (11.9 percent), followed by Hoima Municipality (10.7), Mukono Municipality (10.4) Masindi Municipality (8.9 percent), Mbarara Municipality (8.6 percent) and Kasese Municipality (5.3 percent). All these except Wakiso Town Council had boundary changes between 2002 and 2014. The other urban centres had growth rates lower than 5 percent per annum, which is deemed normal for an urban centre. For Kamuli since it was newly created, the growth rate could not be projected.

Table 1: Urbanization in Uganda 1969 to 2014

Index	1969	1980	1991	2002	2014
Number of towns	N/A	41	67	75	259
Urban population	634,952	938,287	1,889,287	2,921,981	7,425,864
Proportion urban (percentage)	6.6	7.4	11.3	12.2	20.7%,
Urban growth rate (percentage)	8.17	3.93	6.35	3.73	5.2%.

Source: UBOS, 2014

Even with the growth of smaller urban centres in the country, the major issue that is easily discernible is urban primacy (Table 1). Uganda has one capital city which is Kampala and nine regional cities (Arua, Gulu, Lira, Soroti, Mbale, Jinja, Mbarara, Fort portal and Masaka). What is clear is that the major urban areas in the country fall within what could be described as the "urban corridor," a result of the then established colonial infrastructure development especially the construction of the Kenya-Uganda Railway.

From 1950s up to early 1980s, the focus on development in Uganda was based on rural areas due to the presumption among the social policy architects, urban managers and researchers those urban areas were better off in terms of social and economic infrastructure than rural areas. The ideology was to promote balanced growth. The British colonial government regulated the planning and administration of almost all of the urban areas in Uganda under the Urban Authorities Act 1958, which was later amended to Urban Authorities Act, 1964. During this era, the British virtually ignored the pre-existence of well-established and sophisticated human settlements and local governance or urban administrative systems, which had in many cases been in existence long before their arrival (MLWE, 2002).

Most of the planning policies and outline schemes created segregation in income levels and racial groups, with much focus on the upper- and middle-income groups as opposed to the low-income groups. The implication of this colonial and post-colonial framework was that the emerging urban authorities were empowered to initiate urban plans, coordinate and facilitate construction of public utility services as well as conserve and develop the resources in the areas of their jurisdiction. This left them with full responsibility of urban development control and service delivery alongside population increase and facilitating investment in the infrastructure development. However, urban authorities have not been able to respond to the above challenges of urbanization, consequently leading to unprecedented pressure on infrastructure like water supply, residential facilities and sanitation services.

It is because of this that most urban centres in Uganda have developed without proper urban planning and development control mechanisms. Consequently, the informal settlements which have emerged are not recognized by urban authorities due to their non-conformity with development regulations. Because they are incapacitated, urban authorities have also tended to ignore these settlements when it comes to the provision of the necessary social and physical infrastructure services such as water refuse collection, electricity and sewage disposal.

Between the 1970s and the 1980s, the political turmoil led to the total collapse of the whole of Uganda's economy. Subsequently the industrial sector collapsed, major property owners in the country were expelled which led to the decline in institutional capacity of the urban authorities. By the year 1979 the economy was in total doldrums with income per capita of 120 US$ as compared

to the income per capita of over 450US$ in the 1970 (MFED, 1987). However, the population growth in the urban centre's remained on course and the single most important characteristic that can describe this period in Uganda's urban history is the urbanization of poverty.

1.11. Social Demographic characteristics of urban population

Age character in urban population is higher than that of the rural population implying that urban population is older than the rural population with 18.3 years and 14.2 years respectively. This is due to migration of relatively older rural population to urban centers in search of employment leaving behind the very young and the old. Since the urban population has increased, the number of households and average household size in the urban areas has also increased over the last three surveys of the UNHS (1999/00, 2002/03, and 2005/06).

This implies that although some of the people who move to the urban areas make their own households, some live with others, hence the increase in household size. On the contrary, housing indicators in Uganda are generally better for the urban areas compared to the rural. For instance, the percentage of overcrowded dwellings (i.e., with more than 2 persons per room) is lower in the urban (49%) compared to the rural (56%) (UBOS 2006). About one in three urban households is headed by a female. The proportion of female-headed households was higher in urban areas (28 percent) than in rural areas (22 percent) as of the 2002 census. The UNHS 2005/6 revealed that female-headed households at national level have reduced from 36 percent to 29 percent since 2002.

It is believed that urbanization has a bearing on the level of educational attainment. The UNHS 2005/06 shows that the proportion of people without any formal education was higher in the rural areas (23%) compared to the urban areas (9%). Similarly, a higher proportion of urban residents (10%) are more likely to complete post-secondary education than their rural counterparts. Generally, literacy rates are higher in the urban areas compared to rural areas. The proportion of the urban population who report illness increased from 28% to 33% (2002 to 2006). However, the rate was lower for the rural population. More urban dwellers use clinics and hospitals than health centers probably because these facilities are more available in the urban areas than in the rural areas. This gives an indication of the health status and health seeking behavior of the urban population. This explains why urban centers are associated with high expenditures than in the rural areas.

1.12. Historical developments and urbanization of Kamuli Municipality

1.12.1. History of Development

Oral accounts reveal that Kamuli Town started as a trading Centre in the 1930s and as a Town Council in the 1970s. The original small trading Centre was located at Budhumbula (old Kamuli) at the then Sabawaali parish building in Buyomba village a few meters after the current hydro- electric power substation. In 1937, the town was shifted from Buyomba to its current location because it was not in order for the town to be near the Embuga (home of the Saza chief).

Another version of oral accounts further reveal that Kamuli started as a trading Centre between 1930s and 1945 at Buyomba around the present Kamuli-Jinja highway. According to the elderly people, Buyomba was a village which housed the then Kamuli Sabawaali parish headquarters. Town council status was acquired in 1974. After construction of the Namasagali-Jinja railway, some Indians believed to have found their way to Kamuli by train settled & started the first housing

developments. The town has some typical Indian type of buildings some of which were built in 1928. This suggests that the town could have started as far back as 1928.

Major urban growth took place in 1937 especially during William Wilberforce Nadiope's reign as Saza Chief. In the same year, the Saza headquarters (Bugabula) & many town buildings were constructed including the Kamuli prisons. Between 1955 and 1958, the town was tremendously built & drinking places started to emerge. The structure housing Stanbic bank on Gabula road and former night club & cinema hall along Kitimbo road were among the first developments in the town during this period.

In 1939, Kamuli town was under the administration of the whites. It was in the same year that the whites captured Sir Wilberforce Nadiope Kadhumbula to explain the rampant killings of the time before he was deported to Hoima. Mr. Minus took over power from Nadiope after an un sustained resistance from the Basoga. He ruled shortly and was replaced by the late Yokosani-Lubogo as the Saza chief.

1.13. Urbanization of Kamuli Municipality

The whites appointed a planning authority to undertake planning of the town. The panning authority failed in its duties because it had no full authority since Uganda was still a British protectorate. The town was at Town council's status from 1974 up to 2015 when it was declared a Municipality. Over the years, the town has experienced a growing trend of physical infrastructure development & has extracted a cross section of settlers & businessmen, and is slowly becoming a metropolitan area. In 1974 the town covered 3.2sqkm with 4 wards namely Kasoigo, Mandwa, Muwebwa and Mulamba. In 2015 it was extended to 102.65km with 10 wards to form the municipality.

1.14. Challenges of urbanization

The increased rate of urbanization without proper planning has made it difficult and posed a challenge for government to ensure provision of adequate infrastructure and social amenities especially for many low-income urban dwellers. The level and quality of services does not proportionately match the demand in many urban areas in the country (Shaiub Lwasa, MWLE 2002).

One of the most important challenges for urban development in developing countries such as Uganda is transportation planning. The challenge is how to plan for the increasing importation of second-hand vehicles in the country, which in essence has created high levels of traffic congestion like in the case of Kamuli, parking difficulties, difficulties for pedestrians and massive air pollution (Shaiub Lwasa, MWLE 2002). The immediate and obvious effect to the economy is the loss of labour hours as most people report to work late.

Urbanization breeds a number of complex social problems that arise from a shortage of living space and a high cost of living leading to the breakup of the joint family system. Thus, destroying the values, culture and principles of a society but also leads to crimes, violence and prostitution. This consequently increases pressure on the security of the area.

The incomplete separation of powers at all levels of government creates bureaucratic delays in the approval, implementation and re-development of projects in urban areas. A large part of the urban

socio-economic life takes place within disaggregated constituent elements namely, civil society organizations, non-governmental organizations, community-based organizations, tribal groups, private sector, civil society and informal sector. Conflicts of interest between politicians and bureaucrats in urban authorities also make the efficient running of urban affairs difficult.

Land ownership in the urban areas is a viable lucrative business with unrestricted sale opportunities. Land has been turned into a commodity, leading to the conversion of environmentally sensitive land to development projects with serious social and health consequences (Shaiub Lwasa, MWLE 2002). This has made environmental conditions very appalling. Accessibility to environmental services now ranges from total inadequacy to non-existence in most urban areas including Kamuli. Inadequate planning or lack of it in some urban areas and the resultant development in inappropriate areas such as open spaces, swamps, and steep slopes is causing serious health problems, such as water pollution and disease out breaks.

1.15. Development and growth trends of Kamuli Municipal Council

1.15.1. Planning of the Municipal Council

The physical expansion of the Town since 1974 has been "guided" by different physical planning schemes. The first one was produced in 1970s and another one in 2009. The 1970s Outline Planning Scheme covering an area of 3.2 Square Kilometres comprising Muwebwa, Mulamba, Kasoigo and Mandwa Ward, zoned out the major land uses including residential, recreational, industrial, commercial, institutional and civic among others. Out of this planning scheme, a detailed layout scheme for the Central Area was prepared and has since guided the growth and development of the Main Commercial Centre, including the construction of major urban roads radiating from the Commercial Centre to a radius of 700 meters. The 1970s Outline Scheme, remained in force until it was revoked in 2009, after which the "2009 Structure Plan" came into force.

The 2009 Structure Plan covered 18 Square Kilometers with additional areas of the District's Sub-counties. The authors indicated that the jurisdiction of the then Kamuli Town Council would be unlikely to accommodate the growing population. The Structure Plan, spanning over a period of ten (10) the years, expired in December 2019, four years after the Town Council attaining a Municipal Status in 2015. However, the preparation process of a new Physical Development Plan is currently on-going.

Despite the existence of planning schemes, Kamuli Municipal Council continued to experience unplanned developments where some activities such as residential housing, commercial and industrial use were located outside the planned Central Area. The Municipal Council failed to fully enforce the Structure Plan and the failure was due to lack of a clear Municipal Strategy or Mechanism to effectively enforce the implementation of the physical plans. Other persistent challenges faced by the Municipal Council included; inadequate budgetary support, weak institutional capacity in terms of enforcement, inadequate Central Government's support in plan implementation, land tenure complexities where about 50% of land in the Commercial Centre belongs to the Catholic Church, resistance from communities for fear of land grabbing and eviction, large expanse of undeveloped land for absentee landlords, changing land use demands due to unforeseen circumstances, and conflicting land use policies among others.

1.15.2. Growth Trends of the Municipal Council

Over the past few decades, the Municipal Council has been experiencing urbanization with the Municipal's level of urbanization increasing from 1.6% in 2002 to 12.3% in 2014 reflecting more than a seven-fold increase over a period of 12 years, (UBOS 2018). The Municipal's population increased from 11,350 in 2002 to 58,984 in 2014 reflecting an increase of five-fold over a period of 12 years and is currently estimated at 68,563 in 2022. Between 2002 and 2014 the population increased by 47,634 reaching a population of 58,984 people in 2014 thus reflecting a 519% increase. This huge increase is mainly to the geographical expansion when the area attained a Municipal Status in 2015.

The population is currently estimated at 68,563 people at a growth rate of 2.54% of the inter-censual period of between 2002 and 2014 and is expected to reach about 113,229 people by around 2032. Despite the fact that the current population growth rate of Kamuli Municipal Council of 2.54% is lower than the national growth rate of 3.2%, the urbanization level has increased to 12.3% from 1.6% meaning that the urbanization growth rate is steadily increasing as well as urban expansion. However, the increase in population growth rate of Kamuli Municipal Council is due to its close proximity to Kampala City through Mbulamuti across River Nile to Kayunga. The current ferry at Kayunga and the construction of the bridge across the nile at Mbulamuti will further exacerbate the situation. Not only has the population shifted to Kamuli Municipal, the urban population itself has also become more concentrated in Muwebwa, Mulamba, Mandwa and Kasoigo Wards and in the upcoming urban centres within the Municipal Council. These urban centres account for almost 27% of the council's population and the figure is likely to increase to over 80% by the year 2032 due to envisaged future urban densification.

Due to the political instability during the Amin and Obote II regimes, significant urban growth was not achieved until in the latter half of 1990 and early 2000, when the Municipal Council regained its control over its urban development due to re-establishment political stability. There was neglect of infrastructure during the past regimes which necessitated the establishment of the road network. Okurut, Kyabazinga and Wynand Roads were established in 1999 and later more roads including Muwanga, Badaaza, Ben Lubaale, Trist, Abdullah Bagoth, Kadaga, and Temple Roads were also constructed in 2002, which enhanced the urban form and structure of the Municipal Council.

Already, the settlement structure had been shaped and influenced by the missionaries in the 1930s; the White Mission Fathers settled at Lubaga and established a Catholic Church, a hospital and a number of educational institutions within the Municipal Council. On the other hand, the Anglican Church also at Bukwenge, established there a Church and a number of education institutions. The implementation of the Kamuli Central Area Detailed Layout in the 1970's started with construction of the major roads of the main centre radiating to about 700 meters in radius and such roads such as Saza, Jinja, Katalo, Gabula and Mutekanga were established. These were later followed by Lubaga and Brewer Roads and all these influenced the physical development and expansion of the main centre into a commercial hub of the town.

From 2002 and on, the Town Council began to benefit from positive economic development and growth in the Municipal especially housing continued both in the planned and outside the planned Central Area. The Town Council established a Senior Quarter Residential Area to offer housing to the senior civil officers and middle-class people. There was proliferation of more residential

settlements especially between 2007 and 2012 as more roads were opened and established especially in Kasoigo and Mandwa Wards. Due to a more conducive investment environment, lots of investments especially in the private sector were attracted in the area in various sectors including education, recreational & hospitality and business among others.

Commercial multi-storied buildings started to emerge especially on Dhizaala Road especially after the completion of the Kamuli Central Market refurbishment in 2012. Moreover, the Industrial Area which initially comprised only old industrial establishments also began to attract more local investors in the manufacturing industry giving rise to increased employment levels and locally raised revenue. Similarly, more investments both public and private were further established in various areas of the Municipal. Notable among the investments, is the Kamuli Sugar factory located slightly outside the boundary, which has influenced the growth of the Municipal Town in terms of employment and market support mechanisms. The Urban Renewal programme that was implemented around 2016 to 2017, in line with the detailed scheme, saw the construction and upgrading of about 15.73 Kilometres of roads in the main centre to Bitumen Standard, further enhanced and promoted the vitality of the main commercial centre. Hence the centre has become major commercial hub adequately conducive for major and large investments.

The Municipal's urbanization process seriously started in the early 1990s with a built-up area of 254.7 Ha in 1995, (**Table 2**). The built-up area mainly was in small concentration areas of Mulamba, Mandwa and Muwebwa which formed the main centre of the town due to its close proximity to the County Offices at Saza as the inner ward areas remained rural with undeveloped roads. As the built-up area continued to increase and around the main centre to around 357.8 Ha, some areas such as Budhumbula, Bukwenge, Bukabaale, Buwudha, Kananage, Kabukye and Busota among others also developed into small concentration settlements until more areas such as Busanga, Bulwamaza, Buguleete and Kulingo among others became greatly built-up in around 2005 as the area of built-up settlements reached 452.8 Ha reflecting a huge percentage change of around 50% since 1995. This huge outward expansion was mainly due to re-establishment of political stability and recovery of positive economic development in Uganda as a whole and Kamuli in particular.

As the urban transition continued, there was densification and expansion of the Municipal Centre (main commercial area) in Muwebwa, Mulamba, Mandwa and Kasoigo as well as expansion of the aforesaid growth centres in 2010 with a built-up area of 555.4 Ha, (**Table 2**). Currently, more settlements have also significantly emerged in Kamuli- Ssabawali, Kamuli-Namwendwa and Busota as well as conversion of some agricultural areas into urban use especially for residential and housing investments in 2015 increasing the built-up area to 638.2 Ha.

At the same time, linear settlements along traffic corridors mainly on Kamuli-Jinja Road is quite significantly taking place while making growth centres such as Budhumbula, Kabukye, Busota and Butabaala among others becoming very outstanding. New residential areas are also currently emerging in areas such as Buwanume, Namisambya II and Nakulyaku among others, specifically, in Kitayunjwa, Bukatambula, Bubiito, Butabaala, Kananage, and Buteeze among others. Therefore, due to more urban expansion and densification, the built-up area is currently at 3,110 Ha accounting for 25% change since 2015, (**Table 2**). Nonetheless, largely vacant areas some currently under

farming remain undeveloped and the degree increases as you move towards the periphery from the Municipal centre, (**Map 3)** for spatial illustration.

Table 2: Development Trends between 1995 - 2020

Year	Coverage (Ha)	Change	Percentage Change (%)
1995	254.7	-	
2000	357.8	103.1	29
2005	452.8	95	21
2010	555.4	102.6	16
2015	638.2	82.8	13
2020	851.1	212.9	25

Source: Field Survey

Uganda's urban population is projected to increase to 21.9 million people in 2037 from 4,757,907 million people in 2014, (UBOS, 2014). As such, the urbanization level in Municipal has increased the built-up area to 42% and is expected to rapidly increase by 2032. During the plan period, the intensification of urbanization will become a dominant feature of Municipal's spatial urban geography and economies. Urbanization was also marked by the increasing primacy of main commercial centre in Muwebwa, Mulamba, Mandwa and Kasoigo among others. The fastest growing areas have been those within and around the Municipal Centre, and those abutting Kamuli-Jinja Road, (**Map 3**). Kamuli Municipal Council will continue to grow faster and attract in-migration as more densification is expected to take place in upcoming urban centres. It is projected that by the year 2040, Kamuli Municipal's population will have grown to 113,229 of which more than 80% will be in urban concentrated centres of the Municipal.

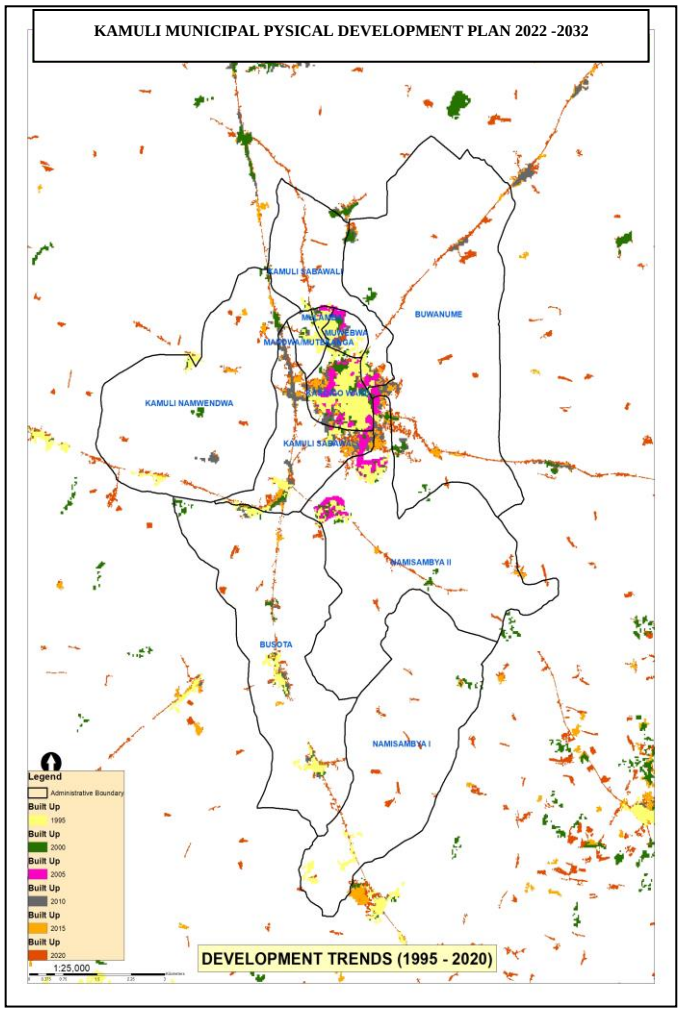
At the urbanization level of 12.3%, although urbanization seems to be proceeding slowly, real urbanization is yet to come, which will completely change the patterns of rural areas and therefore will completely disappear. On the other hand, major settlements located within the expansion sphere from the Municipal Centre such as Kamuli-Ssabawali, Kamuli-Namwendwa, Busota among others are likely to become absorbed and become suburbs of the Municipal Centre. As such, they are likely to experience very rapid population growth and dramatic changes in their employment base. And, if the proposed road improvements of major secondary roads extending further out into the periphery, more major and minor settlements will benefit from development expansion due to more accessibility. Hence, these road improvements are likely to rapidly stimulate developments and thus influence the growth pattern due to improved connectivity.

In addition, the improvements on Kamuli Bukungu Road and construction of a bridge at Mbulamuti, though not within the municipal boundary, will facilitate connections across River Nile linking Busoga as a whole, and Kamuli Municipal Council to Kampala through Kayunga and Mukono. This will eventually and inevitably spur more economic growth in the Municipal Council and foster rapid development. Moreover, the Municipal is the main center and market for fish from Lake Kyoga. The Central Government under the NDP III (2020-2025) has proposed establishment of modern fish processing factories in Kamuli District among other areas in a bid to promote agro-industrialization. Besides, Kamuli Sugar Factory at Kiroba located at the immediate boundary will provide market for the sugarcanes grown within the Municipal Council as well as providing employment. As such, the rural areas are anticipated to become urbanized in the near future given the number of trading centres being sustained even if these areas are currently un-serviced and need to be supported in terms of urban infrastructure provision and employment centres. There is need,

therefore, for education and training programmes to help prepare the unemployed youth in these rural suburbs and have them integrated into the urban economy to reduce on the levels of urban poverty.

In summary, sustainable urban communities in Kamuli Municipal Council can be achieved by shifting from the haphazard urban sprawl to a compact Municipal form and building design. In order to create livable areas, resources must be given priority in rejuvenating the vitality of the communities in the existing settlements especially in the concentrated areas in Municipal Centre. This will also place emphasis on promoting compatible mixed-uses of high densities, public transport and pedestrian accessibility, optimum use of existing infrastructure, environmental improvement and provision of open spaces.

It's cheaper to provide and maintain utility services such as water, sewer, electricity etc in compact neighbourhood than in dispersed urban communities. On the other hand, the formulation of this Physical Development Plan will incorporate the future Government projects and the Municipal Council will also be required to augment its institutional capacity in terms of human and financial resource in order to deal with the enormous development needs through a coordinated implementation process of the Physical Development Plan.



Map 3: Development Growth Trends of Kamuli Municipal Council.

Source: Field Survey

Part II

2.0. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

2.1. Policy Framework

The policy framework that guides physical planning in Uganda is embedded in a number of various legislation and policies. National, Municipality, Urban and Local Physical Development plans (PDPs) are prepared within a solid umbrella policy context including the Vision 2040, the Second National Development Plan 2015/16 – 2019/20 and Key Government Policies. Direction provided by all of these policies guides the preparation of PDPs as the first supporting physical planning framework within an area of jurisdiction. Preparation of PDPs is also done with the knowledge that it must integrate into the broader National and Regional Physical and Economic Development Plans.

a) The Uganda's Vision 2040

The Vision 2040 is Uganda's key development framework. The preparation of National, Municipality, Urban and Local PDPs is guided by the objective of the Vision 2040 that aims to ensure "*A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years" The* physical planning process for the transformation of Kamuli Municipality is being carried out through a thorough analysis of the local, regional and national situation to guarantee careful planning and commitment of the Municipality's resources.

b) The Second National Development Plan (NDP III)– 2020/21-2024/25

The NDP III provides the Governments' strategy to pursue urbanisation as a broad strategy to guarantee transformation of the economy "*from a peasant to a modern and prosperous country."* This is in recognition, that the sector will also promote optimal and organized land use for urban development; improve urban infrastructure services and utilities; create an inclusive policy and regulatory framework for urban development; develop environmentally resilient urban entities; and increase availability of and access to land for urban expansion and investment.

The above provisions are in recognition of the important role those urban areas play in national development as engines of economic growth and centres of investment, employment, education, knowledge and technology transfer and ready markets for industrial and agricultural products among others.

2.2. Physical/ Urban Planning Policy

There are basically about seven policies that directly relates to physical planning activities in Uganda which are operational. They include; the National Housing Policy and the National Urban Policy, the National Population Policy, the National Land Policy, the National Land Use Policy, the National Environment Management Policy, the National Policy for the Conservation and Management of Wetland Resources.

a) The National Housing Policy, 2016

This recently passed National Housing Policy replaces the National Shelter Strategy (NSS) which was adopted in 1992 as a policy framework to guide housing development in the country. On May, 4th, 2016 Cabinet approved the Uganda National Housing Policy that seeks to promote the progressive realization of adequate housing for all citizens of Uganda. The National Housing policy

adopts a vision of "Adequate housing for all" while as the policy goal is "to provide a framework that promotes adequate housing for all". Among other stipulated aims of the policy, it seeks to "increase access to adequate and affordable housing for all income groups" The process of developing the Kamuli Municipality PDP will deliberately provide a spatial framework that will enable the provision and access to decent and affordable housing to the urban dwellers within Kamuli Municipality. The policy advocates for regular property inspections by competent authorities from both the urban and local governments including Kamuli Municipal Council for compliance with the existing building standards and regulations which is an element of development control based on the PDPs of a given local governments.

b) The National Urban Policy, 2017

This is a comprehensive National Urban Policy that was formulated as a national framework to guide urban development and the urbanization process in Uganda. The National Urban Policy is intended to promote a sustainable, spatially integrated and orderly development of urban areas such as Kamuli Municipality where such urban areas are well planned and with adequate services and infrastructure. This policy seeks to guide as well as to effectively manage the prevalent effects associated with unplanned urbanization as well as enhancing the role of the urban sector in economic development and socio- economic transformation of the urban areas in particular and the country at large.

The Urban Policy further deals with issues associated to urban governance, environmental quality of urban life, effective urban planning and management to curtail excessive urban sprawl, accessibility to adequate and affordable urban housing, efficient urban infrastructure and service delivery and promotion of urban economic development among others which calls for deliberate integration in the Kamuli Physical planning processes.

Policy Objective number one (1) of the Urban Policy is oriented towards the attainment of "organized *urban development in the country"* mainly through ensuring of planned, balanced and sustainable urban areas as well as to improve urban planning systems. These key objectives of the National Urban Policy are enabled through the physical planning processes of both the urban and rural areas.

c) The National Population Policy, 1995

The National Population Policy (NPP) is well aligned and in harmony with the NDP II and Vision 2040. The policy does define critical issues that must be tackled to ensure a population that enhances the country's development goals and objectives in the entire country in both urban and rural areas including Kamuli Municipality. The National Population Policy observes that urbanization influences the development process of the affected urban areas and the country at large. The currently experienced urban population growth rate in Kamuli Municipal Council in particular beside the country at large does over- stretch the existing infrastructure, services and other amenities thus affecting the general welfare and standards of living of the urban population for health, education, social welfare, and employment among others and Kamuli Municipality has not been exceptional to the urban population increase/ urbanization associated effects. The increasing population in most of the urban areas in particular Kamuli Municipality calls for proper physical planning processes that can effectively curtail as well as address the implications that would emerge from population booming and increase on the urban sector.

d) The Uganda National Land Policy

The policy focus is on the key factor of development, land, which continues to be a critical factor as it is the most essential pillar of human existence and national development. Land use planning and regulation is one of the tools identified in the policy as a key to the management of land under any tenure to enable the local governments, communities and individuals determine, advance, the direction and rate of progression of land sector activities of the area.

The Policy under strategy 30 advocates for Governments appropriate holding and management of natural resources. The policy calls for an open policy on information to the public and seek consent of communities and local governments concerning prospecting and mining of these resources. The Kamuli Municipality physical planning process takes into account for all the above requirements.

e) The National Environment Management Policy, 1994

The National Environment Management Policy 1994's overall policy goal is sustainable social and economic development which maintains or enhances environmental quality and resource productivity on a long-term basis to meet the needs of the present without compromising the ability of the future generations to meet their own needs. It also advocates for integration of environmental concerns in all development-oriented policies, planning and activities at national, Municipality and local levels, with participation of the people.

f) The National Land Use Policy, 2006

A Land Policy is a systematic framework for addressing the role of land in national development, land ownership, distribution, utilization, alienability, management and control. A National Land Use Policy, on the other hand, is an integral element of the National Land Policy. The aim of a National Land Use Policy is to provide general guidance on optimal and sustainable utilization of land, and is based on the analysis of soil types, topographic features, and agro-ecological considerations, as well as social and demographic factors. Importantly, the Land Use Policy must address the various use categories and the conflicts that arise from competing demands for which the Kamuli PDP intends to address.

g) The National Policy for the Conservation and Management of Wetland Resources, 1995

The policy aims at curtailing the rampant loss of wetland resources and ensuring that benefits from wetlands are sustainable and equitably distributed to all people of Uganda. It calls for sustainable use of wetlands. The Kamuli Municipality PDP process identifies and puts into perspective the key policy goals and objectives to provide a framework for implementing the policy at the urban level and ensure that wetland related issues are adequately incorporated into the Municipal PDP.

h) Tourism Policy Framework

In executing its mandate, the ministry is guided and regulated by a number of policies, laws, regulations and guidelines. Notable of these are; Constitution of the Republic of Uganda (1995), Tourism policy (2014), Tourism Act (2008), Uganda Wildlife Act (2000), Historical Monuments Act (1967) as well as the Universities and other Tertiary Institutions Act (2001). All these policies and Acts mandate the Ministry of Tourism, Wildlife and Antiquities (MTWA) in conjunction with the sector Agencies to set policy, oversee, monitor and coordinate the tourism sector development.

2.3. Physical/ Urban Planning Legal and Institutional Framework

In Uganda, the legal and institutional framework for physical planning is enshrined in a number of laws and regulations. The Ugandan institutional framework is the totality of public and quasi-public agencies involved in comprehending, formulating and implementing physical development plans. Physical planning is a legal activity in Uganda, whether planning is at the lowest level or the highest level of government; there is no planning activity that is carried outside this legal and institutional framework. As such, there are several policy and legal instruments, which guided the preparation of the Kamuli Municipality Physical Development Plan and form a basis for its implementation and development.

These policy and legal instruments are reviewed, for purposes of formulating a basis for policy recommendations of the study and the plan and includes the following: - The Constitution of the Republic of Uganda, The Local Government Act, The Physical Planning Act, The Land Act, The Public Health Act, The National Environment Act, The Wildlife Act, The Forest Act and The Petroleum Supply Act, 2003 and the Petroleum Exploration and Production Act among others.

a) The Constitution of the Republic of Uganda

The Constitution of Uganda, which was promulgated in 1995 is the supreme law of Uganda and forms the apex of the legal framework. Article 190 provides for the Municipality councils to prepare comprehensive and integrated plans. The Government as determined by Parliament by law, holds in trust for the people and protects, natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and tourist purposes for the common good of all citizens, which can best be done by producing PDPs. This legal framework is useful for further highlighting the roles of the Local Governments at all levels in land management and conservation of environmentally sensitive areas.

The National Constitution also underscores the importance of physical planning as a way of harmonizing the diverse needs for human settlement, production and conservation, by adopting best practice in land utilization for purposes of growth in the agricultural, industrial, and technological sectors, taking into account population trends, without losing control over the structuring of land tenure systems. The most fundamental article empowering physical planning in the 1995 Constitution of Uganda is Article 237 (7) whereby Parliament is mandated to make laws that enable urban authorities to enforce and implement planning; and Article 242, Local Governments are empowered to plan and regulate the use of land under the decentralized system of governance.

In line with the provisions of the Constitution, parliament has put in place the necessary legal framework to provide guidance for carrying out planning and ensuring compliance and regulation of land use in Uganda.

b) The Local Government Act (CAP 243)

This Act provides for the system of local governments based on the Municipality. Under the Municipalities there are lower local governments and administrative units. The Act provides different functions at the different levels of Local Governments. The Act gives Municipalities' autonomy but not independency to prepare their own Physical Development Plans within the National Planning Framework. Section 36 part (3) and part (2) in the second schedule No.5 (vi and

xi), gives functions and services for which Municipality councils are responsible for such as Municipality project identification, Municipality development planning and physical planning.
Part IV of the local Government Act sections 30 (2), 31 - 36 (2) also provides the functions and services that the Municipality is mandated to perform as specified under Part 2 of the Second Schedule. The Act defines the planning authority in the Municipality as the Municipality Council and how it shall carry out planning in relation to guidelines of the National Planning Authority.

c) The Physical Planning (Amendment 2020)

The Physical Planning Act (amendment 2020) on the other hand is one of the many laws that have emphasized the Legality of Physical Planning in Uganda. It's a principle statutory instrument governing physical planning in Uganda. The planning process followed to prepare PDPs is greatly provided for under this Act.

Under Part I Section 3 of the Act, declares the entire country a planning area. This means that, by the provisions of this Act, Kamuli Municipality is a planning area. For any declared planning area, an outline scheme and/or a Physical Development Plan are by this law required to be formulated. However, this system looked at the local governments in this case Kamuli Municipal Council as agents of the Central Government which is mandated to prepare the plan and submit it to the National Physical Planning Board for approval. The Physical Planning Act 2010, 6 (1) (i), Section 25 – 29 stipulates the content, preparation and approval process of the Municipality PDPs. The consultation processes during the situation analysis process have been aligned to the legal requirements as stipulated in the Act.

d) The Land Act (CAP 227)

The Land Act was enacted in order to implement the constitutional provisions on land ownership and management. Articles 237 (8) and (9) guarantee security of occupancy of lawful and bona fide occupants of 'Mailo' land and other registered land and oblige parliament to enact a law regulating the relationship between them and registered owners of the land they occupy. The implication of this Act in relation to the physical plan is such that once the zoning is done and the plan becomes law, the owners have to conform to the approved plans no matter their land rights held. It is thus the responsibility of the Municipality Land Board to enforce this.

Part III Section 46 of the same Act, emphasizes that use of land must comply with the Physical Planning Act and any other relevant laws concerning planned land use. The Act also provides for the protection of fragile ecosystems such as natural lakes, rivers, ground water, natural ponds, natural springs, wetlands and other land reserved for ecological and touristic purposes for the common good of the citizens of Uganda.

e) The Public Health Act (CAP 296)

The Public Health Act CAP 296 specifies the rules and regulations regarding public health issues. These public health issues are in respect to infectious diseases, vector control, buildings of various types and uses as well as drainage and sanitation. The Act specifies details of the building standards under Section 269-13 which apply in Municipalities broadly and Municipality in particular and planning areas generally. All developers are, by this law, required to erect buildings in accordance to the requirements of the building rules.

It is important to note that the building rules and standards under Section 269-13 were repealed by Section 55 (1) and (2) of Building Control Act, 2013 which in effect takes precedence over any other Act or instrument in existence relating to building operations, before coming into force of this Act. The Act therefore takes precedent over the building's rules in the Public Health Act Cap 296 as far as rules regulating building construction and power to require removal or alteration of work not conforming to the rules.

f) The National Environment Act (CAP 153)

According to this Act, Part VII Sections 34 to 55 outlines all the relevant environmental management mandates of NEMA in collaboration with the Government and Local Governments. The Act stipulates the mandate of the National Environment Management Authority (NEMA) as "the principal Agency in Uganda responsible for the management of the environment by coordinating, monitoring, regulating, and supervising all activities in the field of environment". More specifically sections 49 and 46 concern land use planning and forest resource management, in particular section 7 (b) under Part III specifies that NEMA;

Therefore, the physical plan of Kamuli Municipality Local Government/Council must relate to this Act by incorporating environmental concerns in the planning area. Kamuli Municipal Council PDP is therefore prepared with environmental concerns taken into account as specified by the Act.

g) The Forest Act, 1999

This Act provides for the protection, management and proper utilization of forest resources. Section 3 of the Act empowers the minister by statutory order to declare any area to be a central forest reserve or a local forest reserve or to have an adequate forest estate after instituting such inquiries, as he or she may deem fit. Section 9(2) empowers the local authority with the approval of the minister to make rules for protection, management and utilization of any forest reserve within its area of jurisdiction. The act is critical to the Municipality PDP process given that such fragile environments are under extreme pressure in Kamuli Municipality due to the population explosion and the fragile land tenure system in the country that puts pressure on such lands.

2.4. Regulations

i. The Physical Planning Regulations

The Physical Planning Regulations give full effect to the Physical Planning Act 2010. Without them, the Act would not be fully implementable.

ii. The National Physical Planning Standards and Guidelines 2011

The National Standards and Guidelines which are due for review are intended to guide both the formulation of PDPs and their implementation, with the basic aim of ensuring that spatial developments take place in an orderly, coordinated and efficient manner. They provide clear verifiable minimum standards for development activities. They also provide guidelines on zoning, sub-division, housing design and standards. The situation analysis of the trends and challenges of physical development in Kamuli Municipality has been carried out with guidance and reference to the National Physical Planning Standards and Guidelines.

iii. The National Environment (Audit) Regulations 2009:

These Regulations prohibit the carrying out of environment audits without due certification and registration, except if the person is an environmental inspector. The Regulations also provide for the preparation of environmental audit reports; require owners or operators of facilities whose activities are likely to have a significant impact on the environment to establish environmental management systems; provide for enforcement environmental audits; and encourage voluntary environmental audits and compliance agreements to aid facility compliance to environmental requirements. The guidelines will provide input in the Municipality PDP process and formulation of enforcement of compliance frameworks.

iv. The National Environment (Minimum Standards for Management of Soil Quality) Regulations:

These Regulations have been reviewed to provide guidance regarding the minimum soil quality standards to maintain, restore and enhance the inherent productivity of the soil in the long term; to establish minimum standards for the management of the quality of soil for specified agricultural practices; to establish criteria and procedures for the measurement and determination of soil quality; and to issue measures and guidelines for soil management.

v. The National Environment (Minimum Standards for Discharge of Effluents into Water or Land) Regulations:

These Regulations prohibit discharge of effluent or waste on land or into the aquatic environment contrary to established standards and without a waste discharge permit. They also provide for sampling of effluent and waste water analysis. The Municipality and the entire metropolitan area are at crossroads with regard to effluent or waste management. The local urban and local government entities within the Municipality do not have in place effluent and waste management strategies yet the influx and footprint of industrial activities is clearly very significant. Engagement with administrators of the entities indicates challenges in solid waste management processes right from collection up to disposal.

vi. The National Environment (wetlands, River banks and Lakeshores Management) Regulations:

These Regulations have been reviewed to provide guidance regarding regulations for the protection of wetlands; their conservation and wise use; inventorying of wetlands; and wetland use permits for regulated activities, protection zones for riverbanks and lakeshores. The protection zone with regard to wetlands, riverbanks, lakeshores and forests is defined in the regulations. The consultants' analysis was to verify compliance enforcement processes and challenges, institutional linkages and support processes and the requirements that will constitute a critical input in the formulation of frameworks for compliance during enforcement of the PDP.

vii. The National Environment (Noise Standards and Control) Regulations:

These Regulations have been reviewed to provide guidance into regulations for maintenance of a healthy environment for all people in Kamuli Municipality, the tranquillity of their surroundings and their psychological well-being by regulating noise levels; and generally, to elevate the standards of living of the people by prescribing acceptable noise levels for different facilities and activities. The review was carried out to extract provisions and input in the frameworks for compliance during enforcement of the PDP.

viii. The National Environment Impact Assessment Regulations, 1998:

These Regulations have been reviewed to provide guidance into regulations and processes for environmental impact assessment (EIA) process, including project briefs and environmental impact studies. The Regulation provide for EIA review processes, including invitation of general public comments and public hearings and rejection or cancellation of an EIA certificate.

ix. The National Environment Waste Management Regulation, 1998:

These Regulations have been reviewed to provide guidance into regulations for management of all categories of hazardous and non-hazardous waste. They cover movement of hazardous waste into and out of Uganda, its storage and disposal. The Regulations also provide for conditional licensing of transportation of waste from one Municipality to another. The Regulations prohibit the disposal of untreated waste into the environment. The review of the regulations was carried out to extract provisions and input in the frameworks for compliance during enforcement of the PDP.

x. The National Environment Hilly and Mountainous Areas Regulations:

These Regulations have been reviewed to provide guidance into regulations for sustainable utilization and conservation of resources and the mountainous and hilly area. The Municipality Councils are permitted to make bye laws for the protection of mountainous and hilly areas which are at risk of environmental degradation.

xi. Ordinances and Bylaws

Local Governments have got the prerogative to formulate and implement ordinances and by-laws for the purpose of better service provision. Such instruments may include further clarification of processes in land use regulation and enforcement compliance. Review was carried out where available to extract provisions and input in the frameworks for compliance during enforcement of the PDP.

2.5. Strategies and Action Plans

a) Uganda's National Environmental Action Plan (NEAP)

The Uganda National Environment Action Plan (NEAP) seeks to promote and implement sound environmental policy. The NEAP represents the culmination of a series of initiative's and activities coordinated by the National Environment Management Authority (NEMA). It is the Master Plan for the management of the environment in Uganda and contains a National Environment Policy, Framework, Environmental legislation and Environment Strategy. The NEAP consists of Sectoral Plans for the Medium and Long Term intended to lead to sustainable development in this country. The plan has been essential in ensuring compliance for the planning of the towns and now the Municipality environmental aspects.

b) Kamuli Municipality Environment Action Plan (MEAP)

The Municipality EAP is the basis for integrating environmental concerns in formulation and implementation of Municipality Development Plans and programs so as ensure environmental mainstreaming in the Municipality, Urban and local planning and physical development process. The MEAP therefore recognizes the critical role of relevant line Ministries, departments and agencies as well as civil society organizations, communities, development partners and other stakeholders in coordinating their actions for the preservation, conservation and sustainable use of

the environment and natural resources hence the need for harmonizing the management of environment and natural resources in Kamuli Municipality during the PDP preparation process.

c) The Directorate of Physical Planning and Urban Development

At National level, the Physical Planning and Urban Development Directorate in the Ministry of Land, Housing and Urban Development (MLHUD) is responsible for carrying out National land-use plans and preparation of policies with contributions from other related ministries and departments. The bodies, their structure, powers and responsibilities, are defined in the Physical Planning Act. Currently the Minister of Lands, Housing and Urban Development approves recommended plans by the National Physical Planning Board. Any amendments and variations in PDPs cannot be permitted without approval from the Ministry NPPB.

d) National Physical Planning Board- NPPB

Section 4 – 6 of the Physical Planning Act establishes and defines the composition and fuctions of the National Physical Planning Board (NPPB). Section 6 (1) a – n; defines the functions of the board in overseeing and coordinating the execution of the physical planning mandate at the national, regional, Municipality, urban and local levels. The Act also defines a hierarchy of Physical Development Plans, the institutions and bodies required to prepare, approve and amend these plans and the overbearing role of the board.

The mandate, processes and the institutions that relate with the board in the planning, approval, amendments of PDPs are a critical component for the Kamuli Municipality physical planning process.

e) Municipality Physical Planning Committee

The Physical Planning Act 2010 under Section 9 provides for the composition of the Municipality Physical Planning Committee (MPPC) while Section 10 and 25 (1) stipulates the functions of the committee and defines the key actors in the process. The mandate processes and institutions that relate with the MPPC in the planning, approval, and amendments of the Municipality PDP will definitely relate to critical component of the development control in the Municipality.

2.6. Administrative set up of Kamuli Municipal Council as of 2022

Kamuli Municipality is located in the Kamuli District in the Busoga Region of Uganda, Kamuli Municipality is the third-largest town by level of development in the Busoga region. It is administered by the Kamuli Municipal Council, which is an urban local government. Kamuli Municipal Council was elevated to a Municipality status in 2015 and operationalised in Financial Year 2016-2017. The newly upgraded Kamuli Municipality is bordered by Balawoli Sub County in the North, Kiroba in Kitayundwha Sub County in the South, Nabwengulu Sub County to the West and East.

At the Municipality level, the administrative hierarchy is similar to that of the District Council. There is a Municipality Council, which is also served by an Executive Committee and a number of Sector Committees (although the number of these Sector Committees varies from each administrative unit).

The political head of Kamuli Municipal Council is the mayor. The Council which is composed of 16 elected councillors at municipal level on the other hand is the supreme policy-making organ of the Municipality which functions under committees namely; finance, planning, works, social and community services among others. The technical head is the Town Clerk and under him there are departments namely; Finance and planning, works and technical services, public health, Audit, community development, education, environment, commerce and trade, administration and production. There are also sections such as physical planning, procurement, enforcement human resource labour and probation and accounts. Which supports him in the day today running of the Municipality (Figure 1).

Kamuli Town is a commercial hub for Kamuli, Buyende Districts among others. It is an urban lower local government and a mandated planning entity. Kamuli Municipality is divided in to two divisions of Nothern and Southern. It is further divided into six (10) Wards which are lower administrative units which include; Busota, Kamuli-Namwendwa, Kamuli Sabawaali, Nakulyaku, Muwebwa, Buwanume, Mandwa Mulamba, Namisambya II and Kasoigo and 80 cells/villages. It should be noted that parishes and cells are administrative units with no planning mandate while the Divisions are Lower Local Governments with planning mandate. The Municipality and Divisions are self-accounting and corporate bodies as per the Local Government Act.

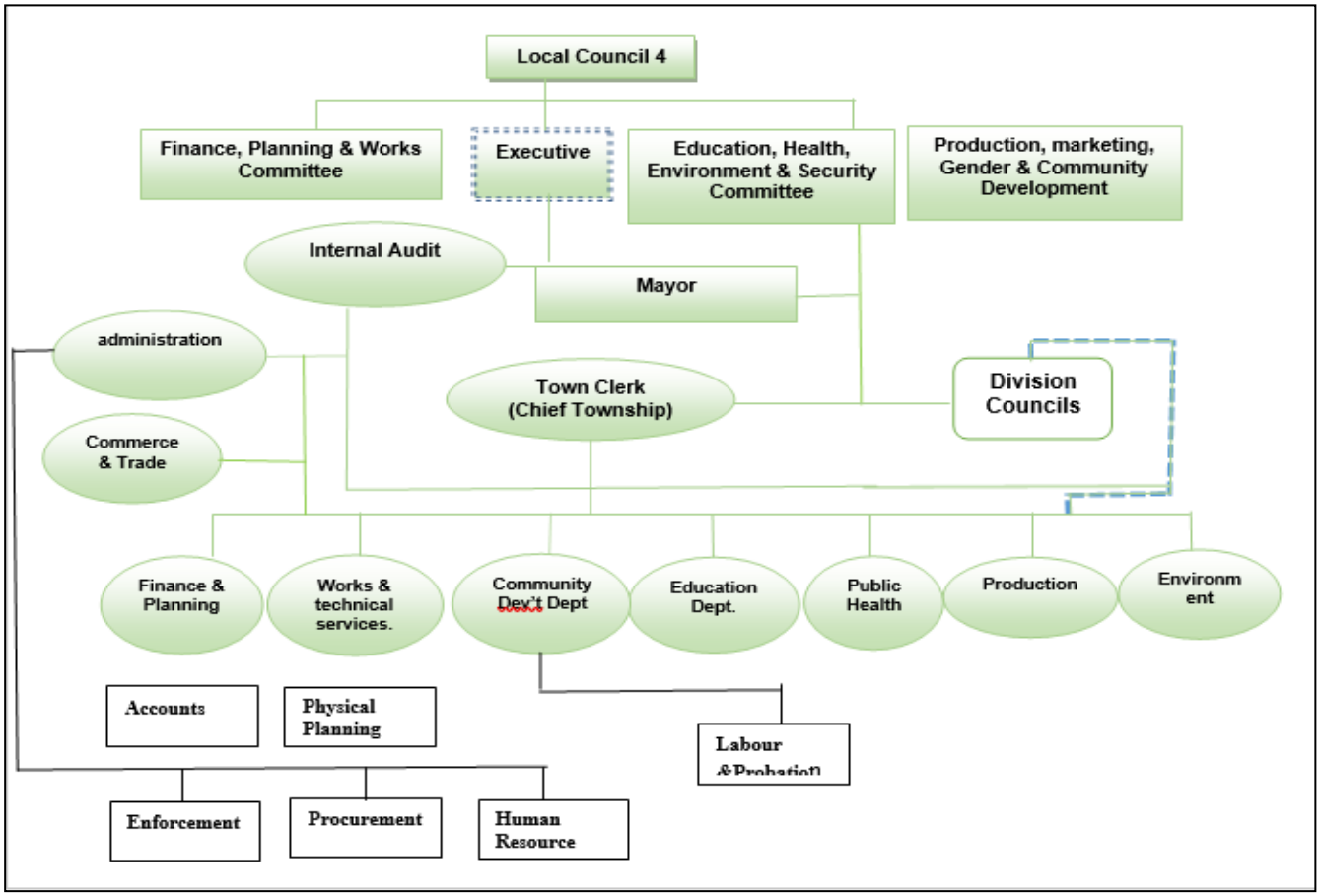
2.7. Institutional structure and physical planning function at the Municipality

The national and local physical planning institutional structures and processes directly impact on the planning, management and implementation of the PDP. Implementation of the PDP requires development of the detailed plans and mechanisms for actual implementation of the recommended components of the PDP. This will obviously fall on the Municipality and the newly created urban authorities in the Municipality with the involvement of a complete cross-section of other government ministries and agencies, the private sector and affected communities in the town.

With decentralization policy, local authorities are mandated to prepare PDP and detailed plans in their areas of jurisdiction. However, approval of these plans is a sole responsibility of the line Ministry with technical advice from the National Physical Planning Board. The role of the Department and the Board however remains in preparation of national and regional plans.

The planning and management within the Municipality relies on the integrated coordination and collaboration of these local governments under the guidance of the national government. This PDP will provide a tool to strengthen that cooperation. Municipality level local government officials are employees of the national government and provide local representation. The Kamuli Municipality PDP is the first of series of Municipality Physical Development Plans and the concept of Municipality Coordination of the lower councils is worth considering as an implementation and monitoring coordination body at the Municipality level.

Figure 1: Administrative Setup of Kamuli Municipal Council 2018



Part III

3.0. SECTOR REPORTS, ANALYSIS PROPOSALS AND RECOMMENDATIONS

The Kamuli MC PDP comprises a number of sectors, which impacts or relates to one another and it is presented here with an aim to bring out their integration. This Chapter presents the specific sector key findings and their implications to development and the strategies for transforming Kamuli Municipality to the desired future development scenario through a carefully thought through Physical Development Plan (PDP). The key sectors include; Environment and Natural resources; Human Development and Socio-economic changes; Human Settlements; wealth Creation (Local Economic Development); Infrastructure and utility development and institutional and Good Governance. This chapter analyzed the sectors giving its implications in relation to physical development of Kamuli Municipality. The strategies focus on the physical planning and development aspects of each sector as summarized in figure 2.

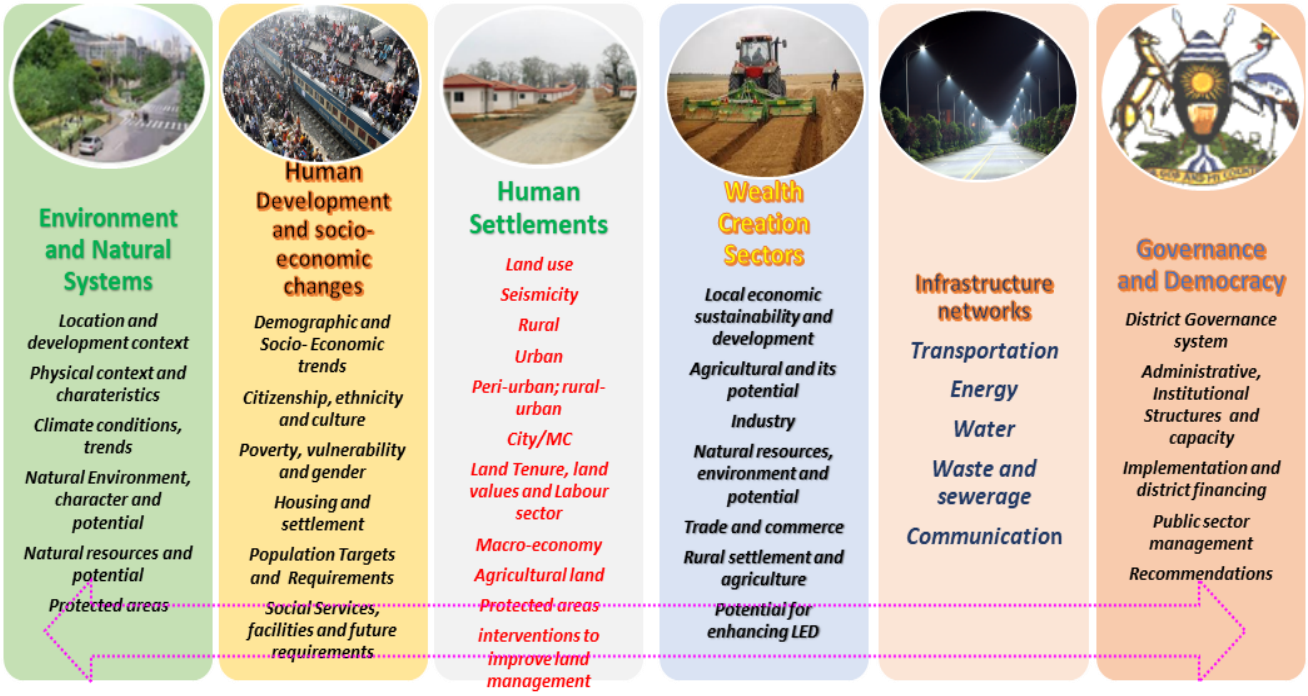


Figure 2. Municipal Physical Development Plan Sectors

The Kamuli Municipality Situation Analysis Report (May 2020) presents detailed information and analysis of each sector and can be referred to for further information. The Sectors are consolidated into the overall Kamuli Municipal Physical Development Plan in Chapter five of this report. Each Sector is structured under the following areas:

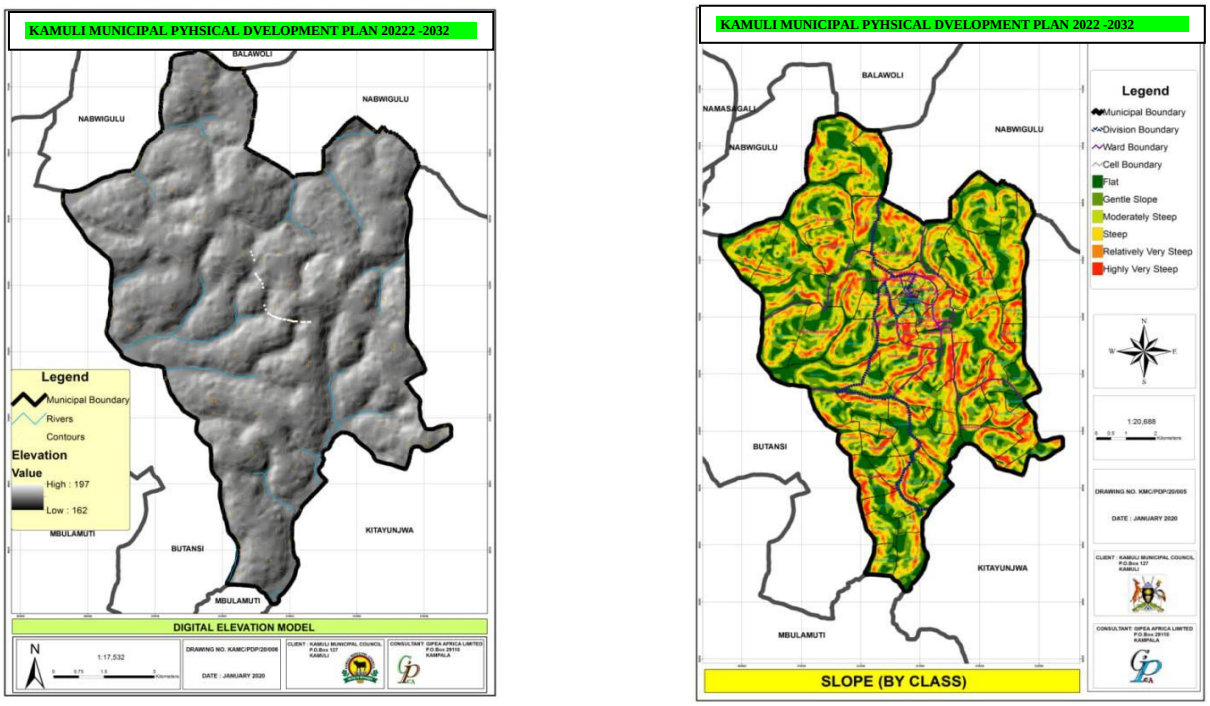
a. An Overview of key findings pointing out development challenges and implication to physical development of Kamuli
b. Objective to address the development challenges
c. Interventions/proposal, recommendations and strategies to address the challenges and
d. Risks that may affect the implementation of these strategies/recommendations of this plan.

3.1. Report on the Physical Environment and Natural Systems

3.1.1. Physical Characteristics of Kamuli municipality

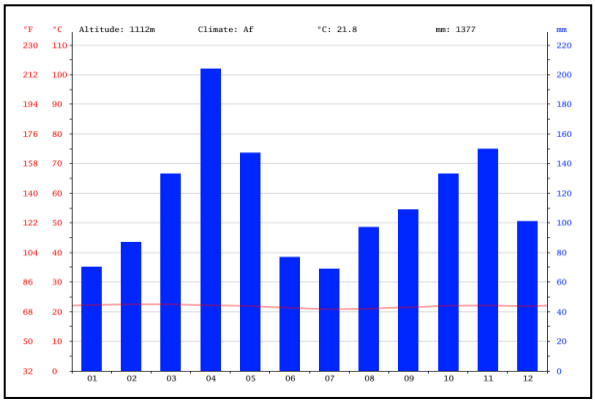
3.1.1.1. Topography

The biggest part of the Municipality has low land areas covered with swamps and boarded by streams. The topography is a result of Precambrian activity that has yielded low to high fertility soils. Most of the soils especially in the new areas of the municipality are however sandy-loams that support food and cash crops such as potatoes, millet, maize, cassava, Cocoa, Coffee, sorghum and other crop varieties. The topography of Kamuli contains only modest variations in elevation, with a maximum elevation change of 226 feet and an average elevation above sea level of 3,624 feet. **Map 4** illustrates the slope analysis of Kamuli Municipality



Map 4: Elevation model and slope analysis

3.1.2. Climate



A general over view is given due to limited availability of accurate climatic data specific to Kamuli municipality. The Municipality experiences a bi modal type of rainfall. The peaks are in March – June and August - November every year. March-June is the main rainfall season in the municipality. The annual average rainfall is 1,350mm while the mean monthly is 75mm-100mm. There has been a trend of prolonged dry spells in the municipality over the recent years starting in November, December, January, February and often extends to March. As a result of climate change, the municipality continues to experience long spells of drought, lightening, hailstorms and strong winds that have impacted heavily on settlements and farmland.

3.1.3. Precipitation

A wet day is one with at least 0.04 inches of liquid or liquid-equivalent precipitation. In Kamuli, the chance of a wet day over the course of June is very rapidly decreasing, starting the month at 57% and ending it at 42%. For reference, the year's highest daily chance of a wet day is 78% on April 29, and its lowest chance is 21% on January 23.

3.1.4. Rainfall

To show variation within the month and not just the monthly total, we show the rainfall accumulated over a sliding 31-day period centered around each day. The average sliding 31-day rainfall during June in Kamuli is rapidly decreasing, starting the month at 3.9 inches, when it rarely exceeds 7.1 inches or falls below 1.4 inches, and ending the month at 2.2 inches, when it rarely exceeds 4.5 inches or falls below 0.7 inches.

3.1.5. Cloud Cover

The month of June in Kamuli experiences gradually decreasing cloud cover, with the percentage of time that the sky is overcast or mostly cloudy decreasing from 68% to 62%. The clearest day of the month is June 30, with clear, mostly clear, or partly cloudy conditions 38% of the time. For reference, on April 16, the cloudiest day of the year, the chance of overcast or mostly cloudy conditions is 83%, while on August 30, the clearest day of the year, the chance of clear, mostly clear, or partly cloudy skies is 50%.

3.1.6. Humidity

We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night. The chance that a given day will be muggy and in Kamuli it rapidly decreases during June, falling from 90% to 73% over the course of the month. For reference, on May 11, the muggiest day of the year, there are muggy conditions 95% of the time, while on January 4, the least muggy day of the year, there are muggy conditions 51% of the time.

3.1.7. Wind

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Kamuli is essentially constant during June, remaining within 0.1 miles per hour of 4.7 miles per hour throughout. For reference, on February 24, the windiest day of the year, the daily average wind speed is 5.3 miles per hour, while on October 1, the calmest day of the year, the daily average wind speed is 4.1 miles per hour.

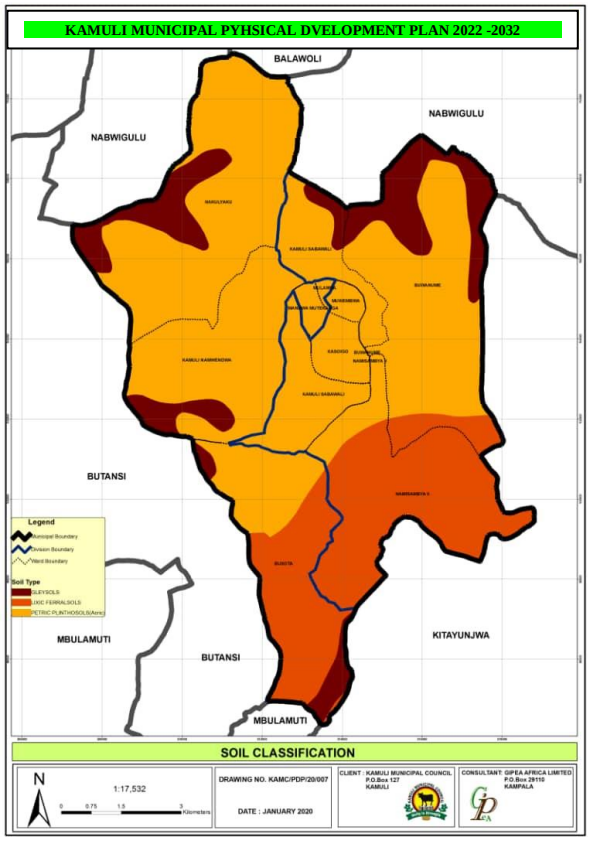
3.1.8. Vegetation

The Municipality is predominantly covered with Savannah type of Mosaic consisting of a mixture of forestry remnants and savannah trees with grass and shrubs. Much of it is secondary that has succeeded the original forest cover as a result of farming, fuel harvesting, Charcoal burning, sugar cane growing and other forms of land use. Tree cover has continuously gone down due to

unsustainable exploitation resulting from high demand for timber, fuel wood and expansion of farmland to meet the basic demands of the ever-growing population.

3.1.9. Soils

Kamuli municipality topography is a result of the Precambrian activity that yielded low to high fertility **soils** in the northern and southern ends respectively. Most of the **soils** are however, sand loams that support food crops such as potatoes, maize, cassava among others. **Map 5** illustrates the classification and distribution of soil typology in the municipality.



Map 5: Soil classification of KMC

3.1.10. Wetlands

Wetlands form a vital fragile ecosystem. The Municipality has various wetlands which include Kisungudi, Nakulyaku, Budhumbula, Saza, Kiroba, Buwaiswa, Kananage and Namalemba spread all over the municipal boundary which feed into River Nile (Victoria Nile). However; many have been degraded due to increasing population and declining soil fertility in uplands resulting into increasing encroachment on the resources and gradually changing them into occasional seasonal systems. The major threats to wetlands include; paddy rice cultivation, sugarcane growing, sand mining and bush burning during the dry seasons. Wetland degradation is currently at 40% but this varies with seasons.

3.2. Report on Natural Resources and Environment

This section presents the major findings regarding the natural resources and environment in the municipal council including state and major challenges, and strategies to restore them.

3.2.1. Forests and woodlands

The natural tree cover in the district is about 21% (district natural resources department). In the Municipality Central Forest Reserves cover only about 31 ha **(Table 3).** More still, on private land several pockets of tropical natural forests, woodlands and plantations exist mainly in the southern division. Kamuli Municipality therefore, is generally lacking or has lost most of its natural forest cover. The common tree species in the remaining pockets of natural forests in the Municipality include the most dominant trees were *Ficus natalensis, Ficus sycomorus, Persea americana, Ficus ovata, Markhamia lutea, Mangifera indica (2%), Artocarpus heterophyllus, Albizia coriaria, Maesopsis eminii, Albizia coriria, Milicia excelsa etc.*

All Tropical Natural forests in these areas can be classified as degraded or highly degraded and exist as pockets of trees left mainly on private land. The remaining groups of trees will certainly be cleared or further degraded as the demand for fertile agricultural land, need for social and

infrastructure development and energy increases in the area **(Plate 1).** A robust strategy is therefore, is needed to sustain and increase natural forests or tree vegetation cover in the Municipality. In addition, a couple of pure and mixed plantations mainly of *Pinus* spp., *Araucaria* sp., *Eucalyptus* spp., *Greveria* sp. and *Terminalia* spp. were observed mostly on private land. Due to the nature of land tenure-ship on which these forests exist, combined with the growing population and scarcity of land for housing and agriculture, the forest cover in KMC could be completely lost within the next three to five decades. **** The only Central Forest Reserve found in Kamuli Municipality****

Table 3: Status and extent of CFR in Kamuli district (Adapted from Kamuli district forest report)

Forest Name	Area (Ha)	Area degraded (Ha)	percentage	Management
***Buwaiswa	31	7.75	25	NFA
Namasagali	34	17	50	NFA
Bulogo	10	5	50	NFA
Ngereka	828	41.4	5	NFA
total	903	71.15		NFA

Plate 1: Charcoal burning in southern division in the Municipality is main cause of forest degradation and air pollution

3.2.1.1. Wetlands

Wetlands in the current Municipality, comprise of only about 2728.75 ha of riverine swamps. Wetland degradation is becoming a severe problem in Kamuli Municipality. Pressure on wetlands from both the poor and the rich sectors of society has increased, since wetland services are public goods. This affects the environment and the people's livelihoods. The main drivers of wetland degradation in KMC include draining, overexploitation, burning and conversion to other uses like sugarcane cultivation (**plate 2)** or urban sprawl (Namaalwa et al. 2013, Bosma et al. 2017). This results in open pits that contribute to the spread of mosquito-borne diseases, biodiversity loss and eutrophication (Opio 2008). Drainage of wetlands in Kamuli MC is attributed to population pressure and people's perceptions of wetlands as free land which should be utilised. There is brick making, sand and clay mining for commercial purposes, all of which cause vegetation clearance and wetland degradation. Different stakeholders compete for resource harvesting, especially around the municipality.

Plate 2: Sugar cane plantation in a wetland in KMC

Illegal small-scale mining contributes to open pits that collect and stagnate water (Akwetaireho e*t al*. 2010). These act as breeding grounds for mosquitoes that carry diseases like malaria (NEMA 2007, Opio 2008). Communities often dump waste in the open pits and industries channel waste water

which pollutes the wetlands (Namaalwa *et al*. 2013). There is declining wetland water quality due to pollution, yet communities are dependent on it for domestic and agricultural use. The overexploitation threatens wetland ecological integrity, leading to deterioration and degradation (Kabumbuli *et al*. 2009). Another key driver of wetland degradation in KMC has been the introduction of sugarcane cultivation. It is important to note that lowland wetlands in the various Wards have been impacted because of high moisture requirements for sugarcane growth throughout the season. The replacement of wetland vegetation with sugarcane fields has led to biodiversity loss and decline in wetland functions (NEMA 2007, FAO 2014). Wetland conversion into other land uses like settlements, infrastructure development and estates, also contributes to their degradation in KMC.

3.2.1.2. Solid waste

Kamuli has a serious solid waste management problem. Most of the solid waste generated in areas of the municipality with rural characteristics is disposed at source. In areas that are urban, solid waste is discriminately thrown in the open and garbage banks (**Plate 3)**. The Municipality has no land fill or even dumping site. Solid waste is dumped on private land on request (municipal environment department 2020). Solid waste is managed privately. Households pay between 5000-10000 Ugandan shillings to private waste collectors per month, but where the waste is taken no one knows. Current solid waste management strategies in Kamuli Municipality are inadequate.

Plate 3: Management of solid waste on a garbage bank within CBD in Northern division is lacking. Photo: GIPEA-Africa Ltd. 2020

Our observation shows that solid waste in the current Municipality is accordingly not sorted at all places (including households, industries and commercial premises) where it is generated. In urban and peri-urban places such as northern division, CBD and Kamuli-Namwendwa, haphazard dumping was observed. In highly urbanized areas, dumping is done in generally open places such as wetlands, streams or along pathways. This has degraded the aesthetic outlook of the Municipality. In rural places however, solid waste is randomly dumped in the back yard or scattered on-farm and the surrounding bushes of a particular household, factory or industry. In addition, solid waste is dumped along the roads, thereafter burnt this has serious environmental effects as it pollutes the air resulting in respiratory diseases like asthma. In other areas solid waste is dumped in drainage channel this was common in CBD area in the northern division near Ssebo FM.

The dumping sites near settlements attract houseflies, mosquitoes and pollute the air and water in area. Currently, in Kamuli Municipality, there is no place gazzeted or planned for solid waste management. Furthermore, it is potentially a health hazard to the surrounding community. There are places where scramble for water between animals and people was observed or water pipes situated near toilets. Poor management of solid and liquid waste can develop into several

environmental hazards. For example, the value of land within the area depreciates because the air and water generally get polluted. Consequently, health problems such as cholera and malaria may escalate (Ojok *et al*, 2012; Komakech, 2014 and Kinobe *et al*, 2015). The National Development Plan III goals regarding forests and wetlands include; Increase land area covered by forests from 9.1% to 15% and Reduce climate change vulnerability and carbon footprint

Specific objectives

1. Promote Open/Surface water and the catchment areas that offer recharge for these water bodies with minimum interference from human activities and must be sustainably managed.
2. To improve sanitation and therefore the quality of life of the people in the MC
3. Increase forest, tree and wetland coverage and restore and protect hilly and mountainous areas and rangelands
4. Increase incomes and employment through sustainable use and value addition to water, forests and other natural resources.

3.2.2. Municipal solid waste management strategies

Municipal solid waste management (MSWM) in developing countries accounts for between 20% and 50% of local government budgets. Studies show that more than 50% of developing countries 'populations lack consistent access to waste collection services. Disposal methods often include open dumping and open burning. The World Bank reports vast amounts of uncollected waste in urban areas; estimates suggest between 40% and 70% of discarded materials remaining uncollected. This pollution leads to significant impacts on human health and the environment therefore, KMC should; -

- **Develop a Locally Relevant Waste Management Policy and Implementation Plan;** The KMC does not yet have a strategic vision or associated policy for waste management. Clear policy for waste management is needed to address both immediate and long-term goals. short-term, and long-term action plans." Overarching policy should be developed in conjunction with an implementation plan.

- **Reduce the Volume of Waste Going to Landfill by Establishing a Waste Separation System**; The Roadmap should be that communities and urban authorities are encouraged to reduce waste, implement waste sorting at source and dispose of waste in an appropriate manner. There is an urgent need to reduce the amount of waste going to dumping site from MC. The dumping site currently used by MC is costly and not sustainable in the long term This is very expensive). Establishing a new landfill site is a complex, expensive process/ isolating a suitable site will be challenging and expensive. A cheaper, more sustainable option would be to reduce the amount of waste going to dumping site. It is estimated that in the MC, organic waste (primarily food waste) contributes 60% of waste volume, and recyclable waste (resalable waste products including cardboard, paper, plastics and metals) almost 40%.

  Therefore, waste sorting and separation and the diversion of organic waste and recyclables will almost eliminate the need for landfill dumping. There are two possible approaches to waste separation. Separation can be accomplished at the source, then collected and taken away for reuse or recycling; or, unsorted waste can be collected and taken to a waste separation site facility for sorting. The second option however, is not viable. Finding space

to site such a facility will be the first hurdle. Perhaps a more acceptable approach will be to separate organic waste at the source and for it to be transferred directly to end users.

- **The Need for Support and Education of the Waste Producers;** Improved citizen behaviours such as waste separation at source and following collection schedules requires their engagement and commitment. It is clear from the literature that at-source waste separation only works if the necessary infrastructure is provided, and if the system is convenient and readily understood. A common reason given as to why citizens of KMC did not separate their waste was the inconvenience of the task (e.g., having no time or space for recycling). This is supported by other research which showed that space for storage or distance from recycling centres results in reduced recycling behaviour. Therefore, KMC should make separation facilities accessible. Making available the necessary infrastructure to undertake waste separation will be essential. It is also important that residents understand what is required of them and that they are engaged in the process. To reduce food waste entering the waste stream it is suggested that the KMC should arrange training for households or businesses about how to compost so as to encourage the practice.

- **Sensitization;** The municipality will need to educate its citizens about any changes to the collection system and service (such as the introduction of different-coloured bins or community collection points). Engaging citizens in the development of waste policies and planning may increase engagement in the uptake of new strategies. Awarding good waste management behaviour as a strategy to encourage people to engage in waste separation activities was an idea proposed by students and some experts. Participation in separation of recyclables is likely to be more successful in low-income communities who can generate income from the sale of recyclables through buy-back centres or waste banks. Around the country, waste bank projects have been successful in schools and communities.

- **Financial Considerations;** The proposed new ISWM system will require a sufficient budget. The KMC should consider several ways to enhance its budget. An immediate step would be to introduce (and strictly adhere to levies) for residents and commercial enterprises in receipt of waste collection services. Second, the implementation of a functioning waste separation system, focused on recycling and composting, will generate an income from the sale of such products. Simultaneously with a waste separation scheme is the need to introduce appropriate infrastructure to assist households. Residents could be required to buy their coloured waste bins from the KMCSM or use the 'prepaid bag' system that has been successful in South Korea. Third, KMCSM spends more than half of its ISWM budget on disposal of waste to landfill. Diversion of waste away from landfill will result in substantial savings. Finally, the KMCSM could research ways to reduce total expenditure for waste management, such as waste-to-energy production.

- **The Need to Initiate a Collection Service That Supports Waste Separation at Source**; Facilitating waste separation at the source has the potential to drastically reduce landfill requirements. Viable suggestions for encouraging at-source waste separation included truck modifications (creating separate compartments within collection trucks to receive and segregate different types of waste). The potentially more efficient suggestion is to collect different types of waste on different days. The advantage of this second approach is the use

of existing trucks rather than requiring investment in expensive modification or extra collection trucks.

- Food waste from restaurants could be delivered directly to farmers. In this scenario, the municipality may have a role to pay in providing a small truck to transport food waste. The use of restaurant food-waste as livestock feed has been successful in other countries either directly or after processing through fermentation or dehydration. Given the added expense of processing food waste, it is suggested that direct transfer to farmers is the preferred approach.

3.2.3. Wetlands Restoration and Management Strategies

According to Balmford *et al.* (2002), the total economic value of intact wetlands far exceeds that of converted wetlands. In KMC, the value would certainly be higher if the wetlands are left intact. However, since they are being converted, their value is significantly lowered, a situation that will over time be very expensive to restore. In the face of this, immediate conservation and sustainable utilization of these natural resources is critical (Wasswa *et al* 2013). The environmental and physical planning department of the MC could undertake the following practices in order to strengthen and sustain the productivity of wetlands in the MC.

- Sensitize the general public about the roles of wetland towards environmental amelioration, their economic value and invisible or intangible contributions to people's livelihoods in the MC.
- The department of environment and physical planning should work together to ensure that the relevant policies and by-laws are developed in order to effectively implement the national environmental protection plans and programs. For example, during approval of development plans in wetland areas, the environmental department should be consulted and a full environmental audit conducted before the development is approved. There should also be a mechanism in place to ensure implementation of recommendation of an environmental audit report.
- Strengthen the Production Department and specifically the environmental protection unit through funding community sensitization programs and enforcement of environmental law.
- Surveying and demarcation of all public wetlands in the MC will facilitate and enabling environment for the law enforcement.
- Eviction of all illegal development in wetlands on both public and private land should be implemented. The 1995 Environment Statute, the 1995 National Policy for Conservation, and Management of Wetland Resources, The National Land Use Policy 2007, National Forestry and Tree Planting Act 2003, could be useful legislation on guiding the eviction process.
- Strengthening stakeholder collaborations and partnership wetlands (NEMA, Uganda Land Commission, District Land Boards, Busoga Kingdom).
- All wetlands within the MC should be clearly surveyed and demarcated and their environmental status assessed. In addition, all un planned and unapproved developments in wetlands on public land should be reverted. On private land environmental by-laws should be developed and enforced.
- Strengthening inter-sectoral collaboration (including the National Environmental Management Authority, the Wetland Inspection Division, Uganda Land Commission, District Land Boards, Busoga Kingdom) to enforce wetland laws

- Use of economic incentives and disincentives such fines, bonds, fees, tradable permits and taxes against unsustainable wetland utilization practices
- Restrict incompatible land-uses in marginal areas;
- Public access to the water bodies should be provided for sustainable activities. However, the MC and the relevant ministry should enforce the 60-metre buffer on lakes and 20-30 metre on rivers measured from the highest water mark provided in the PDP
- The MC should prepare urban and local development plans clearly profiling land-use activities around open waters and plan for waterfront facilities for purposes of recreation and tourism within the provisions of all relevant legal requirements;
- Potentially contaminating land-uses should not be located in areas where the potential for open water contamination is the highest.
- 'Polluter Pays' principle should be adopted at all local levels and implemented to curb pollution of water bodies;
- Help monitor wetland loss/gain, identify priorities for conservation
- Discourage the planting of eucalyptus and invasive species in the wetlands;
- Environmental buffers around water bodies, wetlands should be done;
- Preparation of lower urban and local physical development plans accompanied by strengthened Development Control and enforcement of compliance to plans;
- Identify, earmark and demarcate environmentally sensitive areas. Rank environmental zones into critical and less critical zones. Critical zones should be preserved and less critical zones should be used sustainably.

Forest and woodland restoration

- The woodlands and grasslands on the other hand could be restored or sustained by regulating unnecessary bush-burning especially during the dry season as a strategy for stimulating germination of fresh grasses for grazing and charcoal burning. Extensively degraded woodland areas could be rehabilitated using species restricted to rangelands. The species include *Combretummolle* R.Br. ex G. Don, *C. collinum* (Engl. & Diels) Okafor, *Albiziagrandibataeta, A. giberema, A. gumifera* (J.F. Gmel.), *Acacia hokii, A. kirkii, A. totilis, A. seyal, Entada Abyssinica, Spathodea campanulata, Erythrina Abyssinica* among others.
- Alternatively, degraded Savanna woodlands on hill tops can be rehabilitated planting exotic species such *Eucalyptus* and *Pinus* species. These can provide alternative sources of timber, firewood and poles which are among the secondary reasons for rangeland degradation. Moreover, the existence of the first growing Eucalyptus clones is now an opportunity that the environmental department could exploit. The relevant departments (e.g., physical planning and environment) could tap into various national interventions such as Farm Income Enhancement and Forest Conservation Projects implemented by the Ministry of Water and Environment (MWE); and Catchment Management Project also implemented by MWE.
- The Municipal council should encourage tree planting on private land by promoting already popular farming practices and tree-based technologies such as, using fast growing and multi-purpose fruit trees such as *Mangifera indica* (Mangoes), *Morus alba, Carisa edulis, Persea americana* (Avocados), *Artocarpus heterphyllus* (Jarck-fruit), *Citrus* spp. (Oranges, lemons) among others. Currently there is a huge and ready market for fruits and firewood within KMC. Hence promotion of on-farm plating of first growing and multi-purpose tree species is a viable option toward vegetation restoration and sustainability within the town council.

Strict enforcement of the environmental by-laws

- The environment and physical planning departments should work hand in hand to develop, strengthen and enforce environmental by-laws and related regulations. For example, to address degradation of wetlands on private land, the town council could develop by-laws to prevent abusive use of these fragile eco-systems. The environmental by-laws should promote activities with minimum environmental impact such as tree planting and discourage degrading practices such as sand mining. On private land, excavated areas should be by law refilled with soil while on gazzeted public land sand and clay mining should be discouraged.
- Increase efforts that support land use planning, control soil erosion, ill-considered land use conversion and encourage optimal utilization of land resources bearing in mind the provision in i) The 1995 National Policy for Conservation and Management of Wetland Resources, ii) Uganda Forestry Policy of (2001), iii) Forestry and Tree Planting Act (2003) iv) The National Land Use Policy of (2007), the Land Act (2007) and other relevant policy reforms.
- Conduct environmental management sensitization campaigns in collaboration with relevant stakeholders to support awareness creation, advocacy, capacity building and applied research on environmental and related sustainable development issues
- Under the Plan for Modernization of Agriculture (PMA), the Forest Department has a fund for establishing fruit tree demonstration nurseries income generation and improving livelihoods of the people
- Environment and Sustainable Agriculture Project (ESAP) working with Local Communities to raise fast growing trees for fuel wood and fruits in all parishes of the TC.
- Incentives and support to private tree planting by use of PMA fund should be enhanced;
- Integration of natural forestry in urban and local plans to foster their preservation and restoration;
- Reforestation of natural forests in corroboration with NFA and planting of indigenous trees should be encouraged;

3.2.4. Risks

Given the current situation in KMC, the plan identifies the following risks that may hinder the implementation of the proposed interventions. They include;

1. Lack of political will and weak institutional enforcement capacity is a major risk that would lead to Continued uncontrolled clearing/encroachment of the limited remaining natural forest
2. High population growth in the MC is still the underlying cause of deforestation and controlling this may still be a nightmare.
3. Scarcity of resources especially money since urban councils have a lot of priorities that are envisaged to supersede environment
4. The corruption scourge which has become endemic in the country could also undermine the achievement of natural resources and environmental restoration in the MC
5. Un cooperative and suspicious communities is also a big risk to achievement of many governments plan's environmental plans inclusive

3.3. Governance and Institutional Management in Kamuli Municipality

3.3.1. Introduction and Background

Managing urban areas and urban growth is one of the defining challenges of the twenty-first century in developing countries. If managed well, urban areas can act as engines of growth and provide

inhabitants with better job opportunities and improved healthcare, housing, safety and social development. Further, urban areas can contribute to national growth through increased revenue generation. Conversely, cities that are poorly planned, managed and governed can become centres of poverty, inequality and conflict.

Urbanization in Uganda like in many African countries lacks proper guidance and as such has resulted into slum proliferation in urban areas of the different districts of Uganda. Many urban areas in Uganda are experiencing development of significant proportions and yet these areas are devoid of planned development. Unlocking the potential of cities requires investment in residential, commercial and industrial structures supported by effective land markets, appropriate regulation, good public services, adequate public finance and transparent and accountable city level political systems. This requires good urban governance in the urban local council, re-engineering processes, role and responsibilities of stakeholders especially government.

This chapter discusses the local government structure, human resources and revenue sources and how it could affect or influence any future physical development interventions or initiatives. A suitable structure of governance, competent human resources and reliable and adequate revenue is generally recognized as a necessary condition for effective planning and development. The status of human resources and revenue in Municipal was informed by three sources; stakeholders' consultation, review of existing literature and data on the area, and through quick tours and appraisal of the urban environment in company of the local leadership and the community during data collection.

It is important to note that urban local governments are usually in a district. However, many times there is limited effort to work together (urban council and district council) to provide services even at a cheaper cost or in more comprehensive way. Urban Councils are more of controllers and regulators than enablers. Hence these councils are not aggressive enough in engaging the stakeholders to partner and provide services. It would be important for example for Kamuli municipality, Mbulamuti Town Council and Kamuli District to work together to provide some of the required services. Therefore, this plan provides and stresses partnering and engaging stakeholders for service provision.

In this plan each sector has proposals to cater for vulnerable groups. For example, in the engineering sector, urban safety is provided for by improving traffic management, that is, control and improve junctions; provide street and community lighting; provide for Non-motorised Transport; provide for gazetted street parking and bus stops; and the plan proposes preparation of drainage master plan. The social services sector provides for the gender, poverty and other forms of vulnerability, while the environment sector focus on mitigation of nature vagaries. Therefore, the management of the municipality should consider these urban safety and risk management intervention for betterment of living environment.

3.3.2. Administration, Governance and Leadership Structure

Kamuli municipality is one of the semi-autonomous, self-accounting (lower local government) in Kamuli district. The municipality has two divisions; Northern and Southern Division, ten wards and eighty zones. However, the naming of the divisions does not follow the conventional way of naming using conventional directions of north and south. It would be better if the divisions are

renamed following the conventional ways to be East and West or Eastern and Western divisions. The ten wards are: Buwanume, Kamuli–Sabaawali, Kasoigo, Muwebwa, Namisambya II, Busota, Kamuli Namwendwa, Mandwa, Mulamba and Nakulyaku.

The municipality is a Local Authority at Local Council IV level, the equivalent of the county in the rural setting. Kamuli municipality like any LLG in Uganda has two administrative arms, the political and the management arms. The political arm comprises of the Municipal council Chairperson - Mayor (who is the political head), and the Municipal Councilors. Like any other Local Council in Uganda, Kamuli Local Council has a policy making body, that is, the Municipal Council which is headed by the Municipal Chairperson (The Mayor). The Municipal Council has 22 councilors, an Executive Committee appointed by the Chairperson (mayor) and Standing Committees appointed from the whole Council by the Councilors. Three Standing Committees, deliberate on policy matters and make recommendations to the full Council. The Sectoral Committees include: Finance, planning and works; production, marketing, gender and community development; education health, environment and security as indicated in table 4

Table 4: Sectoral/Standing Committees and the Departments (Sections) under their Supervision

S/N	Sectoral committees	Department and sections
1	Finance, Planning, Administration & Investment	**Administration Department** ▪ Municipal Council ▪ Administrative units LC I, II & Divisions ▪ Enforcement
		Finance and Planning Department ▪ Revenue ▪ Accounts ▪ Economic and population planning ▪ Monitoring and evaluation
		Technical Services & Works Department ▪ Road works ▪ Constructions ▪ Physical planning
2	Production, marketing, gender and community development	**Production Department** ▪ Agriculture ▪ Veterinary ▪ Fisheries ▪ Trade, commercial Services and Local Economic Development
		Community Based Services Department ▪ Community development ▪ Community mobilisation ▪ Labour, Probation and social welfare ▪ Gender ▪ Youth ▪ PWDs ▪ Elderly persons
3	Education, Sports, Health, Sanitation & Community Development	**Education and Sports Department** ▪ UPE ▪ USE ▪ Inspection
		Public Health Department ▪ Health education ▪ Health inspection

S/N	Sectoral committees	Department and sections
		▪ Immunization ▪ Health information ▪ Drug distribution and inspection
		Water & Environmental Sanitation Department ▪ Sanitation and hygiene education ▪ Water supply ▪ Environment

3.3.3. Functions of the Sectoral committees in Kamuli Municipal Council:

- To receive and discuss reports from the respective departments.
- To allocate resources to different sector priorities.
- To discuss the draft departmental budgets and plans before they are presented to the full council for approval.
- Mobilize and sensitize community on sector policies and programmes.
- Monitor implementation of Council and Government programmes.
- Schedule council and standing committee meetings and establish their agenda.

The Management arm of Kamuli municipal Council is headed by the Town Clerk at the Municipal Council and the Division Council levels; and Town Agents at the ward level. The Town Clerk is supported by Heads of Departments as they are mentioned in table 4 above

3.3.4. Structure and Staffing

Kamuli Municipal Council has an approved structure to employ 523 workers. The Municipal Council however, employs a grand total of 496 employees, with 77% of these employed in schools. The municipal council traditional employees (not in schools) are supposed to be 120 (approved structure) but of these, only 79 are present and 41 are missing which is 34% gap in the structure. (Table 5).

Table 5: Establishment and staffing status

Department/Sector	Approved	Filled	Not Filled	% Gap
Total without Primary and Secondary school teachers	120	79	41	34
Total with Schools' personnel	523	496	27	5

Source: Kamuli Municipal Statistical Abstract

3.3.5. Capacity of Staff and Leaders

While the majority of the existing staff in Kamuli Municipal Council are qualified and suitable for the positions they hold, this may not always be the same with the elected political leaders. This has resulted into cases of misunderstandings and suspicion between the technical staff and political leadership. This has been attributed to poor mechanism of information dissemination from the technical staff to the political leadership, while the political leadership have zealously over stepped their mandate as supervisors of the former.

3.3.6. Tools and Equipment

For the local government to function well and deliver services it must have the required tools and equipment. Kamuli Municipal Council has a general lack of tools and equipment for staff to

perform their duties. Common tools and equipment that are conspicuously lacking include: computers and printers, motor vehicles and motorcycles, fuel, physical planning tools and materials, furniture and fittings among others. The lack of these tools and equipment, generally hamper staff to deliver on their mandate.

3.3.7. Governance and Leadership at Lower Local Government

It is important to note that the government has noticed the importance of sub counties/Town Councils and the parish/ward in service provision. The NDP III contains proposals for the sub county/town council/divisions and the parish/ward to be strengthened to enhance service provision. Whereas the cadres of leadership at the Sub-County, Town Council/Division levels are generally fair and adequate, there is inadequate leadership at the parish/Ward and Village/zone levels. The administration at the village/zone and parish/ward level is very crucial for proper physical development. The administrative set up at this level comprised of the Chairperson LC1 and the Town Agent/Council Agent. It is at these levels that land transactions and physical development on land starts.

3.3.8. Ordinance and By-Laws

The Local Government Act Cap. 243 gives powers to local governments to make By-Laws and Ordinances to address some local governance and administration challenges. These challenges comprise land use, sanitation, utilities and order in the community. There is no Ordinance or By-Laws in place in Kamuli Municipality to support physical planning or to also address the challenges in physical development that is facing the Municipality.

3.3.9. Kamuli Municipal Council Revenue Position

Kamuli municipal has several sources of local revenue (figure 4). The main single source of revenue is Business and other licenses contributing 27%. Business licenses is followed by Fees, Charges, Fines and Penalties with a contribution of 18%. These are followed by Local Service Tax at 9% and property tax related taxes at only 5%. The low level of property related taxes indicates a low level of development and low level of commercial buildings (buildings for rent) in the Municipality.

Among the other sources of revenue collection identified was Refuse collection fees (suspended due to COVID 19), Registration of Businesses 5%, Animal and Crop Related collection 4%. Others include: Local Hotel Tax, Park fees and Ground rent. It is noted that while this is an urban area, there in not much collected in Property rates.

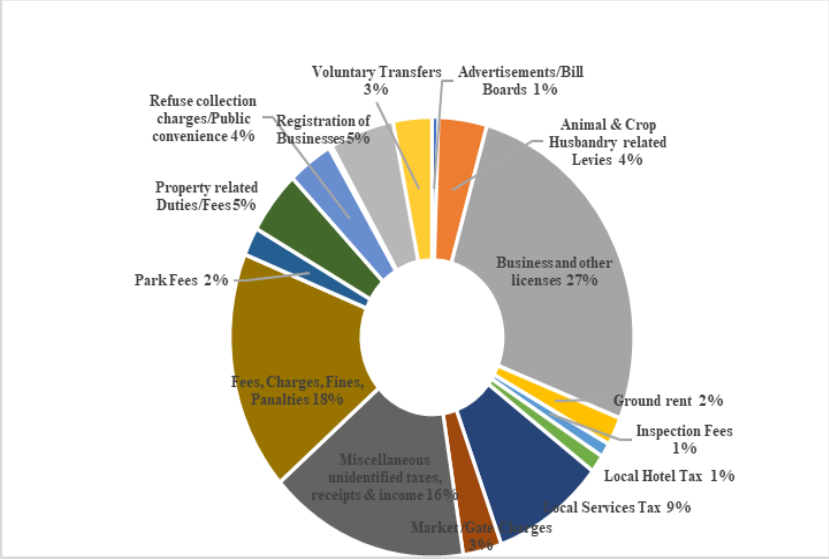


Figure 4: The Major Sources of Local Revenue by Percentage Performance
Source: Kamuli Annual Budget 2019/20

The Municipality's total revenue is about UGX. 16 bn. as per the statistics from revenue estimates in the Kamuli Municipal Council Budget 2019/20 (table 6). The Local revenue budget contributes only 2% of the total budget with the other 98% obtained from central government.

Table 6: Revenue Actual Performance in Comparison to Budged Estimates 2019/20

Revenue Category	Budgeted
Local Revenue	377,000,000
Central Government Transfers	15,939,000,000
Total	16,316,000,000

Source: Kamuli Annual Budget 2019/20

Among the challenges to Revenue mobilization and collection are:

- Presence of the informal sector which cannot be taxed or can only be taxed to a very small degree
- Limited awareness creation (by the municipal council) as to the reasons for tax payment and benefits of tax payment. LGs do not want to invest in awareness creation for benefits from taxes, preferring to enforce.
- Inadequate revenue to finance physical and social services to create impact in the society as a result, tax apathy increases, which eventually increases collection costs.
- Inadequate manpower to collect revenue, this is due to limited wage bill
- Political pronouncement especially during Presidential and Parliament elections and other forms of political interferences.
- Inadequate budget provision to finance revenue enhancement activities and processes.

3.3.10. Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis.

During the stakeholders' consultations, the participants analysed the Municipal strengths, weaknesses, opportunities and threats. This was to enable the stakeholders develop the Vision for the physical development plan of the Municipality for the planning period of 10 years. The outcome of SWOT analysis is summarized in Table 7.

Table 7: Strengths, Weaknesses, Opportunities and Threats (SWOT)

Strengths	Weaknesses
- Kamuli has a good road network which could be improved to have good connectivity to the northern parts of the sub region. - Welcoming and hospitable people, hence new people with innovative ideas and investment can settle without feeling insecure and intimidated. - Qualified and dedicated civil servants/technical staff; - Committed political and technical leadership in the Municipal council; - Presence of social services critical for investment and settlement such as piped water - Availability of land which does not have encumbrances hence can be planned and developed with minimum compensation.	- Poor mind-set and negative attitude towards positive change and development leading to resisting development and positive change. - Inadequate and lack of awareness on development programmes leading to non-support and resisting change and development. - Inadequate or lack of staff who would be critical to service provision, for example absence of building inspectors and inadequate health visitors. - Inadequate and absence of required tools and equipment in departments; - Low level of education among the population and limited exposure making it difficult to mobilise for development. - Cheap popularity in politics leading to mixing of politics and development among politicians, leading to failure of development programmes. - Limited local revenue - Corruption which limits investment

Strengths	Weaknesses
Opportunities	**Threats**
✚ Strategic geographical location in middle of northern part of the sub region, which turns Kamuli in 'capital' of northern part of sub region. ✚ Construction of nation infrastructure in Kamuli MC and neighbourhood. This include construction of Isimba dam with a bridge connecting Kayunga and Kamuli, proposal to tarmac Kamuli – Iganga road, Kayunga – Nakasongola road, and revamping of railway link to Kamuli from Jinja and Iganga. ✚ Presence of financial institutions for easy access to credit by the community; ✚ Presence of social infrastructure, that is, schools and health centres ✚ Potential for tourism in the region ✚ Availability of land for investment	✚ High taxes leading to high cost of production and high prices hence low consumption ✚ Political influences which may be in line with personal agenda ✚ Big disparities in civil service pay, even within the same station and rank in most of the local government departments; ✚ Corruption and lack of Ethics and Integrity; ✚ Drug abuse especially among the youth, rendering them economically unproductive, for example gambling in trading centres;

In the consultations, the community representatives gave a picture of how they would want Kamuli municipality to be in 2032. Among the proposals were; the municipality should be like Cape town, an Industrial centre, a Farming centre, Tourism centre, Silent with no noise pollution, Slum free, improved Household income, educational centre, provided with all services and not like Kampala. The consultant therefore, has come up with a vision as stated below.

3.3.10.1. Proposals

Given the above analysis, Kamuli Municipality PDP Vision is ***"A Well Planned, Serviced and Prosperous Municipality".***

Meanwhile, the major objective of the sector is ***to Strengthen Kamuli Municipal Council Capacity to Serve Efficiently and Effectively.***

The above objective will be achieved through the following strategies:

Change role from Controller and Regulator to enabler and facilitator.

As noted in Local Economic Development section, Local governments view themselves as regulators of business and economic activity and there is no legal framework to support investment especially small-scale enterprises. The Municipality should be at the fore front to engage, empower, enrich, and educate the stakeholders. The KMC Five Year Development Plan notes that the role of the municipality is to control/determine location of operation, the quality of the premises and the licensing of the business units. However, it is important for the local governments to realize their importance in stimulating growth by supporting investment, creativity, innovation and its contribution to people's livelihoods, GDP and employment. This will require Kamuli Municipality to view herself as enablers and support investment. NDP III stresses the role of government (especially even at parish and sub county which is the equivalent of ward and division in an urban areas) in providing services.

Improve public private dialogue. One of the main issues in consultative meetings was limited collaboration between the Municipal authorities and her stakeholders, especially the business community. Therefore, the municipality will have to work to strengthen this. This could be done by holding municipal hall meetings to disseminate the kinds of business services which Kamuli

municipal council can provide and will provide in the future and listen to the issues and constraints facing the private sector. This may help reduce the mistrust of government and the business community, but will help prepare plans which are more relevant to the business community and other stakeholders.

In setting herself as an enabler and facilitator, Kamuli municipal Council will devise new roles where the Municipal council will take a more aggressive role of selling and advertising Kamuli municipality as a centre for investment, and "why is it the best centre for investment". The Municipal council will further take on role of initiating partnerships with religious institutions, private sector, Civil Society Organisations etc. to provide services.

Re-engineering the staffing structure and institutional process

The foregone analysis indicates that the municipal council and the wards do not provide the required and relevant numbers of human and technical capacity for the mandate as the municipality. This is especially critical at this moment because the proposals in the NDP III intend to encourage the strengthening of the Sub County/Town Council/Divisions and Wards in order to bring services closer to the beneficiaries. The report also recommends change of government operations where government should stop operating as policy formulator and enforcer but also take on a role of enabler and facilitator. This will require restructuring of local government structures and re orientation of staff to be able to take on the new roles. Therefore, the following are recommended;

- The ministries of Public Service, Local Government and MLHUD should critically review the current urban councils (in the country) staffing structure, job descriptions and specifications for these urban councils. The objective should be assessing the relevancy in line with the legal requirements and the renewed mandate and advise government. The Municipal Council may initiate this with Ministry of Local Government and Public Service showing need for the adjustments.
- Kamuli will carry out campaigns to improve revenue collections these will include benefits from taxes (assumption should not be made that these are obvious), quoting tangible benefits to the community. The Public will be more willing to pay when shown the tangible benefits.
- Physical Planning should be institutionalized as the avenue through which land use planning, management and physical development decisions are initiated, processed and coordinated.
- Carry out public awareness campaigns to explain the physical planning mandate and related processes beginning with key decision makers.

Critical Staff rendered Necessary for improved service delivery

Implementing the physical development plan will require new staff structure with additional categories of staff which may not fit in the current arrangement. Table 8 identifies critical staff in the different departments for the implementation of the Kamuli Municipal Physical Development Plan. While the Municipality may not necessarily take on the title name as given in this plan, it is

important to note the importance of such an office and hence create one or assign an officer the functions and roles of such an office. The proposals to strengthen some of the physical planning office take into consideration government realization that sub counties/Town councils/Divisions should be strengthened for service provision as per the NDP III.

Table 8: Identified Critical Staff Required for Implementation of Kamuli Municipal PDP

Position in Structure	Existing Number	Recommendation	Total	Justification
Building Inspectors	0	1 per 5 wards	2	Give technical advice in construction to ensure building standards
Land supervisor	1	2	2	Assist and advise the Physical Planner on Land matters
Physical Planner	1	1	2	Support Senior Physical planner in Physical planning. These should be two, with one per division.
Assistant engineering officer (roads, buildings)	0	1	1	
Road inspector	0	1	1	
Revenue specialist	0	1	1	Study the revenue portfolio and advise the Municipal Council on how best to improve revenue collection and possible revenue sources
Partnership officer	0	1	1	Study and initiate possible partnerships with other partners/stakeholders for service provision Market Kamuli Municipality as a possible and the best investment destination.
Business Adviser	0	1	1	Train and provide information to the public on effective and efficient business operations and accessing keep credit.
GIS specialist	0	1	1	Manage the GIS unit –The interface and data requirements between the different departments, clients and stakeholders
Cartographer	0	1	1	
Enforcement officer		Two per 5 wards	2	
Assistant Records Officer	0	1	1	Receive, record plans and prepare planning schedules

3.3.10.2. Strategies to Improve on the Human Resource Situation

The Municipality will pursue the following strategies to improve the human resource Situation

- Strengthen the human resource capacity at the Division council and ward level especially now that the NPD III encourages the strengthening of sub county/Town Councils/Divisions and ward as centres of service provision.
- Continuous sensitization and mentoring to address poor working relationship and suspicion between the technical and political arms of municipal council. Each mentored on their roles but also encouraging openness in dealing with each other.
- Work on plan to reward, motivate staff and training in customer care for all municipal staff.
- Cascade ROM to departments and staff at ward level.

3.3.11. Critical Tools and Equipment

There is need to carry out a thorough tools and equipment requirement for departments and then acquire necessary tools. There is generally lack of tools and equipment for staff to perform their duties. Common tools and equipment that are lacking include computers and printers, motor vehicles and motorcycles, fuel, physical planning tools and materials, office furniture and fittings. The lack of tools and equipment generally hamper the staff to deliver services. For the Municipal Council to function well and deliver services it must have the required tools and equipment.

Geographic Information System (GIS)

There is need to establish a modern but simple GIS unit to support all physical planning and land management information requirements. It would combine information obtained from cadastral and topographic maps (Surveying Department), land tenure and land administration systems, road and infrastructure networks, and financial and statistical information (from external sources) to support the information needed for detailed physical planning, development control and land management, allowing easy and fast planning information searches and information processing.

The information system will be accessible to the public (to conduct searches and obtain land and development information). The GIS will help the Municipality in revenue enhancement, land control, management and provision of services. The development of a comprehensive information unit (GIS) will improve the operational efficiency of the departments, facilitate coordination between departments and sections and support overall decision-making. It will be useful in the analysis of the current urban development trends, conditions, which will be necessary for the monitoring of the implementation of the prepared Physical Development Plan. This will be critical for the physical planning unit to pro-actively identify problems and conceive their solution.

Ordinance and By-Laws

The Local Government Act Cap 243 gives powers to local governments to make By-Laws and Ordinances to address some local governance and administration challenges. These challenges are related to land use, sanitation, utilities and trade order in the community. There was no Ordinance or By-Laws in place in Kamuli municipality to support physical planning or to address the challenges of physical development that they are facing.

3.3.12. Study the Revenue Portfolio to Improve its Performance

The Municipality is doing poorly in terms of revenue mobilisation and collection. The municipality collects about 380 million and yet the budget was UGX. 16 billion. Therefore, the municipality contributes only 2% of its budget. This implies that the municipality should critically study the revenue portfolio with intentions of improving it but also explore other possible sources of funding; these would include: sensitise and mobilise communities to pay taxes by explaining why taxes should be paid mentioning tangible benefits to the population; purchase of land with intentions of leasing it to get property royalties; development of properties(could be in partnership) in proposed CBD and intermediate centres to collect property royalties; Starting up a Kamuli Development

corporation which would be a business arm to invest in Kamuli and get dividends; Lobby central government to enable all urban areas to purchase utility commodities such as water and electricity and resell them to the residents and make some profit.

3.3.12.1. Risks

- Failure to mobilise stakeholders and resources will prevent effective and sustainable implementation of Physical Plan.
- Circumvention of regulations for individual expediency will undermine sustainable land use and development.
- Failure to acquire land for property development and boost revenue mobilisation.

3.4. Report on Human and Socio-economic Development

This section discusses some of the key sectors relevant to physical development planning of Kamuli Municipality with a multiplier effect that would enhance socio-economic development and transformation of the municipality. The section specifically examines the municipality's socio-economic status, vis population and demographic trends, human capital development, household livelihood, social services delivery, gender and vulnerability. It further outlines sector objectives relevant to the physical planning and development aspects and the attendant strategies to achieve the set objectives. The strategies take cognizance of previous programs and studies at the national level, in the region, sub-region and in the municipality such as Vision 2040, NDPIII, the National Physical Development Plan and the Five-Year Municipal Development Plan. There was also linkage with broader development issues such as poverty reduction, health, education, housing, agriculture, environment, gender concerns, labour and employment- all of which impact on human capital development and by inference improvement of the quality of the municipality 's population.

3.4.1. Population and Demography

3.4.1.1. Introduction

The quality of the population of any locality is the overall decisive factor of the quality of life of that locality. When quality of life of any geographical area is classified as good, it becomes an attractive resource since it would be a place where people want to reside and work. Population is the most important asset of any area and the overall objective of the National Population Policy (2008) is to improve the quality of life of the people of Uganda.

The increasing population size due to a relatively high annual population growth rate (2.54% between 2002 and 2014), so there is need to put forth plans commensurate to the rising

Shift in Spatial distribution of the municipality's population, thus the need for provision of social service commensurate to this demographic shift.

Increasing population density which has not been properly planned for has strained the existing infrastructure and social services and is slowly promoting incidences of informal settlements.

The municipality's dependence ratio of 102 was far higher than the NDP111 target of 80 by 2025. There is need to put in place policies and guidelines that would reduce the pressure exerted on the municipality's

Unique population structure that requires meticulous physical planning for age and sex specific social services.

However, it is worth noting that unsustainable population growth results into poverty, hunger and other impediments to development. Investing in quality human capital is therefore vital for community transformation, since it is impossible to break development shackles without enhancing quality population growth. In general terms, population dynamics are determined by fertility levels, mortality and migration. The situation analysis of Kamuli Municipal Council that was undertaken by the consultants revealed a number of key findings some of which are:

3.4.1.2. Population Trends

The population of Kamuli Municipality rose from 11,350 in 2002 when it was still a town council to 58,984 in 2014. The average annual population growth rate for the municipality was 2.54%[1], which was slightly below the national annual population growth rate of 3.2% during the period 2002 and 2014. If the average annual growth rate of the municipality were to remain the same, the population is projected to be 113,229 by 2032.

Table 9: Population by Sex, Sex Ratio and Number of Households for Kamuli Municipality - 2014

Sex	Population	Percentage
Male	28,049	47.55
Female	30,935	52.45
Total	**58,984**	
Sex Ratio	**90.7**	
Number of Households	**13,110**	
Average House Hold Size	**4.5**	

Source: 2014 Uganda Population and Housing Census-Report – Eastern Region

The population of wards that were later to constitute Kamuli Municipality increased from 42,368 in 2002 to 58,984 in 2014 reflecting an increase of 16,616 people over a period of 12 years and is currently estimated at 68,563 in 2020. This huge increase is mainly due to urbanization that had started to set in, natural growth and its close proximity to Kampala City through Kayunga and Mukono at Mbulamuti across River Nile, natural increase and in- immigration of people of various cultures.

3.4.1.3. Population Distribution

Population distribution means the special spread of people within a specified geographical area. Spatial distribution of a population is vital at all levels of planning. The population of Kamuli Municipality in 2014 was unevenly distributed, with the Northern Division taking the bulk (30,272) comprising 51.3% of the municipal population. Nakulyaku (8,475) was the most populous ward in the municipality followed by Kamuli Namwendwa (7,776) and Buwanume (7,602). The total number of households in the municipality in 2014 was 13,110, with the bulk in Northern division (6,888), while Kasoigo (1,880) had the highest number of households among the wards.

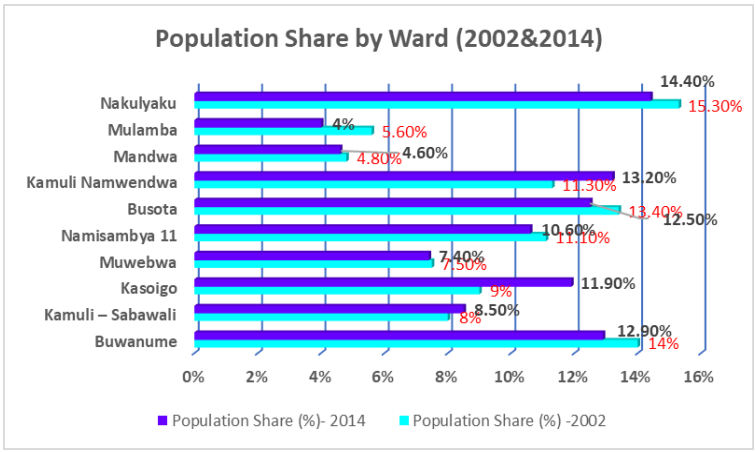
Table 10: Population Distribution, Density and Dependence Ratio by Ward – 2014

Ward	Number of HHs	Male	%	Female	%	Sex Ratio	Total	Population Share (%)	Population Density
Buwanume	1,477	3,716	48.9	3,886	51.1	95.6	**7,602**	12.9	351
Kamuli – Sabawali	1,085	2,502	49.5	2,550	50.5	98.1	**5,052**	8.6	536
Kasoigo	1,880	3,094	44.2	3,909	55.8	79.2	**7,003**	11.9	4,377
Muwebwa	1,226	1,957	45	2,396	55	81.7	**4,353**	7.4	6,697

[1] Kamuli Municipal Council Five Year Development Plan (2015/16-2019/20)

Namisambya 11	1,220	3,050	48.7	3,212	51.3	95.0	**6,262**	10.6	370
NORTHERN DIVISION	**6,888**	**14,319**	**47.3**	**15,953**	**52.7**	**89.6**	**30,272**	**51.3**	**602**
Busota	1,513	3,447	46.7	3,927	53.3	87.8	**7,374**	12.5	532
Kamuli Namwendwa	1,573	3,807	49	3,969	51	95.9	**7,776**	13.2	516
Mandwa	753	1,299	47.5	1,436	52.5	90.5	**2,735**	4.6	3,747
Mulamba	680	1,033	43.9	1,319	56.1	78.3	**2,352**	4.0	10,691
Nakulyaku	1,703	4,144	48.9	4,331	51.1	95.7	**8,475**	14.3	376
SOUTHERN DIVISION	**6,222**	**13,730**	**47.8**	**14,982**	**52.2**	**91.6**	**28,712**	**48.7**	**571**
KAMULI MC	**13,110**	**28,049**	**47.6**	**30,935**	**52.4**	**90.7**	**58,984**	**100**	**575**

Comparing percentage distribution of the municipal population among the ten wards in 2002 and 2014, although Nakulyaku had the bulk of the municipal population in both years, it reduced from 15.3% in 2002 to 14.4% in 2014. Generally, only Kasoigo, Kamuli Namwendwa and Kamuli Ssabawali had an upward surge in percentage composition of the municipal population between 2002 and 2014.

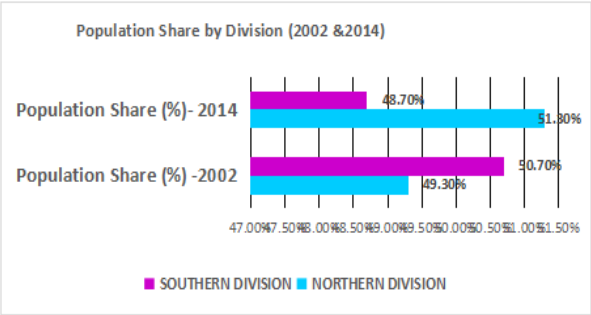


On average, there have been more settlement in Northern Division than southern Division in the last twelve years since the percentage composition of the Southern Division reduced from 50.7% in 2002 to 48.7% in 2014. The underlying reason for this shift in population was due to the fact that Northern Division was more urbanized and endowed with better social services than Southern Division.

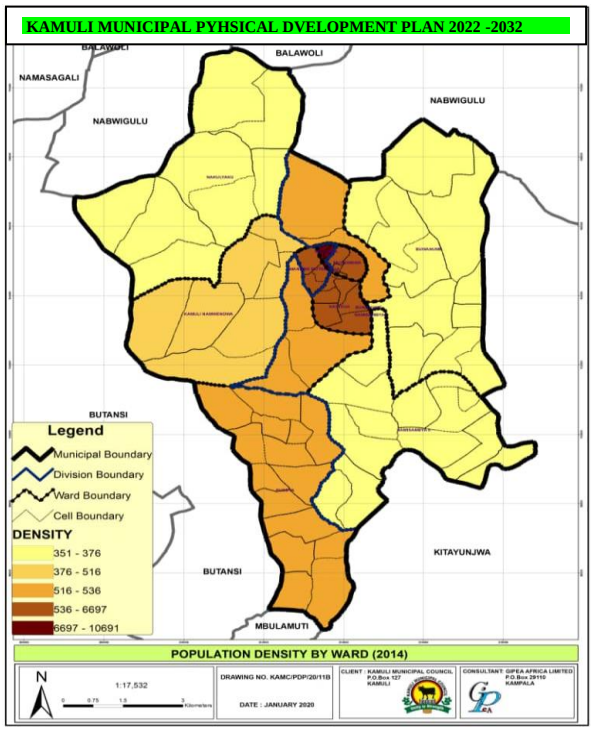
There is need for balanced provision of service between the two divisions.

3.4.1.4. Population Density

Owing to high population increase against fixed land, the population density for Kamuli Municipality was 575 persons per sq. Km in 2014 **(NHPC 2014)**, far above that of the Nation (173). Population density for Northern Division in 2014 was 602 persons per sq. KM, whereas that of Southern Division was 548.



Detailed analysis of population density for the years 2014 for the ten wards revealed that whereas some exhibited extremely high densities like Mulamba (10,691) persons per square Kilo Meter, Muwebwa (6,697) and Kasoiga (4,377), some wards such as Buwanume (351) and Namisambya 11(370) had comparatively low densities. (Map 6).



The latter is indicative of unguided and unregulated densification settlement patterns in some wards of the municipality. This has strained existing infrastructure and services and likely to lead to development of slums and informal settlements. The particular wards are: Mulamba, Muwebwa and Kasoigo. These have undergone relative densification and such drastic increase in population density should be followed by corresponding raise in service delivery and infrastructural development. On the other hand, the municipality must provide conducive environment to attract organized development especially in those areas that were relatively free for development through provision of serviced land with access roads, electricity, water and sewage network.

Map 6: Population Density by Ward- Kamuli Municipality

3.4.1.5. Population Structure

The most important demographic issue for Kamuli Municipal Council is related to the age structure and quality of the population rather than the overall size. The population structure of the municipality is indicative of high fertility rate and youthful age structure, where children under 18 years constitute 52.8% of the population, 47.8% is below 15 years old, 20.3% of the population are children of primary school-going age and those above 65 years of age constitute 2.4%. This kind of population structure is consistent with the age- sex composition of many other developing communities and pauses a challenge to attainment of any meaningful socio-economic transformation.

As regards population structure of the respective wards, these too follow the pattern as that at the municipal level, with children under 18 years constituting above half of the population of the respective wards save for the relatively urban wards of Kasoigo, Muwebwa, Mandwa and Mulamba. The proportion of children (0-17) were above half of the population of both Southern Division (54.6%) and Northern Division (51.2%). The elderly, 65 years and above constituted a higher percentage in the relatively rural wards of Busota (3.4%), Buwanume and Namisambya 11 (3.2%) compared to the more urban wards of Mulamba (0.7%), Muwebwa (0.8%) and Mandwa (1%). The burden of immunization of children was far more evident in Buwanume ward where 17.7% of the population was children 0-4 years. Furthermore, Southern Division (21.4%) had a greater population proportion of primary school going -age than Northern (19.2%) and among the wards, Nakulyaku (23.5%) had a higher proportion of primary school going- age than the rest of the wards. Finally, Northern Division (24.8%) had a higher proportion of youths than Southern Division, while Mulamba (33.6%) and Muwebwa (31.9%) had the highest proportion of youths among the wards in the municipal council. There is need to pay attention to age and sex specific requirements per locality at all levels of physical development planning.

Table 11: Household Population by Broad Ages and Population Dependence Ratio

Age Category / Ward	0-1	0-4	0-8	0-14	0-17	6-12	10-17	18-30	15-64	60+	65+	Dependence Ratio
Buwanume	3.1%	17.7%	30.8%	49.2%	56.6%	21.9%	23.2%	21.0%	7.6%	4.8%	3.2%	110
Kamuli – Sabawali	3.1%	15.8%	27.8%	44.0%	51.6%	19.6%	21.1%	26.3%	52.9%	4.3%	3.1%	106
Kasoigo	3.8%	17.3%	28.1%	41.4%	48.0%	16.9%	18.0%	30.6%	57.3%	2.2%	1.3%	81
Muwebwa	3.2%	15.8%	26.5%	39.9%	46.5%	16.7%	17.6%	31.9%	59.3%	1.4%	0.8%	69
Namisambya	3.3%	17.4%	32.1%	50.4%	57.6%	23.0%	22.5%	20.1%	46.4%	4.9%	3.2%	119
NORTHERN DIVISION	**2.5%**	**16.5%**	**28.6%**	**46.9%**	**51.2%**	**19.2%**	**20.2%**	**24.8%**	**50.8%**	**3.6%**	**2.3%**	**97**
Busota	3.0%	17.6%	30.9%	49.8%	57.2%	22.3%	23.1%	20.9%	46.8%	4.8%	3.4%	122
Kamuli - Namwendwa	3.0%	17.0%	30.9%	49.2%	56.6%	23.0%	22.8%	22.2%	48.1%	3.7%	2.7%	113
Mandwa	3.2%	16.0%	26.9%	40.8%	48.3%	17.2%	18.7%	28.2%	58.2%	1.6%	1.0%	77
Mulamba	3.3%	16.6%	25.4%	38.6%	45.8%	15.1%	17.7%	33.6%	60.7%	1.3%	0.7%	65
Nakulyaku	3.1%	17.4%	31.3%	50.6%	58.3%	23.5%	23.8%	19.8%	46.6%	4.0%	2.8%	115
SOUTHERN DIVISION	**3.0%**	**16.8%**	**29.6%**	**49.5%**	**54.6%**	**21.4%**	**22.0%**	**22.2%**	**48.4%**	**2.9%**	**2.5%**	**107**
KAMULI MC	**3.1%**	**17.0%**	**29.1%**	**47.9%**	**52.8%**	**20.3%**	**21.0%**	**24%**	**49.7%**	**3.7%**	**2.4%**	**102**

Source: NHPC 2014 Report – Eastern Region

The Municipal Council has a high dependency ratio of 102 dependents to 100 persons of economically active age (15 - 64), and close note should be taken of the dependence ratio of the respective wards, (Table 11) above. The dependency ratio is far above the NDPIII target of 80 by 2025. The high dependence ratio of Kamuli council is largely a result of a large dependent population compared to the working – age population. This then is indicative of the fact that Kamuli Municipality is far from reaping from the demographic dividend. Local governments have been empowered, through the Local Government Act 1997 and later on in 2006 when they were given the responsibility to play an active role in wealth creation and increasing household income, to be vehicles of reforms to promote harnessing of the demographic dividend. The municipality has to use a multipronged approach based on five pillars that would result into accelerated socio-economic transformation. The five pillars are:

- Undertake investments that facilitate rapid fertility decline, enhance child survival and provision of health services that strengthen vigor and vitality of the people.
- Provision of quality and accessible education services at all levels, basic for critical exposure and skills to spur innovation, growth of the industrial sector and bridge the skills gap for the current and future job market.
- Play an active role in accelerated economic growth, wealth creation and improvement of household incomes. Thus, the municipality has the mandate to facilitate investment and wealth creation, provision of adequate work spaces and on job training which enhances the skills of the labour force.
- Empowerment of women and involving them in the workforce.
- Explore and utilize fiscal policies and governance reforms that enhance savings, attract foreign direct investments and ensure efficiency and accountability in the use of public resources.

The skewed population structure of Kamuli Municipal Council arising out of high fertility rate (6 children per woman), coupled with high infant and under 5 mortality rate was clear indication of population that could compromise sustainable utilization of resources and services, thus compromising on the quality of her population. The apparent lack of solid plans to harness

demographic dividends is likely to exacerbate the already high poverty levels, cause a raise in other social ills and crime rate. Some of the fragile population categories that require ardent attention in the municipality for investment to enhance demographic dividend include the children 0-5 years, children of primary and secondary school going- age, children below 18 years and adolescents 10-19 years. The high proportion in each of these categories implies high investment needed to be made in education facilities, child care, work spaces and appropriate skills. This situation could be averted only through rapid decline in fertility, ensuring that the resulting surplus labour force is well educated, skilled, healthy and economically engaged to reap the demographic dividend. Efficient management of the municipal council's population is pre-requisite for social economic transformation of the society and improvement in the quality of life.

3.4.1.6. Objective:

- To promote improvement in the quality of life and structure of the Kamuli Municipal council's population for accelerated socio-economic transformation and sustainable development.
- To invest in people to harness the demographic dividend and increase total labour productivity of the population of Kamuli Municipal Council
- To Plan for physical infrastructure that would lead to wealth creation and improvement in household income, living conditions and general quality of life of the people of Kamuli Municipal Council.

3.4.1.7. Strategies/ Recommendations: -

- The Municipality must integrate demographic dividend priority interventions into its development / investment plans and budgets based on analytical evidence.
- Ensure planned urban infrastructure with adequate employment centers and amenities for education, health, water and waste disposal.
- Empower women through education and promote retention of the girl child in school to stifle early marriages and teenage pregnancies.
- Lower Local governments at relevant levels should make ordinances and byelaws stipulating requirements to register all new settlers therein and laws that promote the demographic dividend agenda.
- Improve accessibility, availability and affordability of quality health services in the municipal council, especially reproductive health services.
- Promote advocacy campaigns at all local government levels, inclusive of CBOs, cultural and religious institutions to raise awareness and increase understanding of the demographic dividend agenda.
- Design and implement awareness programs on reproductive health rights and emphasize the role of men in reproductive health issues.
- Improve public education services and ensure that established population groups have functional and competitive skills and participate in training and functional adult literacy programs.
- Integrate population concerns with broader development issues in the municipality like poverty reduction, agriculture, health, education, environment, labour and employment.

3.4.1.8. Risks:

- Some cultural and religious groups that discourage use of family planning services.

- Low level of utilization of reproductive health services due to lack of access or ignorance.
- Lack of social safety nets at old age which results into viewing many children as security in old age.

3.4.1.9. Population Future Growth Scenarios

The consultant conceptualized several possible growth scenarios for Kamuli Municipal Council in order to ably assess future physical development needs and constraints which will affect the future of the municipal council in alignment with regional growth trends envisaged in the next twenty years. These scenarios put into consideration three possible courses of action based on different reasoning and anticipated growth trends in the region and at the national level.
The three possible development scenarios are:

- Business as usual scenario with assumption that factors of population growth will be regulated and population growth is maintained at the current rate of 2.54%
- Best case scenario with assumption that all indications are Kamuli Municipal Council is likely to attract more settlers. Annual population growth rate was estimated at 4%.
- Ideal case scenario with annual population growth rate estimated at 3.3% which is the mid-point between the above two and also the annual population growth rate for Uganda.

a. Business as Usual Scenario

The assumption is that if targeted interventions were to be undertaken to control population growth and reduce on population inflow into Kamuli municipal Council, population growth rate can be maintained at 2.54%. However, this would require numerous structural and administrative reforms at both the national, regional and local level.

b. Best Case Scenario

Under this scenario the population growth rate was assumed at 4%. It was anticipated that the annual population growth rate for the municipal council was likely to shoot up from 2.54% to approximately 4% due to the following factors.

- With improvement in irrigation and mechanization, the municipal council's agricultural activities are likely to grow.
- Its Strategic location along the busiest Northern trade corridor which originates from Kenya's maritime port of Mombasa passing through Uganda, to Rwanda, Burundi, Democratic Republic of Congo, and Southern Sudan is reason to show that the region has potential to experience rapid population and economic growth.
- The government of Uganda is investing in road infrastructure in the region, hence improving communication and connectivity within the region, also with the rest of the country and neighboring countries.
- The construction of Isimba dam bridge planned to connect Kamuli to Kayunga districts and the proposed upgrading of the road that connects Kamuli and Kaliro are all examples of improved connectivity. This improved infrastructure in the region and connection to other regions will make fast movement of passengers and goods, hence stimulating economic growth in the region.
- The planned and eventual improvement of railway transport infrastructure will likely attract more investment in the region and attendant growth in population.
- Finally, government plans to construct a road that connects Kamuli Municipality to Nakasongora, through Kayunga. This road might provide a shorter and more convenient route to cargo trucks coming in from Kenya to the western and northern parts of the country and beyond.

The municipal council's population projections were worked out based on the above three growth scenarios as illustrated in **table 12**: -

Table 12: Projected Population Kamuli Municipal Council Wards

Ward / Municipal Council	Pop. 2014	Projections					
		2020	2025	2030	2035	2040	2045
Business as Usual (2.45%)							
Buwanume	7.602	8836	10,017	11,355	12,872	14,592	16,542
Kamuli – Sabawali	5,052	5**872**	6657	7546	8554	9697	10,992
Kasoigo	7.003	8141	9229	10,462	11,860	13,445	15,24**1**
Muwebwa	4,353	5060	5736	6504	7373	8358	9475
Namisambya 11	6,262	7279	8252	9354	10,604	12,021	13,627
NORTHERN DIVISION	**30,272**	**35,188**	**39,891**	**45,221**	**51,263**	**58,113**	**65,877**
Busota	7,374	8571	9716	11,014	12,486	14,154	16,045
Kamuli Namwendwa	7,776	9040	10,248	11,617	13,169	14,929	16,924
Mandwa	2,732	3176	3600	4082	462**7**	5245	5946
Mulamba	2,352	2737	3103	3517	3987	4520	5124
Nakulyaku	8,475	9851	11,167	12,659	14,351	16,268	18,442
SOUTHERN DIVISION	**28,712**	**33,375**	**37,834**	**42,889**	**48,620**	**55,116**	**62,481**
KAMULI MC	**58,984**	**68,563**	**77,725**	**88,110**	**99,883**	**113,229**	**128,358**
Ideal Scenario (3.3%)							
Ward / Municipal Council	**Pop. 2014**	**Projections**					
		2020	**2025**	**2030**	**2035**	**2040**	**2045**
Buwanume	7.602	9238	10,866	12,781	15,034	17,684	20,801
Kamuli Sabawali	5,052	6139	7221	8493	9990	11,751	13,822
Kasoigo	7.003	8509	10,008	11,772	13,847	16,287	19,158
Muwebwa	4,353	5289	6222	7319	8609	10,126	11,911
Namisambya 11	6,262	7609	8950	10,528	12,384	14,567	17,135
NORTHERN DIVISION	**30,272**	**36,784**	**43,267**	**50,893**	**59,864**	**70,415**	**82,826**
Busota	7,374	8960	10,539	12,397	14,582	17,155	20,179
Kamuli Namwendwa	7,776	9448	11,113	13,072	15,376	18,086	21274
Mandwa	2,732	3320	3905	4593	5403	6354	7474
Mulamba	2,352	2859	3364	3957	4654	5474	6439
Nakulyaku	8,475	10,299	12,114	14,249	16,760	19,713	23,188
SOUTHERN DIVISION	**28,712**	**34,886**	**41,035**	**48,268**	**56,775**	**66,782**	**78,553**
KAMULI MC	**58,984**	**71,670**	**84,302**	**99,161**	**116,639**	**137,197**	**161,379**
Best Case Scenario (4%)							
Ward / Municipal Council	**Pop. 2014**	**Projections**					
		2020	**2025**	**2030**	**2035**	**2040**	**2045**
Buwanume	7.602	9620	11,704	14,240	17,325	21,079	25,646
Kamuli Sabawali	5,052	6393	7778	9462	11,511	14,005	17,039
Kasoigo	7.003	8861	10,781	13,117	15,959	19,416	23,623
Muwebwa	4,353	5509	6703	8,155	9922	12,072	14,687
Namisambya 11	6,262	7923	9640	11,728	14,270	17,362	21124
NORTHERN DIVISION	**30,272**	**38,306**	**46,605**	**56,702**	**68,988**	**83,934**	**102,119**
Busota	7,374	9331	11,353	13,813	16,806	20,447	24,877
Kamuli Namwendwa	7,776	9839	11,971	14,565	17,721	21,560	26,231
Mandwa	2,732	3457	4206	5116	6224	7572	9212
Mulamba	2,352	2976	3621	4405	5359	6520	7933
Nakulyaku	8,475	10,725	13,049	15,876	19,315	23,500	28,591
SOUTHERN DIVISION	**28,712**	**36,328**	**44,199**	**53,775**	**65,426**	**79,599**	**96,844**
KAMULI MC	**58,984**	**74,634**	**90,804**	**110,477**	**134,412**	**163,533**	**198,963**

Both the business as usual and ideal scenarios were regarded as untenable because all indications point to the fact that the municipal council is likely to undergo considerable population growth. The consultant therefore opted to use the best-case scenario to plan Kamuli Municipal Council. The planning population projection figures of the municipal

council for the Best-Case Scenarios were constructed at an interval of 5 years up to the end of the planning horizon in 2032 for purposes of giving the upward trends (Table 13).

Table 13: Population Projections for Kamuli Municipal Council Based on Case Scenarios 2020-2045

Year of Projection	Business as Usual Scenario (2.54%)			Ideal Scenario (3.3%)			Best Case Scenario (4.0%)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2014	28,049	30,935	**58,984**	28,049	30,935	**58,984**	28,049	30,935	**58,984**
2020	32,604	35,959	**68,563**	34,082	37,588	**71,670**	35,491	39,143	**74,634**
2025	36,961	40,764	**77,725**	40,089	44,213	**84,302**	43,181	47,623	**90,804**
2030	41,899	46,211	**88,110**	47,155	52,006	**99,161**	52,536	57,941	**110,477**
2032	44,055	48,588	**92,643**	50,319	55,495	**105,814**	**56,823**	**62,669**	**119,492**
2035	47,497	52,386	**99,883**	55,467	61,172	**116,639**	63,918	70,494	**134,412**
2040	53,843	59,386	**113,229**	65,243	71,954	**137,197**	77,766	85,767	163,533
2045	61,037	67,321	**128,358**	76,742	84,637	**161,379**	94,614	104,349	**198,963**

3.4.1.10. Poverty Levels in the Kamuli Municipal Council

Basically, poverty is defined as the inability to access the basic requirements to enhance human survival. It depicts a current state of deprivation or lacking of resources and capacity to satisfy future needs. Poverty is a multidimensional phenomenon that can be measured using a combination of social and economic indicators, although there is a general tendency to apply a uni-dimensional measure of poverty and well-being that focuses on household income or consumption expenditure. Poverty is also exhibited in household deprivation in critical measures of well-being such as quality education, health, water and sanitation, access to public utilities, housing conditions and access to information.

The principal economic activity of the household is one of the key indicators of poverty. Kamuli Municipal council is moderately an urban community whose social economic welfare majorly depends on bossiness and trade. However, majority of these were in the informal sector whose ultimate goal is day today survival. This has therefore created a significant trail of fragile businesses that hardly survive their first year of conception, which results into concentration of urban poverty. As urbanization sets in, the municipality has registered significant increase in urban poverty. Much of the urban population has no stable income and specific vulnerable groups therein face numerous well-being challenges that require unique home-grown interventions. There is a high dependence on subsistence farming resource base (57.8%), on small land parcels with no security of tenure and whose productivity is low. Food production levels and food security levels were poor because many households especially in Nakulyaku, Busota, Buwanume and Namisamya 11, have abandoned food production for sugarcane which has led to long-term accentuation of poverty in these wards.

Despite the fertile soils and good climate that support agricultural activities, most households rely on rain fed agriculture; there is low utilization of agricultural inputs due to either ignorance or high expense, use of traditional rudimentary tools and lack of technical farm support. This sector is vulnerable to climate shocks, pests, low prices, limited markets, poor road network, high market dues and poor post-harvest handling methods. Households that sorely depend on agriculture are vulnerable to poverty due to the uncertainty associated with cultivation as a source of livelihood. Secondly, women who play a major role in food production have limited access to land and in some instances, do not have control over the agricultural products. There is a general perception that the

incidence of poverty is mainly concentrated in rural areas and that subsistence farmers who exclusively depend on agriculture comparatively experience the highest incidence of poverty.

As a result of disproportionate urbanization in Kamuli Municipal Council vis-à-vis the social and infrastructural services in place, the local authority has been rendered unable to cope with the basic needs of the populace to levels that guarantee acceptable quality of life and a good proportion of the population has resorted to diverse coping mechanisms for survival. Data from the socio-economic survey revealed that the level of service delivery in especially public education institutions and health facilities is inadequate and although private service providers have taken the initiative to fill the service gap, some have turned service delivery into a source of income and thus have compromised on standards. Furthermore, most of the private services were expensive and the low-income earners cannot afford them and are thus deprived. Quality of housing is proxy indicator of one's socio-economic status, alongside others like the number of meals a household takes on a daily basis. Although majority of houses in the municipal council were permanent (86%), owner-occupied (52.2%) and approximately 91.7% of households take more than two meals a day, a good number of the low-income earners reside in dehumanizing conditions in houses that were considered substandard.

The high proportion of semi-permanent and temporary residences especially in Buwanume, Kamuli Sabawali, Nakulyaku and Namisambya 11 depicts high incidences of poor communities. Numerous residences were not serviced with water and electricity, with no satisfactory sanitary facilities while others use shared sanitary facilities and are prey to poor sanitary related diseases.

Poverty is the root of underdevelopment and insecurity in any community because it inhibits people's ability to harness the resources that enables them improve their living conditions and erodes human dignity. Unless conscious efforts are undertaken to tackle poverty in the municipal council, sustainable development will remain only a myth. Precondition of tackling poverty in Kamuli Municipal Council entails formulation of a mixture of national policies and some home-grown interventions emphasizing: - systematic reduction of the household size, mindset change, equitable provision of appropriate and quality education, health for all, reduction in economic vulnerability, appropriate and serviced housing, initiatives to ensure food security, responsive service delivery and pro- poor infrastructure.

3.4.2. Objective: -

1. Plan for physical infrastructure that would lead to improvement in household income, living conditions and general quality of life of the people of Kamuli Municipal Council.
2. To develop prudent method of tackling poverty in the municipal council through physical infrastructure and improvement in household income.
3. Devise interventions that ensure that the high proportion of children in the municipal council reach their full cognitive, socio-emotional and economic potential.

3.4.2.1. Strategies: -

- Encourage backyard farming in high yield and short season crops to improve on household income as well as food security at the household level.

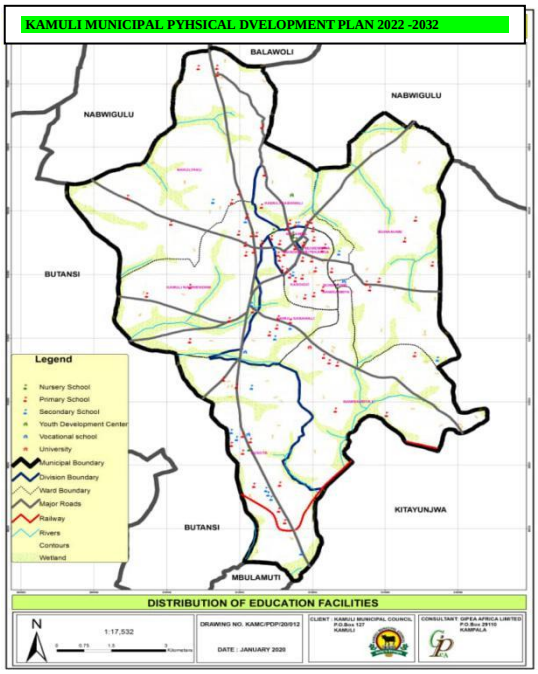
- Development of agricultural research and advisory services to transform the subsistence sector to commercial farming through use of widely proved mechanisms. This could be done in consortium with neighboring local authorities.
- Development of decentralized community based agricultural processing centers and communal agricultural storage facilities that will help reduce post-harvest losses in the relatively rural wards.
- Deliberate establishment of social services facilities, especially education, health and water to the entire municipal council.
- Provision of vocational and skilling training targeting adults, especially women, youth and people with disabilities.
- Establishment of public Vocational training institutions targeting children of the poor.
- Empower the vulnerable population with education, skills and income generating opportunities to reduce on inequalities in the municipal council.
- Establishment of suitable and well facilitated work spaces in each ward.

3.4.2.2. Risks: -

- Lack of land and funds required for the establishment of public social service facilities.
- Poor implementation culture of planned activities.
- The youth have a poor attitude towards work.
- Poor mind-set towards vocational training

3.4.3. Report on Social Services in Kamuli Municipal Council

Map 7: Distribution of Education Institutions in Kamuli Municipality



3.4.3.1. Overview

This section analyses the status of the municipal council's social services, specifically education and health services, markets or commercial infrastructure, recreation facilities, community centers, and security services among others. The focus is on the availability of these facilities to meet the current and future needs of the municipal council's population and neighboring communities. Special attention is given to the availability, affordability, distribution, threshold and where possible the range of these services in relation to the national standards. The overall goal of the sector is to ensure that the proposed PDP enhances the productivity of the population of Kamuli Municipal Council for increased competitiveness and better quality of life.

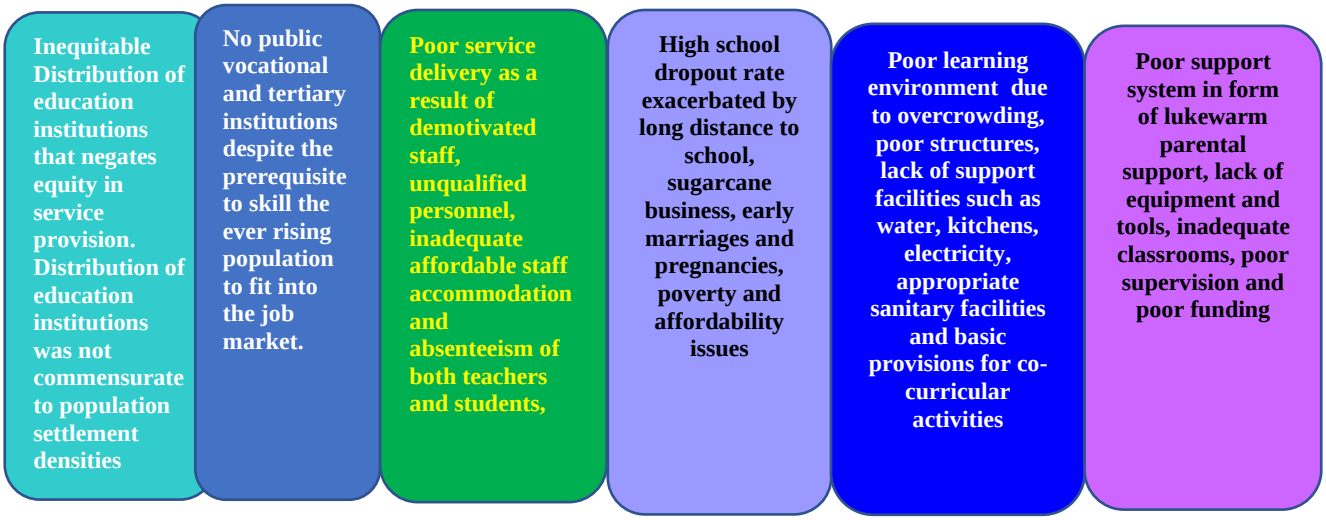
3.4.3.2. Education Sector Overview

There has been noticeable change in the education service provision over the past two decades. Since inception of UPE in the country in 1997 and USE in 2007, enrolment in the municipal council, like elsewhere in the country, has increased at all levels and education institutions and collages have sprung up. According to the second schedule of the Local Government Act, the

education and sports functions and services for which the district/municipality are responsible include but not limited to provision of education service which cover pre- primary (ECDS), primary, secondary, teacher education, science, technology, innovation, special needs and technical and vocational education.

Kamuli Municipality has a total of 105 education institutions comprising: 32 private nursery/pre-primary institutions, 20 public primary schools,32 private primary schools, 11 public secondary schools, 3 private secondary schools, 1 vocational institute, 2 Primary Teachers' Collages, 1 University Branch and 2 Nursing Institutions. The situation analysis established a number of key issues that affect the delivery of quality education services in the municipality. Some of these include: -

The education institutes were inequitably distributed, with the bulk of institutions in Kamuli Ssabawali, while Mulamba and Muwebwa had the least. The Municipality has one university located in Namisambya 11. All wards in Kamuli Municipality have public primary schools save for Mulamba and Muwebwa.



3.4.3.2.1. Early Childhood Development Centres/ Pre-primary Institutions

Pre-primary education in Uganda is the first level of education as enshrined in the Education (pre-primary, Primary and Post primary) Act of -2008.The period from 3 to 5 years' old in children constitutes a time of remarkable physical, mental and psycho-socio growth as they lay the foundation for subsequent learning and development.[2] The government of Uganda is committed to promote the drive to have all pre-primary school going age children have access to this form of education regardless of one's socio-economic status. SDG Goal 4, target 4.2 ensures that all girls and boys have access to quality early childhood development care and pre-primary so that they are ready for primary education. However, in Uganda, this kind of education is optional thus its provision is dependent on NGOs, individuals and the private sector which limits access with high disparity between the different socio-economic classes. NDP III points to a challenge of low access to Early Childhood Care and Education in the entire country, which was established at 15.6 % in the financial year 2015/1016. Quality indicators for pre-primary education in 2018 show that Kamuli

[2] 2016 Statistical Abstract – UBOS

District was far below the national quality indicators and still below Iganga District and Kaliro District but higher than Buyende District.

Table 14: Comparison of Pre-Primary School Accessibility Indicators for Uganda, Kamuli District, Buyende. Iganga and Kaliro Districts – 2016 - 2017

District	2012		2013		2014		2015		2016		2017	
	PTR	PCR	PTR	PCR	PTR	PCR	PTR	PCR	PTR	PCR	PTR	PCR
Kamuli	28	45	31	87	30	29	28	34	29	23	28	30
Buyende	39	47	50	89	38	43	31	45	45	29	30	36
Iganga	28	26	26	85	23	33	19	27	19	18	22	24
Kaliro	23	16	28	59	18	13	23	27	14	23	14	16
National	**31**	**29**	**29**	**25**	**24**	**28**	**22**	**31**	**26**	**21**	**22**	**28**

Statistical Abstract 2018

However, there is need to improve upon the quality of the physical infrastructure that houses these institutions and enforce quality in content that is being consumed by the young leaners. Furthermore. some institutions are manned by unqualified personnel, some were set up in squalid premises and the municipality's supervisory mandate needs to be stepped up. Many facilities lacked qualified personnel and this was a sector that deserved more attention in form of control and regulation by the local government authorities.

According to the records from the Kamuli Municipal Council 5 Year Development Plan (2015/16-2019/20), the municipality had a total of 32 registered pre-primary/ Early childhood development centres. The socio- economic survey conducted by the consultants established that pre- primary/ nursery facilities were available to majority (63%) of the households and approximately 50.5% of them used the services. Most nursery schools (73%) were in a radius of 1 KM, which shows that these facilities were in abundant supply in the municipality.

3.4.3.2.2. Primary Education Services

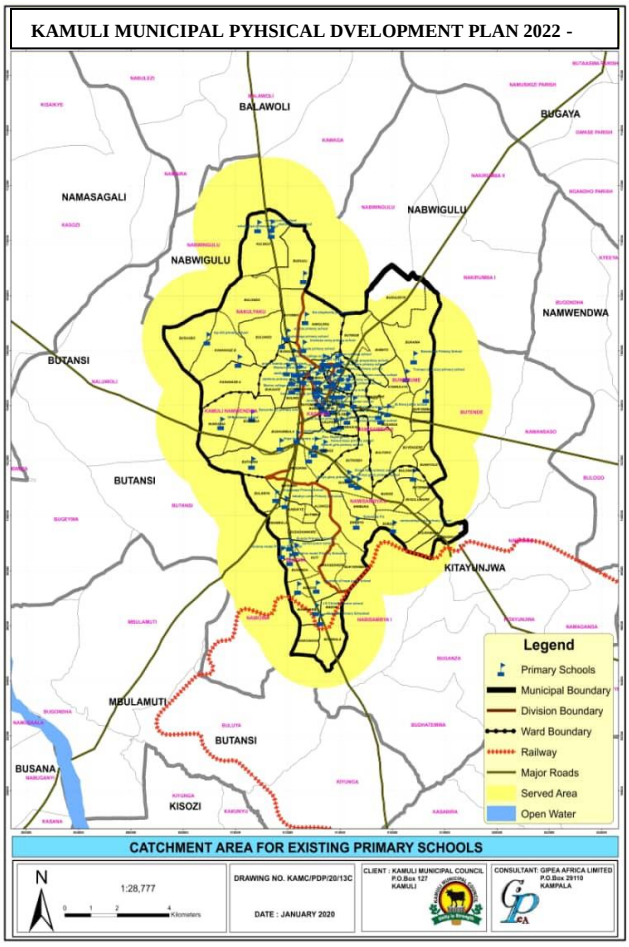
The education system in Uganda has a structure of 7 years of primary school and cater for 6-12-year-old children. Kamuli Municipal Council had a total of 6,134 children of primary school going age in 2014.Nakulyaku (1,993) had the highest number of children in this category, while Mulamba (356) had the least.

Table 15: Distribution of Primary School Going-Age Children in 2014 – Kamuli Municipality

Ward/ Division	Children 6-12 Years	Percentage of Children 6-12 in the Municipality
Buwanume	1,667	13.9
Kamuli Ssabawali	910	7.6
Kasoigo	1,140	9.5
Muwebwa	728	6.1
Namisambya 11	1,418	11.8
Busota	1,584	13.2
Kamuli Namwendwa	1,743	14.5
Manhwa	459	3.8
Mulamba	356	3.0
Nakulyaku	1,993	16.6
NORTHERN DIVISION	**5,863**	**48.9**
SOUTHERN DIVISION	**6,134**	**51.1**
KAMULI MC	**11,997**	**100%**

Source: UBOS 2014

Kamuli Municipality has 52 primary schools and only 38.5% were public. These were inequitably distributed across the municipality, with the Southern Division which had more primary school going-age children posting less schools than the Northern and yet the latter has more primary schools. The schools were mostly congested in the central part of the municipality, although further analysis revealed that some of these schools served communities outside the municipality's boundaries (Map 8). The map reveals that households that were within the catchment area of 5kms or less to the nearest primary school's spill into the surrounding sub counties of Nabwigulu, Kitayunjwa, Mbulamuti Balawoli and Butansi. So, for effective planning, there is need to stretch the scope of planning for service provision beyond the municipal boundaries.



The municipality's primary performance indicator for the last four years (2014-2017) was dismal in comparison to the national performance and some of her neighbouring local governments. The pupil/ teacher ratio for Kamuli district has consistently been lower than that of Buyende and Kaliro districts but higher than the national ratio and that of Iganga District in all the years under review. This implies that although the quality of primary education in Kamuli district was better than her sister districts of Buyende and Kaliro, it was still lacking compared to Iganga District and the national ratio, thus the need to improve.

Map 8: Catchment of existing primary schools in Kamuli Municipality

Table 16: Comparison of Primary School Accessibility Indicators for Kamuli District, Buyende District, Iganga District. Kaliro District and the National Level – 2014-2017

District/ National	2014			2015			2016			2017		
	GER	PTR	PCR	GER	PTR	PCR	GER	PTR	PCR	GER	PTR	PCR
Kamuli	**107**	**64**	**64**	**115**	**63**	**63**	**113**	**62**	**62**	**101**	**63**	**63**
Buyende	139	66	66	90	99	99	103	66	66	106	70	70
Iganga	124	59	59	119	58	58	118	59	59	110	58	58
Kaliro	132	70	70	112	101	101	110	82	82	96	88	88
Uganda	**117**	**57**	**58**	**109**	**58**	**63**	**112**	**63**	**54**	**111**	**55**	**55**

Source: Statistical Abstract – 2019

PCR for Kamuli District for the years 2014-2017 has consistently been lower than Kaliro and Buyende districts but higher than Iganga and the national level, save for 2015. This reflects less crowding in classrooms in Kamuli than both Kaliro and Buyende, thus more favourable learning environment. According to the Kamuli Municipal Council 5-year Development Plan, the municipality's pupil/teacher ratio for 2016 was within range to the ideal situation. However, the

pupil/ classroom ratio fell far short of the ideal ratio, reflecting a dent in the quality of service. The municipality has a challenge of overcrowding in many of her schools, the structures were not well-maintained and classrooms were poorly furnished. Generally, the learning environment in most primary schools, especially the public ones, was poor.

Plate 4: A Typical un favourable learning environment at Devine Faws Primary School in Namisambya

There is need for more classrooms in both divisions to attain the recommended PCR ratio of 54:1. In the same vein, the municipality has a shortage of toilet stances since the ratio was 60:1 yet the ideal would be 40:1. Provision of suitable accommodation for teachers would both motivate the teachers and curtail absenteeism of the teachers which would contribute to improved service delivery. The municipality has a total of 61 staff houses, 37 in Northern Division and 26 in Southern Division. However, the ideal situation would be one house per teacher and since the municipality has a total of 296 primary school teachers, there still exists a gap of 235 staff houses.

According to the socio-economic survey, primary schools in the municipal council were available to 70% of households and utilisation was lower at 65%. These were within 5kms to majority (89%) of households. It should be noted that 61.5% of the primary schools in the municipality were private, and according to 70% of respondents, primary school services were expensive. This could be a pointer to the fact that although primary schools in the municipality were in easy reach to more than half of the population, utilisation could have been curtailed by inability to afford the services by a good number of residents. A complaint of too many school requirements and poor standards of some primary schools were also raised. A good number was operating in dilapidated structures and lack basic requirements. However, there is marked lack of parental support and participation in education of their children. It was further established that a good number of primary schools lacked basic infrastructure such as appropriate kitchen, playgrounds, appropriate sanitary facilities and safe water sources. It is therefore imperative to redevelop these facilities or put-up new ones in all schools in the municipal council.

3.4.3.2.3. Secondary Education Services

The official secondary school going-age in Uganda is 13-18 years. It is important to understand the size and distribution of the school going -age population of any geographical area in order to inform policy formulation and implementation process in the education sector at all levels. The secondary going- age population for Kamuli district in 2014 was 9,079, distributed (Table 17).

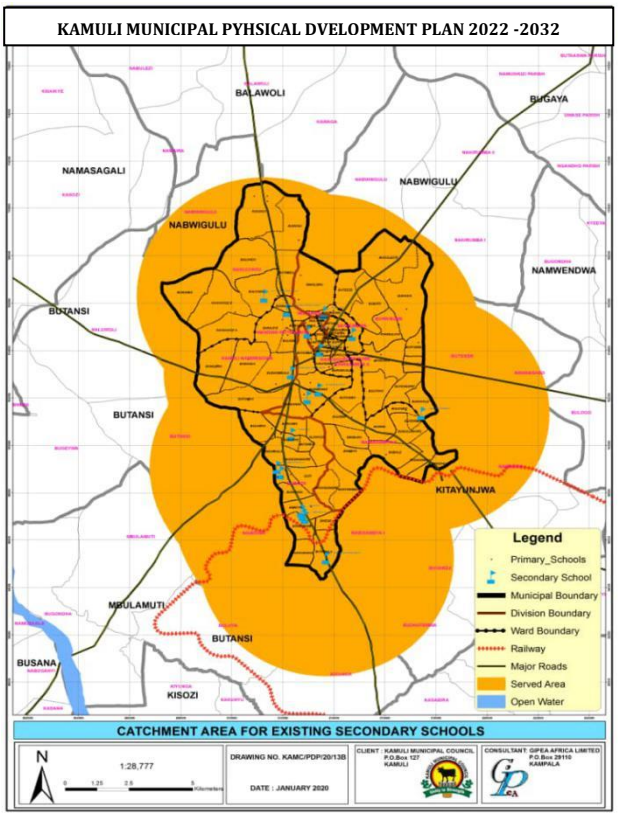
Table 17: Distribution of Secondary School Going -Age in Kamuli Municipality - 2014

Ward/ Division	Children 13-18 Years	Percentage of Children 13-18 in the Municipality
Buwanume	1,248	13.7
Kamuli-Ssabawali	740	8.2
Kasoigo	939	10.3
Muwebwa	619	6.8
Namisambya 11	1,000	11.0
Busota	1,164	12.8
Kamuli-Namwendwa	1,197	13.2
Mandwa	402	4.4

Ward/ Division	Children 13-18 Years	Percentage of Children 13-18 in the Municipality
Mulamba	352	4.0
Nakulyaku	1,418	15.6
NORTHERN DIVISION	**4,546**	**50.1**
SOUTHERN DIVISION	**4,533**	**49.9**
KAMULI MC	**9,079**	**100**

Source: NPHC Report 2014- SAP Eastern Region

Kamuli Municipality has 14 secondary schools and only 21.4% were private. These were unevenly distributed with majority in Northern Division. However, as is the case with primary schools, a number of households in the neighboring sub-counties lie within the catchment of secondary schools in the municipality. Prudent planning requires to put this fact into consideration. As enrollment in primary schools remains high, probably due to the UPE program, demand for secondary schooling continues to rise. According to the social economic survey conducted by the consultants, secondary schools in the municipal council were available to majority (66.3%) of the households even though a smaller proportion (41%) utilised them. These can be accessed within 1 km or less by 45% of the residents.



Map 9: Catchment of existing secondary schools in Kamuli municipality

Challenge identified with secondary education services in the municipality included high expense, poor infrastructure and service delivery especially in USE, lack of staff accommodation, the long distance and the challenge of low secondary school completion due to early marriages and pregnancies and the fact that many school children have been lured into working in the sugarcane trade.

3.4.3.2.4. Tertiary and Vocational Education Services

According to the Uganda University and other Tertiary Institutions Act, tertiary institutions are both public or private universities and other institutions that provide post-secondary ("A" level) education offering courses of study leading to the award of certificates, diplomas or degrees and conducting reasonable research and publishing. Tertiary education is one of the pillars in the country's quest to provide a holistic and quality education basic for human capital development. Much as vocational and tertiary institutions are vital for accelerated skilling relevant to the job market, the municipal council has only seven institutions to cater for the rapidly swelling population.

The general trend is that majority of the educational institutions in the municipal council were privately owned. They are regarded as expensive, which could be plausible explanation of the low

utilization of the services by the resident population, thus the need to adjust this state of affairs in fulfillment of government's responsibility of provision of relevant, equitable and quality education to all.

3.4.4. Current and Future Service Requirement

Basing on the targeted population of 10,000 per secondary school, 5,000 for a primary school and 50,000 per vocational institution, the current and future demand is determined using the national standards to determine the threshold requirements for Kamuli Municipal council. The distribution pattern will be matched with the municipality's recommended hexagonal urban development model. With a projected population of 68,563 persons in 2020, the municipal council's current educational services requirements are stipulated in the table 18 below:

Table 18: Standards, Availability and Demand for Education Facilities for 2020

Type of education facility	service standards	Current situation (2020)	Demand	Remarks
Secondary school	10,000	14	7	Although the municipal council has an excess of seven (7) secondary school, three of these were private, and the owners can easily convert the status of the school any time.
Primary school	5,000	52	14	The municipal council has an oversupply of 38 primary schools but majority (32) were private and regarded as expensive by the municipal council's residents.
Vocational and Tertiary	50,000	7	1	These were all private and pause a challenge of affordability.

Based on the 2014 population projections of Kamuli Municipal Council, medium- and long-term education facilities' requirements were worked out under the Best-Case using a Population Growth Rate of 4% as indicated in table 19:

Table 19: Education Services Projections for Kamuli Municipality

Projected Population			**2020**	**2025**	**2030**	**3032**	**2035**	**2040**
			74,634	**90,804**	**110,477**	**119,492**	**134,412**	**163,533**
Service	**Service Standards**	**Existing Numbers**	**Demand**	**Future Requirement**				
Secondary Schools	10,000 people	13	8	9	11	12	14	17
Primary Schools	5,000 people	52	15	18	22	24	27	33
Vocational Institutions	50,000 people	1	2	2	2	2	3	4

The growing demand for quality, accessible and affordable education services in the municipal council is pointer to the need to remodel, redistribute and develop new education facilities to match the population projections. Planning efforts should also take cognizance of the prevailing practice of service in the municipality being consumed by those outside the municipal boundaries. However, there is specific need to plan for the establishment of quality and well serviced vocational and technical institutions in the municipality since all the existing ones were private. These are vital for accelerated skilling relevant to the job market, enhancement of the competitiveness of the population and build and strengthen the municipal council's human capital.

3.4.4.1. Objectives:

- To develop educational and skilling institutions of international repute within the municipal council which have the capacity to equip the population with social, economic, technological and industrial needs for sustainable development.
- To ensure good quality of life for the population of Kamuli Municipal Council through provision of educational opportunities and competitive skills to individuals to enhance their potential for positive transformation of their society.

3.4.4.2. Strategies:

- Construct/ rehabilitate staff accommodation in public schools to motivate staff. All proposed /new education facilities must include staff accommodation.
- Establishment of well- equipped public technical and vocational institutions. These must be of internationally recognized standards to promote competitiveness. One should be located in the CBD and others in some intermediary towns.
- Establishment of a central skills development center of excellence in any favorable location in the municipality.
- Establish a community based ECDC at the center and all four intermediary towns and pre-primary sections in all public primary schools.
- Establishment of a well facilitated public library at the municipal level and Resource Centers at the ward level.
- Develop at least one well facilitated Special Needs School in the municipal council
- Development of specialized sports facilities, such as swimming pools, within the existing public and developed institutions.
- There is need for adequate allocation of land for educational facilities to meet the long-term needs. These must be with wide distribution, within residential neighborhoods, with ready access and distant or buffered from major roads. There should be an option of integration of the redeveloped or newly constructed education facilities with community facilities such as community sports facilities and resource centers.
- In view of limited land, encourage upward construction of schools to the acceptable physical planning guidelines.
- All new schools must have provision for a playground as condition for approval of the development.
- Plan for universal sports grounds and facilities for schools at the municipal level and in all intermediary towns.
- Introduction of distant learning.
- Formulate private- public partnerships to strengthen and improve on the quality of services of the private academic institutions in the municipal council.

3.4.4.3. Risks:

- Land availability for construction of these facilities
- Lack of parental support
- Limited funding
- Laxity in supervision of services by the local authorities.
- High school dropout rate, especially of the girl-child.
- Poverty levels

3.4.5. Health Services Sector

3.4.5.1. Overview of the health sector

The social and economic impacts of improved health services on the individual, family, and the country as a whole have significant multiplier impact on community development and quality of life. Agenda 2013 framed health and well-being as outcomes and foundations of social inclusion, poverty reduction and environmental protection. From a health perspective, development can only be regarded sustainable when resources are managed by and for all individuals in a way that supports the health and well-being of present and future generations. The NDP 111 targets to increase the percentage of population that lies within 5 KM distance to health facilities from 72% to 85%. by 2025, reduce under 5 mortality Rate from 64/1000 live births to 52/1000, reduce MMR from 336/100,000 live births to 299 and increase in life expectancy of the population from 63 years in 2018 to 70 years by 2025. All these targets need to be replicated at the grassroots by all communities to be able to achieve the goal of Vision 2014 of production of a healthy and productive population to contribute to the socio- economic growth of the country.

3.4.5.2. Distribution, Access to and Service Level of Health Services

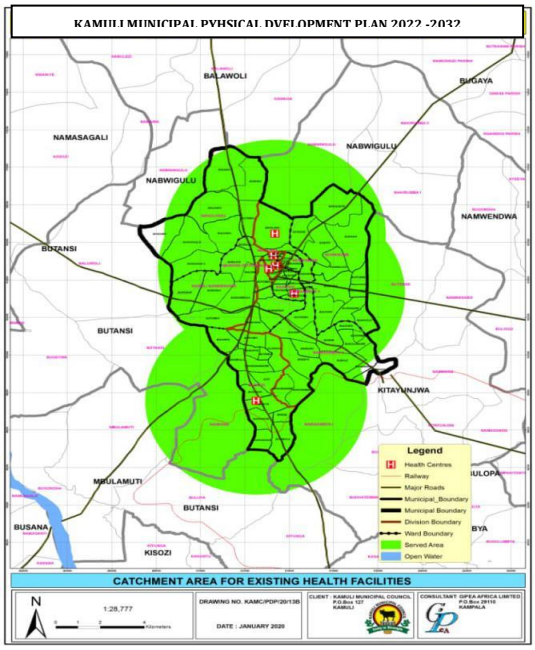
Kamuli Municipal Council has a total of fifteen health facilities (15). These were inequitably distributed with the Southern Division comparatively lacking in service. The municipality has no health centre IV, has two health centre III and two health centre 11.

Table 20: Distribution of Health Facilities in Kamuli Municipality

DIVISION	Hospital		Health Centre IV		Health Centre 111		Health Centre 11		
	NGO/PNFP	Public	NGO/PNFP	Public	NGO/PNFP	Public	NGO/PNFP	Public	Totals
NORTHERN DIVISION	1	0	0	0	0	1	1	0	3
SOUTHERN DIVISION	0	1	0	0	1	0	0	1	3
Kamuli MC	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**1**	**6**

Source: Kamuli Municipality 5-year Development Plan – 2015/16 -2019/20

The municipal council has two hospitals namely- Kamuli General Hospital, which is a public hospital managed by Kamuli District and located in Mandwa Ward, Southern Division, and Kamuli Mission Hospital, managed by Jinja Catholic Diocese **(PNFP)**, located in Kasoigo Ward-Northern Division. The quality of services especially in the public hospital was inadequate. The social economic survey established that the most prominent challenges associated with the hospitals in the municipality was the long distance to nearest hospital (31.4%), lack of drugs in especially the public hospital (29.5%), overcrowding, poor service delivery, corruption, lack of adequate staff and lack of accommodation for the staff.



Map 10:Catchment Area for The Existing Heath Centers in Kamuli Municipality

The municipality has only two public health centres and the remaining two were PNFP.According to the Municipal

Five-year Development Plan (2015/16-2019/20), the municipality intends to upgrade Busota Health Centre II to III and Construct a Health Centre IV at Buwanume. Although a small proportion of the municipality, especially in Nakulyaku and Namisambya 11, were relatively unserved, a considerable proportion of some Sub-counties neighboring the municipality such as Butasi, Kitayunjwa, Nabwigula and Namwenda were within the catchment areas of the existing public health centers, thus reaping from this proximity.

The gap created by inadequate services in both the public and existing PNFP health facilities in the municipality coupled with their inequitable distribution has led to a proliferation of private clinics and drug shops. It was these, according to findings of the socio-economic study, that most residents of the municipal council opted for as their first line of treatment. Private clinics were the preferred option for treatment to 80% of respondents compared to 73. % that utilize health centers which were managed by the local authorities or NGOs. Although private clinics and drug shops play an important role in service delivery in the municipality, many have been established purely for economic purpose. Generally, private health facilities were regarded as expensive, thus raising the issue of affordability of the service, some have unqualified staff, offer poor services while others dispense expired drugs.

The health services provided in the municipal council were not commensurate to demand both in quality and quantity. According to the NPHC 2014 Report, 15.5% of households in Kamuli Municipality Council resided 5KMs and above to nearest public health facilities. Although this is within the targets of the NDP111 and Northern Division (11.1%) had a relatively lower proportion of households in this category than Southern Division (20.5%), the gravity of the situation can only be appreciated when analysis is scaled down to wards. 35.4% of the households in Busota ward, 35.0% for Nakulyaku ward, 30.7% for Namisambya II and 21.1% for Buwanume resided 5KMs and above to the nearest public health facility (Table 21).

Table 21: Distribution of Households 5kms and Above to Nearest Public Health Facility

Ward	Households 5kms and Above to Nearest Health Facility		Households 5kms and Above to Nearest Public Health Facility	
	Number	Percentage	Number	Percentage
Buwanume	276	18.7	311	21.1
Kamuli Sabawali	35	3.2	66	6.1
Kasoigo	1	0.1	7	0.4
Muwebwa	2	0.2	3	0.2
Namisambya II	166	13.6	374	30.7
NORTHERN DIVISION	**480**	**7.0**	**761**	**11.1**
Busota	364	24.1	536	35.4
Kamuli Namwendwa	31	2.0	138	8.8
Mandwa	1	0.1	3	0.4
Mulamba	0	0.0	0	0.0
Nakulyaku	578	33.9	596	35.0
SOUTHERN DIVISION	**974**	**15.7**	**1273**	**20.5**
KAMULI MUNICIPALITY	**1,454**	**11.1**	**2,034**	**15.5**

Source: NHPC 2014 Report – Eastern Region

There is therefore a serious gap in geographical access and delivery of quality health services caused by mismatch between health infrastructure development and capacity to deliver the needed services. Some of the reasons for this shortfall include inadequate staffing, drug stock outs, lack of medical sundries and equipment, poor staffing levels, lack of staff accommodation especially in

public health facilities, lack of emergency services and weak laws and regulation. The physical and sanitary conditions of many of the existing health facilities constitute a risk for both the patients and the medical staff. Other challenges faced by the health sector in the municipal council include: -

i. Lack of ambulance services and fire- fighting unit and equipment.
ii. Community laxity to sensitization initiatives.
iii. Urbanization and the associated problems of waste management
iv. General political interference stifling service delivery.
v. As far as private health facilities were concerned, there is general disregard by the proprietors to the municipality's supervisory mandate.
vi. Inadequate facilities for the field staff e.g., transport.
vii. Absenteeism of staff and under staffing. According to the Municipal Five-Year Development Plan, (2015/16), the municipal health department has a staffing gap of 83%.
viii. Inadequate Skilled personnel especially doctors, laboratory technicians and midwives.

Basing on the targeted population of 2, million for referral hospital, 500,000 for district hospital, 100,000 for health center IV, 20,000 for health center III, 5000 for health center II and 100,000 for a fire station, the current and future demand is determined using the national standards to determine the threshold requirements for the municipal council. The distribution pattern is matched with the recommended hexagonal model considering the CBD, intermediate centers and the local human settlement centers. The services will be located near the key settlements as follows;

- Health services to serve the CBD
- Health services to serve the intermediate urban settlements
- Health on services to serve the local settlements.

The Municipal Council has a current deficit 3 health center III and 14 health centers II. The current demand for health service facilities is reflected in Table 22 below.

Table 22: National Health Facility Standards and Kamuli Municipal Council Demand for 2020

Facility	Threshold per facility	Current	Demand	Remarks
District Hospital	500,000	1	-	The municipality has one district hospital which is managed by Kamuli District.
Health Centre IV	100,000	0		The Municipality's current population is below the stipulated threshold.
Health Centre III	20,000	2	3	The municipal council has a current deficit of 1 Health center III.
Health Centre II	1:5,000	2	14	Although plans are underway to phase these out, there is still a deficit of 12 Health center II
Fire Station	1: 100, 000	0	0	The Municipality's current population is below the stipulated threshold.

Based on the 2014 population projections of the municipal council, medium- and short-term health facilities' requirements were worked out based on the Best-Case Scenario as indicated in table 22

Table 23: Health Services Projections (4%)

			2020	2025	2030	2032	2035	2040
Projected Population			**74,634**	**90,804**	**110,477**	**119,492**	**134,412**	**163,533**
Service	**Standards**	**Existing Numbers**	**Demand**	**Future Requirement**				
District Hospital	500,000	1	-	-	-	-	-	
Health Centre IV	100,000	0	-	1	1	1	2	2

			2020	2025	2030	2032	2035	2040
Health Centre III	20,000	2	4	4	6	6	7	8
Health Centre II	5,000	2	15	18	22	24	27	33
Fire Stations	100,000	0	-	1	1	1	2	2

There is need for more health facilities for improved service delivery in the municipality and the neighboring areas since services are also consumed by those outside the municipality. This would lead to improved access and equity in service delivery. Staff motivation is key to attracting and retaining qualified staff to these facilities and availability of accommodation in the vicinity of the institutions is one of the avenues to counter under-staffing and low morale.

3.4.5.3. Objectives:

- To up-grade and redistribute existing health facilities and develop new health and emergency facilities to foster efficiency and effectiveness in the delivery of the health services within Kamuli Municipal Council.
- To establish a quality health care system that vital to support and promot a healthy and productive population that is vital to harnessing the demographic dividend and achieve social economic transformation of Kamuli Municipal Council.

3.4.5.4. Strategies:

- In the short term, upgrade all exiting Health Center II to Health Centre 111 to address the current demand and in the long term, develop Health Center 111 for all towns at the intermediary level and construct a health center IV at Buwanume
- Renovate and retool all existing Health centers to improve on their functionality.
- Extend and promote alternative power sources to ease on the expense on electricity in all health facilities.
- Install reliable and safe water sources in all health facilities such as rain harvesting.
- Establishment of ambulance services at the CBD and in all intermediary towns.
- Develop new and upgrade accommodation facilities for health workers in all public health facilities to improve upon functionality.
- Improve on the staffing levels in public health facilities and post a police surgeon in the municipality to offer youth friendly reproductive health services.
- Establish the required number of fire station to independently manage emergencies. The municipality will require 1 fire stations in the short- term which should preferably be located in the CBD and in the long term, one in each of the intermediary towns.

3.4.6. Cross cutting Issues

3.4.6.1. Gender Issues

Gender is expected disposition and behavior that society culturally assigns to each sex; that is culturally defined roles, attributes and privileges of female and males. There is a biological difference between men and women but different societies and communities in the world interpret and impute the God made differences into a set of social expectations about behavior, activities rights power and resource they have. In Uganda, gender inequality was deeply rooted in the history and traditions of the many ethnicity groups that make up the country. Women in Kamuli Municipality constituted 52.45% of the population and yet were the poorest in society with no access to sources of production, shouldered the bulk of domestic responsibilities and were evidently

discriminated against in areas of adoption, marriage, divorce and inheritance. The proportion of illiterate women in the municipal council (24.7%) was greater than that of men (13.7%), and a higher proportion of 70.6% of women 15 years and above had their highest education qualifications below senior four compared to 54.4% of men in the same category.

Although women in the municipality constituted a significant share of the workforce in the informal sector, they had unequal access to control over productive resources, limiting their ability to improve upon disposable income. They are the majority that participate in crop production but men take over the role of marketing the produce and use the proceeds at their free will plus marrying new wives. The high TFR resulting into higher risks in form of high maternal mortality rate, lack of access to credit by women and high poverty levels especially in female headed households all exacerbate the marginalization of women in the municipal council. Women in the municipality had lower access to health and education services.

There was gender disparity in primary school completion as well as secondary school enrollment due to early marriages and early pregnancies. The low secondary school transition rate is contributor to the high fertility rate and high maternal mortality rate that haunts the entire district of Kamuli. Due to lack of skills, women and the youth were predominantly engaged in informal trade like markets, food vending, and roadside petty trade. Attainment of sustainable development necessitates full participation of both women and men in economic, political, civic and socio-economic aspects of the community. Therefore, there is need to pay special attention to programs geared towards women empowerment, equal opportunities in areas of property ownership, skilling through vocational training and micro-business training and encouraging them to undertake adult learning (FAL).

3.4.7. Vulnerability

Some disadvantaged communities and individuals face challenges that limit their opportunities. To be inclusive, growth should benefit everyone while reducing challenges faced by the disadvantaged ones both in terms of benefits enjoyed and opportunities for participation. There is thus need for safety nets to ensure that disadvantaged people engage in productive employment to enable them raise their standards of living, enjoy normal standards for human dignity, and access basic service for improved livelihood. Vulnerable groups in Kamuli Municipal Council include children, people with disability, elderly, orphans, the youth, and women.

Table 24: Percentage Distribution of Vulnerable Categories in Kamuli Municipality

Administrative area	Children (%)	Disabled (%)	Elderly (%)	Orphans (%)	Youth (%)	Women (%)
Buwanume	56.6	11.6	4.8%	6.4	21.0%	51.1
Kamuli - Sabawali	51.6	9.9	4.3%	6.4	26.3%	50.5
Kasoigo	48.0	11.7	2.2%	6.1	30.6%	55.8
Muwebwa	46.5	9.2	1.4%	6.3	31.9%	55
Namisambya Ii	57.6	8.5	4.9%	6.5	20.1%	51.3
NORTHERN DIVISION	**51.2**	**10.4**	**3.6%**	**6.4**	**24.8%**	**52.7**
Busota	57.2	11.6	4.8%	7.2	20.9%	53.3
Kamuli -Namwendwa	56.6	7.5	3.7%	4.6	22.2%	51
Mandwa	48.3	10.6	1.6%	7.2	28.2%	52.5
Mulamba	45.8	7.1	1.3%	6.9	33.6%	56.1
Nakulyaku	58.3	10.2	4.0%	6.3	19.8%	51.1
SOUTHERN DIVISION	**54.6**	**9.6**	**2.9%**	**6.18**	**22.2%**	**52.2**
KAMULI MC	**52.8%**	**10**	**3.7%**	**6.3**	**24%**	**52.4**

Source: Compiled by Consultant from NPHC 2014 Report- SAP

Children in municipality constituted a considerable proportion of the population (52.8%), whereas 20.3 % of the population in the municipal council were children aged between 6 – 12. The latter are primary school going age. However, according to the 2014 Census report, 12.3% of children aged 6-12 years were not in school. specifically, 10.6% in that age cohort in Kasoigo ward were not attending school, 9.19.5% in Muwebwa and 7.1% in Buwanume and Busota. The municipality had challenges of high school dropout rate, especially the girl child and a low primary – to - secondary school transition rate. This is, among others, due to early marriages- 6.4% of children between the age 10 - 17 in Kamuli municipal Council had ever married, early pregnancy – 7.7% of children aged 12-17 have been victims of early pregnancies and 21.1% of the municipal council's children aged 10 - 17 years have been exposed to child labor [3]. As a result, a good number of children has been exposed to various types of dehumanizing conditions. 6.3% of children in Kamuli Municipal Council were orphans (NPHC 2014), thus vulnerable. Many of them were subject to violence, child abuse, exploitation and neglect.

10% of the municipal council's population 2 years and above were disabled and so were 4.4% of the children in Kamuli Municipal council. Their plight creates pressure on the communities in terms of care and support. Mandwa ward had the highest proportion of disabled children (5.8%), while Kasoigo (11.7%) had the highest proportion of disabled persons 2 years and above. A good number of PWDs in the municipal council experience poverty and lack of basic social services such as education and proper health care and are traditionally marginalized and denied opportunity to participate fully in social and economic development. Despite the municipality's efforts to uplift the status, roles and responsibilities of PWDs, a lot needs to be done.

Uganda has one of the most youthful populations in sub-Saharan Africa and one of the highest rate of youth unemployment. The youth constitute 24% of the municipal council's population and only 70.5% of the youth in therein were working. However, majority of those who work were in the informal sector and some were thus underemployed. However, the most daunting fact is that 17.8% of the youth in Kamuli Municipal Council were neither in school nor working. The most affected wards in this category were Kamuli Sabawali (27.9%) and Kasoigo (27.2%). The youth and women form the bulk of the informal sector, thus the need to equip them with skills to facilitate them succeed in the informal economy as entrepreneurs.

In the municipality, 3.7% of the population were elderly (60 years and above). Majority were too week to work thus economically dependent, lack medical care, lack decent housing, were victims to property grabbing and usually discriminated from service delivery. However, it should be appreciated that the elderly contributes to society as guardians of tradition and cultural values which are passed down to generations. In order for the municipality to enhance the full potential of the children, youth, elderly and orphans, opportunities for education, skills development, health care, recreation and employment among others need to be opened up and appropriate facilities and services planed for.

Any possibility of inequity in resource allocation and denial of opportunities to vulnerable categories in the municipal council is abuse of human rights which is detrimental to inclusive

[3] NPHC 2014 Final Report

growth and development. There is need for measures of redressing imbalances that exist. The proposed PDP must be responsive to the needs of all categories of persons within the municipal council.

3.4.7.1. Objective: -

To ensure that the proposed Physical Development plan grants opportunity and enhances the capacity of all vulnerable groups, and all municipal residents irrespective of gender play an active role in the development of the municipal council through unfettered participation.

3.4.7.2. Strategies:

- Set up Youth Centers at the municipal council level and in each of the intermediary towns that combine vocational training with life- skill training
- Improve informal sector commercial facilities in which women and the youth play a significant role and plan for inclusion of day- care facilities in women dominated work-places such as markets to encourage nursing mother maintain their jobs.
- Incorporate gender-specific needs into detailed planning at all lower local government levels including improved infrastructure for healthy, safe water and sanitation.
- Promote women economic empowerment through entrepreneurship, skills development, adult literacy classes and improve accessibility to credit.
- Make bye-laws and ordinances to stop child labor (especially in the sugarcane industry) and early marriages so as to keep children in school.
- Promote the interests of women in general and women-headed households in particular in the resolution of land ownership issues and assist them in acquisition of legal land holding rights.
- Set up fully equipped Rehabilitation Centers for that will help skill PWDs at marshal markets for their products at the municipal level and division level.
- Involve both genders in the detailed implementation and monitoring of the municipality PDP.
- Invest in tailor made social protection programs for the elderly, unique to locality.
- Target female employment/career opportunities especially post-secondary education facilities.
- Set up a special needs training school at the municipal council level.
- In the medium term, develop a fully – fledged Social Rehabilitation Centre at the municipal council level for people with disabilities. These should cascade down at the municipal council level in the long- term.
- Public library at the municipal council level and community libraries and tele- centers at the ward level.
- Establish public reception center for lost and abandoned children at the municipal council level and encourage the private sector set up children and infant homes at the lower local government level, but these must be setup within the current legal framework.

3.4.7.3. Risks:

- Increasing number of vulnerable persons attributed to HIV/AIDS, disaster and chronic poverty.
- Inadequate funding.
- Wide spread poverty.

- Breakdown in extended family system and community resource mechanism for supporting vulnerable people.
- Cultural norms, values and beliefs that enhance gender inequalities.
- Low literacy levels and low levels of education of the women in the municipal council.

3.4.8. Other Social Services

3.4.8.1. Community Centers

The population of Kamuli municipality Council, as an urban authority, comprises a multitude of tribes and nationalities and the major ones were the native Basoga, (86.2%), Baganda (5.1%), Ateso (3.8%), Bakiga (1.4%) and a multitude of others tribes and nationalities. The municipal council continues to attract numerous immigrants from surrounding districts and beyond in the last decade. This trend has significant implications on planning and development related to customary land tenure system, traditional economic activities, settlement patterns, norms and beliefs that affect gender relations, tourism, resource and governance disputes. The continuous stream of immigrants coupled with the prevailing population growth rate has resulted into a cosmopolitan population with myriads of norms, beliefs and attitudes aligned to their respective place of origin. There is therefore need for social support networks to harness and harmonize the various social norms and expectations which will enable the population take on its new modernized identity. The community structures and support systems that can mold especially the children and the youth into responsible citizens to promote community cohesion and social stability are community centers at various levels of the community.

Community centers are public premises which communities can use free of charge for recreation purposes, avenues for community meetings and gatherings for exchange of ideas for societal development, or host public administrative offices at the grassroots level and information centers.
There is only one community centers in Kamuli municipal Council and according to the socio-economic survey findings, the municipality had no functional community center. This is a serious gap and the municipal population seem unaware of the benefits of these structures. Although shared norms and value system based on shared vision guide positive perceptions, mind-set and attitudes which are fundamental elements for development, there were no deliberate programs and arrangements to tap from the cultural diversity that exists in the municipal council and enhance community cohesion which is basic for social stability. Inculcated norms and value system attract the population especially the youth to appreciate and participate in any transformational process geared towards development and attracts them to play a meaningful role in development of the area. It would therefore be ideal to have phased introduction of community centers at three levels, that is at the municipal level, each intermediary center and ward level.

3.4.8.2. Markets

Provision of markets is a responsibility of the respective local government. These are distribution channels for fresh and durable foodstuff, domestic products and clothing to communities. They are a source of livelihood to a number of youths, women and to some elderly persons in the municipality and a viable source of revenue for the local government. The municipal council has a network of eight markets, some in residential neighborhoods, others in road reserves, while majority were close to the main roads and connectivity ones. Markets in the municipal council were inequitably distributed, very run down, and unhygienic – constituting a health hazard to the public. Save for the central market which is located in the CBD, majority were in shanty structures.

They were accessible to only 10.7 % of households, however utilization far exceeded availability at 60%.

This gap has been substituted by the sprawl of informal markets and kiosks especially in the more urbanized wards in the municipal council, resulting into total breakdown in trade order and in some instances traffic accidents. There is also a lot of wastage in these markets as there is no organised way of preserving perishables sold therein, thus the need to devise methods of value addition to highly perishable goods. This would contribute to food security in the municipal council and improved income. There is a general lack of appropriate work- spaces in Kamuli Municipal Council and a glaring need to setup markets that are properly planned, with all relevant facilities and amenities to serve the swelling population. Based on specifications in accordance to the Physical Planning Guidelines and standards, the municipal council's requirement for markets has been established (Table 25).

Table 25: Future Demand for Markets, Kamuli Municipal Council

			2020	2025	2030	2035	2040
		Projected Population	**74,634**	**90,804**	**110,477**	**134,412**	**163,533**
Service	**Service Standard**	**Existing Facilities**	**Demand**		**Future Requirement**		
Markets	7,000	8	11	13	16	19	23

Currently the municipal council has a shortfall of three markets, although most of those in place need an overhaul. In the long-term, the requirement is 23 well distributed markets, constructed with all basic requirements and amenities by 2032. Lack of well streamlined markets in the municipal council is one of the major obstacles to reducing poverty and enhances food insecurity in the locality. Markets too provide work places for a proportion of the vulnerable population in the municipal council like the youth, women and in some instances the elderly. Finally, lack of well streamlined market system contributes to the weak revenue profile for the local authority and is one of the major reasons for breakdown of trade order in the municipal council.

3.4.8.3. Sports and Recreation Facilities

These are facilities set aside purposely for public relaxation, sporting and leisure. Generally, sports facilities are considered to be a subsidized service because they cost money to construct, maintain and some are available for free use by the community. However, they have broad economic and health benefits for the well-being of the community since they provide space/land for the recreation and tourism. They help to attract investment in business and real estate; enhance property values and individual health, provide employment and they provide free venues for the community to relax and reduce urban stress. They also promote social harmony, creates opportunity for self-employment and livelihood.

Kamuli Municipal Council has a number of playgrounds, public and private, though the former were not well maintained, while the latter pause the challenge of restrictive utilization. The municipality has the Mayor's Gardens which operates as a public open space, however, this been heavily encroached upon and used as grazing grounds for domestic animals. Furthermore, some of the public open spaces that existed in Southern Division were sold off, aggravating the lack of public open spaces in the municipality. Play lots which are vital for community molding of children and youth in any multi-cultural community like those in the municipal council were conspicuously lacking and utilized by only 35% of households in the municipality. The old stadium was converted

into a market; However, the municipality has an alternative sports ground at youth centre to accommodate sports activities formerly carried out in the former stadium. Due to high deficit of open spaces and public parks, entrepreneurs have stepped in to establish private gardens and recreation centers which is clear indication that all modes of public sports and recreation facilities must be catered for in the municipality's future development plans to meet the current and future needs. The municipal council's current and projected requirement for play grounds which is a vital recreation and sports facility to be included in the PDP is stipulated in table 26 below:

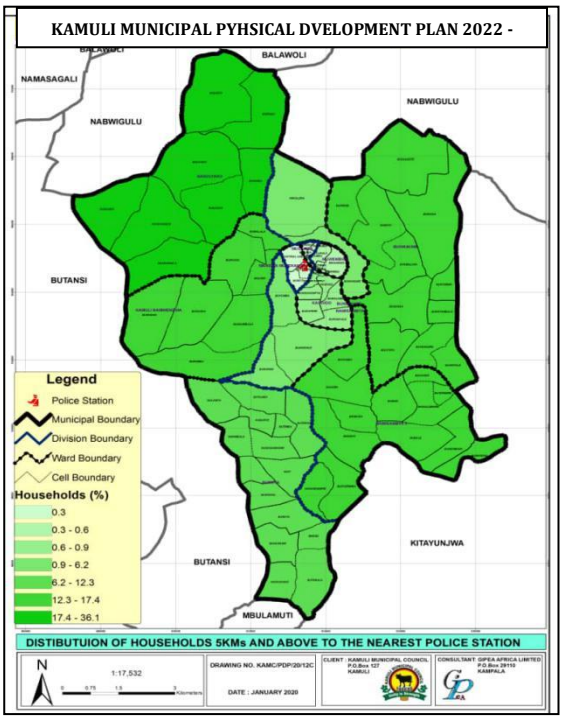
Table 26: Future demand for Play Grounds.

Projected Population		**2020**	**2025**	**2030**	**2035**	**2040**
		74,634	**90,804**	**110,477**	**134,412**	**163,533**
Service	**Service Standard**	**Demand**	**Future Requirement**			
Play Grounds	**5,000**	15	18	22	27	33

There is need to orient the population on the value of sports and recreation especially as a strategy for elimination of non-communicable diseases which are rampant plus it's other intrinsic values.

3.4.8.4. Security Services

Vision 2040 highlights peace, security and defense as pre-requisite for socio- economic transformation. Society's fabric at individual, household, community and national level must be at peace for any development to take place. The Uganda Police Act, Cap. 303 provides for functions of the Uganda Police to inter- alia include protecting life and property and other rights of individuals, to enforce law and ensure public safety. This can only be attained through provision of adequate physical infrastructure and well facilitated personnel.



Map 11: Households 5 kms and Above to Nearest Police Post-2014

Source: NHPC 2014 Report – Central Region

According to the United Nations, the recommended ratio of police to population ratio is 1:500, and the Uganda Police Council recently elevated every sub-county in the country to have a police station. Kamuli Municipality has one Central Police Station and six (6) police posts, which is far below the recommended standards for the current demand. The municipality also has a prison establishment and an army barracks. However, insecurity is a reality in various neighborhoods and a number of police installations lack adequate numbers of personnel coupled with corruption and poor facilitation. The police establishment in the municipality are accommodated in poor structures, they lack rescue response services, lack accommodation for the personnel, are poorly facilitated and there is rampant corruption in the force. There is a general complaint that the force seems to concentrated to providing security and protection to the rich and privileged at the expense of the poor. According to the NHPC – 2014, 12.2% of the households in the municipal council live 5KMs and above to the nearest police station.

3.4.8.5. Objective

- To Improve distribution and access to sports and recreation facilities in the Kamuli Municipal Council to enhance social harmony, recreational health, careers, and tourism
- Promote community identity, cohesion, social stability and security through establishment of community development infrastructure and related services at all levels from the grass root.
- To establish a well-balanced network of markets in the municipal council that is adequate in numbers, scale, distribution and standards for the social and economic development of the populace in the municipal council.

3.4.8.6. Strategies

- Establishment of a fully-fledged Police Station at the municipal level, at each of the intermediary centers, and police posts at the local level.
- Develop, in a phased manner, wholesale markets at various points, specifically, one in the CBD and others in each of the intermediary centers. These should be located in well planned zones in close proximity to highways and ring roads. The intention is to reduce on transportation costs and the volume of garbage associated especially with fresh produce.
- Develop urban quarter markets in each local center in the municipal council, located in close proximity to high volume public transportation routes. They should be integrated with a community center suitable for their hierarchy, with a resource center, meeting venue and public administration offices.
- All markets at the various hierarchies must have delivery access, ample storage facilities, loading and off-loading yards, designated customer parking, refrigeration facilities or cold-rooms and they must have a provision of day- care center for the nursing mothers.
- Encourage joint venture or Public Private Partnerships in the development of markets since this is a capital-intensive venture and the municipal council might not have the capacity to fund these developments.
- Establish community development infrastructure at the municipal council level located in any suitable intermediate center Which has high public transport access. The facility should include a small auditorium, library/ resource center, studio for art and craft, multi-purpose center for special interest groups, training facilities, workshops and a gym.
- Phased set up of community centers at the municipal level and in each of the two divisions. The facilities should cater for a public library/ resource center, a venue for community meetings, training and gym facilities, club facilities for special population, and information centers. The ones for the wards should be scaled down in scope.
- Establish neighborhood community centers widely distributed. They should be located within areas with high vehicle and pedestrian access, and where possible, adjacent to schools or sports facilities and should have a provision for public facilities such as community offices and club facilities for special interest groups (youth, PWDs, Women, elderly and ECDs for children.) They should also have a kitchen and toilet for outdoor community events.
- Establish one fully equipped Sports Stadium at the municipal level, and each intermediary center must have a public park, recreation facility and sports ground. This will serve to take services closer to the people, increase on access to the facilities and improve on the health condition of the population.

- Wards should be encouraged to establish public open spaces for community relaxation and beautiful environments.

3.4.8.7. Risks

- Land availability for the required services
- Conflict in norms, values and beliefs which limit cohesion and slow down development.
- Funding.
- Poor reading culture.

3.5. Report on Land Management and Administration

3.5.1. Existing Situation

Land is an important asset for people's livelihood and for economic development of the Municipal Council. Land is also increasingly being seen as a commodity and its demand is on an irreversible increase for various reasons. Specifically, land in Kamuli Municipal Council is held under three tenure systems namely; Freehold, Leasehold and Customary, (**Figure 5)**. There is also presence of public land in the Municipal that comprises the ecological reserve areas such as forests and wetlands. It's also important to note that the Kingdom also owns land where its cultural properties are located and in other parts of the Municipal Council such as in Budhumbula among others.

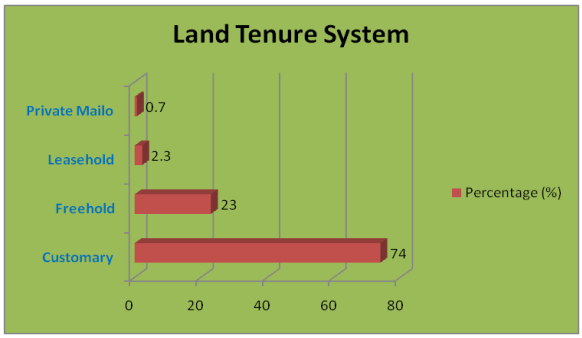


Figure 5: Types of Land Tenure, Source: Kamuli Municipal Situation Report 2020

Kamuli Municipal Council has no Mailo Tenure which has its roots from the 1900 Buganda Agreement and 1928 *Busullu Envujjo* Law. It is mainly in the Buganda, Ankole and Toro regions where the Colonial Government entered onto agreement with the Kingdoms of Buganda, Ankole and Toro excluding Busoga Kingdom. However, there is some Private Mailo tenure in Kananage, Kamuli Namwendwa Ward belonging to the Daudi Mutekanga's family. Daudi Mutekanga was once a Saza Chief for Bugabula Chiefdom and he requested for Mailo tenure from the British Administration during the Colonial era for his land.

Customary tenure is the most widespread and oldest tenure widely known in the Municipal Council. The rights to this type of land are regulated by local customs and are linked to family lineage and inheritance. This type of ownership has been associated with farming practices and mainly prevails in the peri-urban and rural areas of the Municipal Council. Customary tenure is the largest tenure in the Municipal Council accounting for 74% and covering 7,591 Ha of the total Municipal land. Initially, customary tenure with its typical communal nature was based on a subsistence economy and inherent social relationships but now the land is seen as an economic commodity (Mugambwa, J. (2007). As such, customary system enables the poor to have access to land because essentially, for many people in Uganda, land is owned on behalf of their ancestors and in trust for the future generations.

This therefore makes land more than just an economic asset but part of the social and cultural fabric of the society while at the same time it's also seen as an impediment to land markets. However, it's important to note that customary land in the Municipal is either owned as a family (family land) or

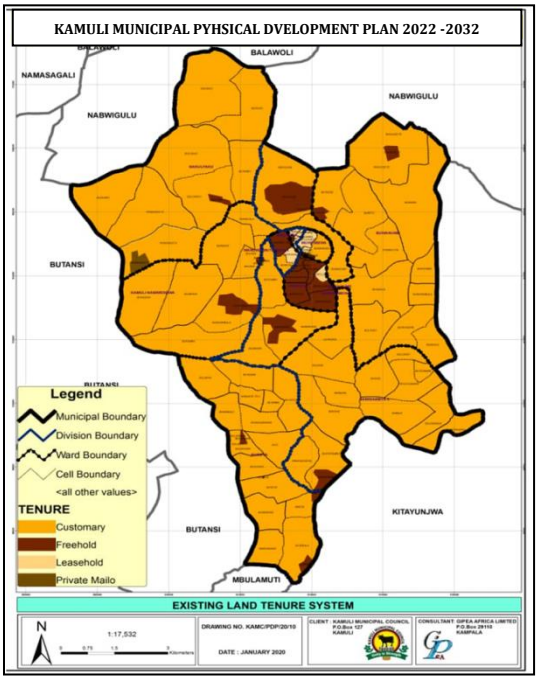
as an individual. Consent from members is required in case one wants to sell land in respect to family land. Due to the increasing population pressures and selling of land in order to obtain cash leads to high fragmentation of land. Land fragmentation is becoming a common feature and has quite significantly affected agricultural productivity thus conditioning socio-economic development. About 90% of the customary land owners do not have land titles and their rights remain unregistered. Customary tenure is however the predominant mode of access to land in the Municipal Council. The spatial illustration of the land tenure system is presented in Map 13.

Leasehold tenure is both a contract and agreement of ownership of land for a given period of time. It is a contract by which the owners of a superior interest in land grants to another an exclusive right to use and possess the land for a definite period of time and leasehold titles in the Municipal are granted by the District Land Board. It accounts for 2.3% covering 237.6 Ha of the Municipal land. User covenants attached to this tenure renders public control over its use and subsequent development much easier by the controlling authorities. The Freehold tenure ownership is also in perpetuity, and a certificate of title is issued like the Mailo tenure. This type of land was originally held by the religious organizations but it's now being held by the private individuals. It covers 2,378 Ha accounting for 23% of the total Municipal land.

The user covenants attached to this tenure are not adequately stringent and may limit its control over use and development. However, malpractices involving illegal occupation, squatting and land grabbing especially on land held by the religious bodies was reportedly very common. Besides, the customary tenants on Mission or Church land do not want to regularize ownership through paying of Busuulu of only Ugx 3000 per year. The situation is further exacerbated by the Municipal Council permitting customary tenants to undertake construction on Mission and Church land without consent or knowledge from the landlords. Finally, there is also public land held by Government or Local governments in public interest and these includes protected areas of ecological environment, cultural and wildlife value. The land tenure system in the Municipal is presented as one of the major impediments to the development of the area through a number of challenges that included:

- Freehold user covenants not sufficiently conditional thus limits control of development.
- Leasehold and freehold certificate of titles are costly and cumbersome to obtain due to bureaucratic application process.
- Customary is the largest and common type of tenure accounting for over 74% of the total land;
    - It's inherited without clear documentation resulting into land use and ownership disputes.
    - Lacks security of tenure and promotes informal land transactions that impede developments.
    - Land belonging to a family cannot be sold without consent from all family members.
    - Customary tenants especially on mission land do not want to pay *Busuulu* to mission or church.
    - Encourages sprawl which leads to wasteful use of land.
    - Presents challenges in acquiring land for major public or private investments and this poses a challenge to development.
- Limited access to formal land markets frustrates attraction of major investments.

- Customary practice of land fragmentation which affects optimum land utilization,
- Encroachment into marginal lands, environmentally sensitive areas, public lands including roads and rights of way.
- Unclear boundary demarcations; customary land largely un-surveyed and unregistered hence presents challenges of conflicts.
- Gender based land tenure challenges where women are not allowed to inherit land.
- Customary land attracts low monetary value and leads to poor housing conditions due to minimal, if any, maintenance of most properties.
- Council requires enormous financial resources to enable land acquisition for infrastructural development and public service facility provision and as a consequence, this effectively restricts infrastructural and service provision in areas beyond the arterial.



Customary tenure is the largest in the Municipal Council and vast majority of land rights were unregistered, hence lacked formal documentation. In absence of a cadastre of such rights, considering ownership of boundaries is a challenge and a cause for conflict when local leaders and communities are not consulted.

Map 12: Existing Land Tenure

Source: Kamuli Municipal Situation Report 2020.

With regard to the household ownership tenure, the Kamuli Municipal Situation Report 2020 indicates that vast majority of all households in the Municipal were on customary land and this type of ownership is the commonest and accounted for over 68% of the households, those under freehold were 21% while Leasehold was at 6%, (Figure 6). Generally, formal registration of land and different types of land titling was more frequent within and around the Municipal Centre whereas customary majorly prevailed in peri-urban and rural areas of the Municipal Council.

As regards the land values, it was noted that the land values in Kamuli Municipal Council were rapidly and significantly increasing like it is in other parts of the country including the central region. The change in traditional attitude of considering customary land as a commodity has contributed to the looming scarcity of land in the Municipal hence a rapid surge in land price, (Table 27). As such, the cost of land is beyond the means of the majority urban poor and the high cost of land especially in the Municipal Centre is gradually delaying major investments in the CBD to emerge.

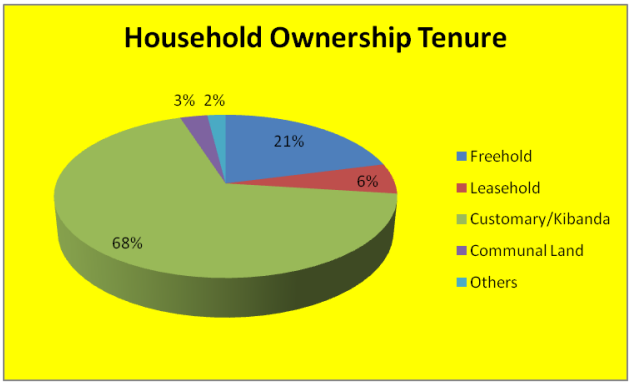


Figure 6: Household Ownership Tenure

Source: Kamuli Municipal Situation Report 2020.

As a consequence, the limited available

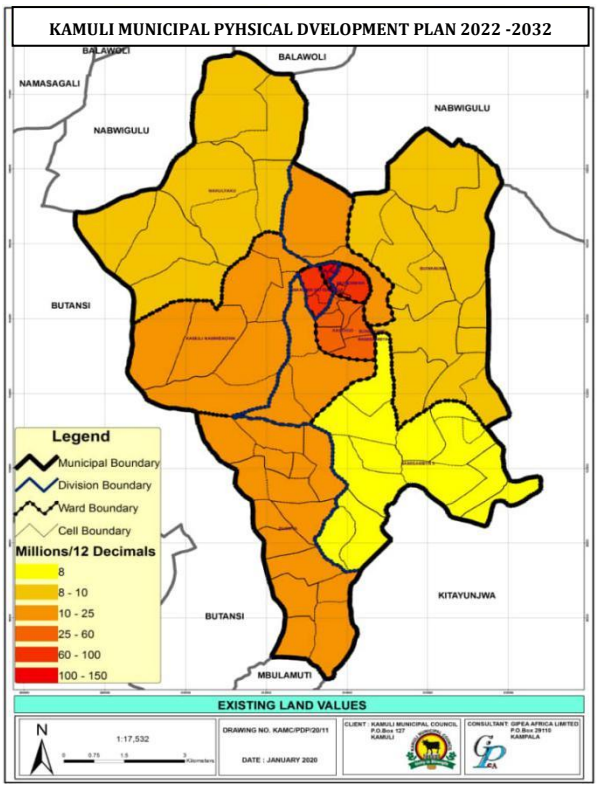
resources are more often used up in acquiring land thereby remaining with no or little funds to carry out development on the land in a timely manner. Generally, the values of land in the Kamuli Municipal Council have soared due to the ongoing urbanization, natural population increase and heavy influx of people especially the youth from the rural areas in search for non-farm employment.

The emerging industrial activities especially in agro-processing and value addition are also among the pull factors for migration, (Map 14) for spatial illustration of the land values). From these values, it's concluded that the value of land in Kamuli Municipal Council is on an increasing and irreversible trend and therefore the Municipal Council ought to buy land in advance in form of land banking in order to ease service delivery in the future before the value escalates further. Land acquisition is often a difficult and contentious part of the planning and implementation process. Land is a fixed resource and land speculation tends to complicate acquisition in places where rapid urbanization is expected. The Municipal Council has limited public land with most urban land under private ownership.

Table 27: Broad Comparative Analysis of Land Values

Item	Category	Unit of Land	Cost of Land (UGX in Millions)	Areas
01.	Municipal Centre (Urban)	15 X 30 M	15-150	Muwebwa, Mulamba, Kasoigo & Mandwa
		Acre	100-500	
02.	Inner Suburbs (Peri-Urban)	15 X 30 M	15-20	Busota, Kamuli-Namwendwa & Kamuli-Ssabawali
		Acre	30-100	
03.	Outer Suburbs (Urban-Rural)	15 X 30 M	8-15	Nakulyaku, Buwanume & Namisambya II
		Acre	20-30	

Source: Kamuli Municipal Situation Report 2020



Generally, land is an important asset for people's livelihoods and for economic development. The cost of land is increasing even when over 90% of landowners in the Municipal Council do not have land titles and their rights remain unregistered. This is so because land is also increasingly being seen as a commodity and the demand for it is on increase for various reasons. Land is thus held by some owners under speculation with no plans or capacity to develop it but to sell it off at a higher price and this has perhaps contributed to the large landless households or customary tenants and the sprawl. It was noted that a strategically located urban plot in the CBD, currently fetches UgShs 150 million as opposed to UgShs 25 million a decade ago and this serves as a perfect example of land speculation.

Map 13: Broad Comparative Land Values in Kamuli Municipal

Source: Kamuli Municipal Situation Report 2020.

The prevailing informal market systems and

absence of reliable market prices made it difficult to arrive at the realistic estimation of land values since many of the land or properties in the urban and rural areas of the Municipal Council were informal and largely un-serviced. The fact remains, however, that as these urban areas grow and become largely serviced, the land and property market is expected to flourish and become more vibrant like it is in other urban centres such as Kampala City. Hence, land should remain a commodity for poverty alleviation and recognizing and securing land rights could improve awareness and socio-economic resilience especially for the young generation.

3.5.1.1. Purpose/Objectives

- To link spatial planning to infrastructure development in order to effectively direct, support and structure the growth in a more sustainable manner.
- To facilitate easy access to land for all urban uses and needs as well as for infrastructural and service delivery.
- To encourage policy reforms to ensure that land facilities, land use regulation and land development enhance economic productivity and commercial competitiveness for wealth creation and overall socio-economic development in the Municipal.
- To secure customary ownership to overcome obstacles to urban development and improve planning tools to be more responsive to the existing land tenure patterns.
- To develop a local cadaster of land rights in order to create ownership boundaries in order to aid planning at more detailed levels.

3.5.1.2. Strategies/Actions

- Recognition and formation of Land Associations to safeguard against land grabbing. Communal ownership is legalized to protect land rights beyond an individual or groups of individuals. The Land Act 1998 provides that people may form themselves into communal land associations to acquire certificate of title of their land that they all occupy. This safeguards their land against land grabbing and also offers an opportunity to ensure planned settlements.

- The Municipal through the Ministry of lands, Housing and Urban Development should roll out a systematic land demarcation and survey purposely to integrate the customary land tenure interest for security of tenure. This practice will allow individuals to acquire certificates of title of land they occupy hence security of tenure. During this process, the road reserves, utility lee-ways and other service areas are identified, demarcated and surveyed. Besides, the District Land Board should ease the process of acquiring certificates of title and fees payable to be highly subsidized.

- The Ministry of Lands, Housing and Urban Development should complete and disseminate the pilot specific tools for Fit-For Purpose land registration and land tenure regularization through aero images, community participation and GIS platforms such as Social Tenure Domain Model to demonstrate alternative cheaper ways to survey and register land for a large area or an entire district. One of the pilot projects were implemented in Pakile and Ciforo Sub-counties in Adjumani District. Hence, completing a local cadastre is crucial to plan for a more appropriate tenure responsive land uses and to foster sustainable development.

- The Municipal Council should enhance institutional coordination between the Physical Planning Unit at the Municipal and Land Administration Unit at the District to ease the processes of land ownership regularization and registration. The Municipal Council is also needed to guide the community on the processes of acquiring certificates of titles on the land they occupy. The Municipal Council should lobby to access the land fund of the Central Government in order to facilitate faster acquisition of land required for planned urbanization, infrastructure development, and agricultural commercialization among other developments that should be quickly put in place.

- The natural systems such as rivers, forest reserves, wetlands and swamps and any land to be reserved for ecological and touristic purposes should be designated for protection from encroachment through this Municipal PDP. The Municipal Council shall continue to hold in trust the identified ecological reserves.

- Sensitization of the customary tenants on Mission and Church land or any other privately owned land about the need to regularize their occupancy by either registering to pay Busuulu of Ugx 3000 per year (as set by the land lords) or applying for a leasehold certificate of title of the land they occupy. This sensitization drive should be championed with the Municipal Council in conjunction with the landlords. Additionally, the landlords with huge chunks of land should be advised to prepare master plans of the land they own so that arrangements are made to use the vacant land so as to avoid more encroachment.

3.5.1.3. Issues/Risks

- Customary land is being seen as an impediment to land markets due to absence of certificates of title yet land is already considered a commodity.
- The growing land markets under speculation is likely to present a looming land scarcity thereby creating a competitive land market hence leading to a surge in land costs.
- Customary land owners cannot use their land as collateral for agricultural loans since the financial institutions do not recognize customary land agreements.
- Fragmentation of land into many unacceptable plot sizes has encouraged small and irregular land parcels. These will require to be amalgamated for meaningful redevelopment through effective land consolidation and readjustment strategies.
- Lack of security of tenure does not incentivize individuals to make permanent investments on their land in order to increase productivity.
- Customary land was and is still not treated as a commodity that could be sold, leased or mortgaged to make individual improvements or investments.
- Widespread bureaucratic and costly red tape as well as complex regulations has hindered faster ownership regularization and registration.

3.5.1.4. Environmental Considerations

- Encroachment on ecologically sensitive areas such as forest reserves, wetlands and river banks. The municipal council with other regulatory agencies such as NEMA and NFA should have full control over such natural resources. There is need for the Municipal Council to ensure that no further certificates of title are issued on land located in environmentally sensitive areas.

- Land fragmentation due to increasing population pressures and urbanization is significantly contributing to environmental degradation hence hindering transition to modern agriculture.

3.5.1.5. Implementation

- All suitable and unencumbered public land located within the Municipal Council should be reserved for infrastructure and social service provision since the Municipal has no resources for land banking and compensation. The Municipal Council needs to keep an updated record of public land. Loss of public land as either facilitated by poor planning or through illegal means has been a challenge to many Uganda's urban centres.
- Development requirements of the Municipal should demand for survey, demarcation and issuing of titles for all un-surveyed land in the Municipality before large scale developments are accepted.
- Synchronizing the PDP with the land information system to support planning and development.
- Areas and land affected by the road reserves or earmarked for specific developments should be protected against any possible encroachment through developments or land grabbing.

3.5.2. Land use and development pattern

3.5.2.1. Implementation Analysis of Kamuli Town Structure Plan 2009-2019.

Kamuli Town Council covered an area of approximately 3.2 Square Kilometers and it consisted of four wards including Muwebwa, Mulamba, Kasoigo and Mandwa, divided into 21 zones. However, Kasoigo was the largest ward accounting for over half of the entire town council. Since the Town Council was small in area, development started spreading beyond its boundaries into the neighbouring Nabwigulu Sub County in Kamuli District. Given that the Town Council had received some earlier planning, the development outside the Town Council was taking place organically without any form of planning. Hence, in 2009, it was considered by the Consultant to extend planning to cover part of Nabwigulu Sub County on the account that traces of development were visible yet the Town Council had no enough space to accommodate all the desired or required services and infrastructure during the planning horizon (2009-2019) and beyond. Therefore, the planning area was extended to include three parishes namely; Kamuli- Ssabawali, Kamuli-Namwendwa and Buwanume) and later on, Kamuli Town Council and Nabwigulu Sub County Structure Plan 2009-2019 was developed covering an area of 18 KM^2.

In 2015, Kamuli Town Council attained a municipal status and more six (6) wards were added to the original four (4) wards. Currently, Kamuli Municipal Council comprises of ten (10) wards and covers an area of 102.65 KM^2. The original four wards include; Mandwa, Muwebwa, Kasoigo and Mulamba while the six new wards include; Kamuli-Ssabawali, Kamuli-Namwendwa and Nakulyaku (curved off Nabwigulu Sub County), Busota, Namisambya II and Buwanume (from Kitayunjwa Sub County). Out of the ten wards, only four wards that formed the former Town Council with a total land area of 3.2 square kilometers were planned (with both a land use and detailed plan), while the six wards (99.45 Sq Km) remained unplanned. While the original four wards are currently turning urban, the remaining six are, however, characterized by sparse residential development and agricultural land hence rural in nature.

The Structure Plan which has been guiding development in the Municipal Council expired and is currently under review. However, there is an attempt to evaluate the level of its implementation as

failure to implement physical plans often presents significant barriers to effective planning. And as such, table 27 below provides an analysis of level of implementation of the 2009 Structure Plan after a period of ten (10) years.

Table 28: Analysis of Existing Land Use and Levels of Compliance to the Structure Plan 2009-2019

	Land use	Kamuli Town & Nabwigulu Sub County Structure Plan 2009-2019		Existing Land Use Situation 2019	
		Structure Plan Provisions (Ha)	PDP emphasis	Existing land use (Ha)	Observed Land Use Challenges that must be addressed by the Kamuli Municipal PDP 2022 – 2032
1	**Residential Low Density**	206.50	This land use was proposed in the raised areas of the town council particularly near the District Headquarters (DHQ) and in areas near close to the environmentally sensitive areas in Kiwolera and Namalembe.	1,514.3	The increase in the coverage was due to extended boundaries newly added wards which were largely rural with a very low density. However, the areas around the DHQ have experienced tremendous institutional development compromising the original PDP provisions.
	Residential medium density	170.33	Emphasis was redevelopment of Mulamba, Muwebwa, Kiwolera and Buwaiswa as areas to cater for the needs of the middle income earners and civil servants. These areas however have considered for densification into high density residential and the main centre is becoming densely commercialized.	1,162.4	There was a remarkable increase in coverage due dominance of medium density residential in the annexed wards of Kamuli-Ssabawali, Kamuli-Namwendwa and Buwanumne. These areas are also beginning to urbanize and intensification of development is emerging hence need for attention as a peri-urban area.
	Residential high density	161.86	Emphasis was redevelopment and densification of the existing developed residential areas around the commercial center in areas of Kasoigo and Mandwa in particular to permit proximity of the low income to employment centre and industrial areas in Mandwa Ward and control sprawl.	142.5	Failure to facilitate supply of high-density decent housing for the majority urban poor and failure to enforce compliance of detailed plans resulted into a more sprawling development. The desire to engage in agriculture which is the major economic activity has pushed more people to more rural areas to acquire space for agriculture hence the projection was higher than the actual demand for such housing.
2	**Urban Agriculture**	113.44	As urban agriculture was permitted within the built-up areas of the former town council area, more agricultural zones were planned in the extended area of Nabwigulu Sub County for continued food production and wealth creation. The continued conversion of	4,136.9	The performance increase in several folds mainly due to the sparse residential development and agricultural land in the extended area. Similarly, the agricultural areas that were planned in 2009 were outside the administrative boundary of the Town Council.

	Land use	Kamuli Town & Nabwigulu Sub County Structure Plan 2009-2019		Existing Land Use Situation 2019	
		Structure Plan Provisions (Ha)	**PDP emphasis**	**Existing land use (Ha)**	**Observed Land Use Challenges that must be addressed by the Kamuli Municipal PDP 2022 – 2032**
			agricultural land within the former town council area due to invasion and succession of commercial and residential developments mainly within and around the commercial centre has gradually led to depletion of major and prime agricultural land.		Additionally, the extended boundary had 89.6 Ha of commercial agriculture which never existed in the Town Council. Thus, wards of Namisambya II, Buwanume and Nakulyaku and part of Busota still exhibited dominance of agriculture and were rural in nature hence have also majorly been reserved for agriculture.
3	**Commercial Land Use**	178.29	Plan provided for expansion of the major commercial centre to cover more parts of Kasoigo Ward and expansion of the already existing trading centers such as Butangara Trading Center. The commercial area that existed in 2009 was 119.94 Ha. The PDP emphasis was for the TC cause strict enforcement of detailed plans and management of the commercial centres and surrounding residential areas to control sprawl and free land majorly in Kamuli-Namwendwa, Kamuli-Ssabawali and Buwanune wards for agriculture.	185.2	There was a percentage increase of 54.4%, more than half of what existed in 2009. Hence, meaning that it expanded exponentially surpassing the planned area by 3.8%. This expansion is attributed to massive invasion and succession of the commercial use over the residential use as evident in upcoming urban centers. The Commercial center has also expanded to almost all the wards of the former town council. Hence, the former town council area has become densely commercialized. There has also been uncontrolled and unplanned emergence of other centres especially in Kamuli-Namwendwa and Kamuli-Ssabawali Wards formerly under Nabwigulu Sub County such as Buwudha, Budhumbula, Bukaaye and Kananage among others. The centres have emerged in response to growth of residential land use in these formerly less developed areas. The challenge of lack of planning is causing growth of unplanned residential settlements in Kamuli-Namwendwa, Kamuli-Ssabawali and Busota and unplanned developments rural areas with clear lack of services

	Land use	Kamuli Town & Nabwigulu Sub County Structure Plan 2009-2019		Existing Land Use Situation 2019	
		Structure Plan Provisions (Ha)	**PDP emphasis**	**Existing land use (Ha)**	**Observed Land Use Challenges that must be addressed by the Kamuli Municipal PDP 2022 – 2032**
					and infrastructure.
4	**Industrial Land Use;**	69.82	The plan strategy was to distribute employment centres and growth opportunities. A new industrial area was proposed in Buwaiswa for heavy industries while the existing one in Mandwa ward was maintained for small sized manufacturing. This use had 20.15 Ha in 2009.	18.1	There was under performance 25.9% as the target of 69.82 ha of industrial use was never realized. Besides the Industrial area in Mandwa, the area planned for industrial use in Buwaiswa reflect minimal industrial developments if any. Residential land use has out-competed the planned land use an indication of challenges in enforcement of compliance
5	**Extractive**	22.45	The plan restricted extractives in order to reduce environmental degradation.	8.2	Area for extractives tremendously reduced probably due to more enforcement mechanisms of the Town Council. Secondly, some of the areas have been converted to urban use hence no longer exist. This PDP's emphasis is on a more controlled and regulated activities to reduce environmental degradation.
6	**Environmental Forests**	8.55	The plan proposed the protection of the natural and planted forests in the area, particularly proposed a forest reserve along Vithaldous Road.	211.1	The percentage change is 36.8% due to the forest reserves in additional areas of the Municipal Council such as Buwaiswa CFR. This use was almost depleted within the former town council area and the proposed reserve along Vithaldous Road was not enforced.
	Environmental Wetlands	307.77	Wetland were protected to serve their intended ecological purposes for sustainable use	1,566.1	There was a huge percentage change due to the wetlands in additional areas of the Municipal Council. The former town council area had only 307.77 Ha of wetlands. However, there was loss of 169.03 Ha of wetlands due to encroachment as a result of inadequate enforcement of land use compliance.
7	**Institutional**	185	This was to take care of the educational, health, religious and	191.7	Percentage increase was only 3.4%. It shows that over 80

	Land use	Kamuli Town & Nabwigulu Sub County Structure Plan 2009-2019		Existing Land Use Situation 2019	
		Structure Plan Provisions (Ha)	PDP emphasis	Existing land use (Ha)	Observed Land Use Challenges that must be addressed by the Kamuli Municipal PDP 2022 – 2032
			cultural services in the area		percent of the planned land was put to use.
8	**Recreational**	45.98	This considered open spaces (covering 15.39 Ha), play grounds (3.36 Ha), parks etc and as such, recreational facilities were proposed in Buwaiswa, town square (9.75 ha) in Kasoigo along Gabula Road and open spaces below the Catholic Mission, in Mandwa (behind Kamuli Hospital and in Kananage (above the District Headquarters).	15.4	The areas proposed for recreational were never developed and actually reduced despite the growing need for more facilities. More land has been proposed for this purpose in this PDP and this shows more need for the service.
9	**Parking Facility**	8.28	Taxi park was planned in Kasoigo along Gabula Road.	1.1	There was under performance. Apart from the existing park at……The planned area for a parking facility was never put to use hence not implemented.
10	**Cemetery**	22.03	A public cemetery was proposed between Busoga High School and Buwaiswa Campus although there were private cemeteries at Mission Church, Kamuli Hospital and Kabulstan.	0.8	The planned cemetery was not implemented hence no public cemetery. Otherwise, there are individual burial grounds like grave yards in the area which the plan had not planned for.
11	**Civic**	41.65	The PDP provided for a new civic area at Namwendwa on Gabula Road of 39.67 ha, expansion of the District Headquarters and existing civic area.	74.8	There was a percentage change of 79.5%. Given the level of development, demand for civic use increased to include private and public civic areas
12	**Lagoon**	14.14	A sewage lagoon was planned at Namalemba on Vithaldous Road near the Water reservoir	0	Not implemented as there was no lagoon in the Municipal.
13	**Buffer**	89.12	Planned to buffer all wetland, rivers, natural forests and open water areas	0	There was poor performance as buffers seem to have been implemented and enforced. All buffers were totally eliminated by developments. The PDP emphasis is for wetland restoration and protection through buffer zones.
14	**Land Fill**	26.67	Planned at Kyamuluya	0	Not implemented
15	**Markets**	9.39	Two more markets were proposed at Kananage (expansion) and Kasoigo (near the Catholic Mission), besides	0.8	Under performance by 94.1% hence not implemented.

	Land use	Kamuli Town & Nabwigulu Sub County Structure Plan 2009-2019		Existing Land Use Situation 2019	
		Structure Plan Provisions (Ha)	PDP emphasis	Existing land use (Ha)	Observed Land Use Challenges that must be addressed by the Kamuli Municipal PDP 2022 – 2032
			the existing Kamuli Central Market.		
	Total	**1,684.63**		**9,231.6**	

Source: Kamuli Town Council & Nabwigulu Sub County Structure Plan 2009-2019

Hence from the table above, the proposed land uses that were never implemented included the following among others;

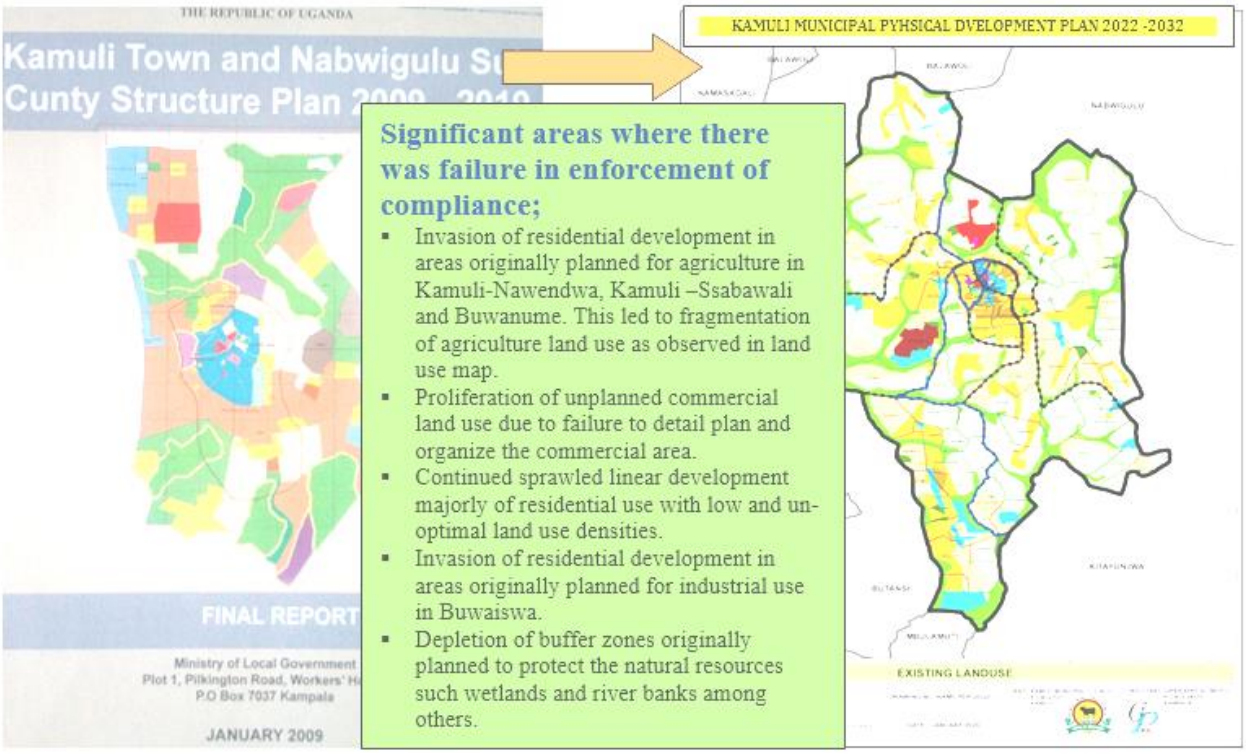
- Sanitary landfill proposed at Kyamuluya was never established hence Municipal Council has no sanitary landfill.
- Two new markets were proposed at Kananage and Kasoigo were never established. However, the one at Kananage was for expansion which never occurred.
- The proposed buffers to all the natural resource systems were demarcated to offer protection hence most of the wetland have been reclaimed.
- A sewage lagoon proposed at Namalemba on Vithaldous Road was never constructed hence the Municipal has no public sewage lagoon.
- New civic center proposed at Namwendwa on Gabula Road was never established as per the Plan.
- Establishment of a public cemetery proposed at between Busoga high school and Buwaiswa Campus did not take place.
- A new taxi park proposed in Kasiogo along Gabula Road is non-existent.
- Recreational facilities proposed in Buwaiswa, a town square at in Kasoigo along Gabula Road, open spaces between Catholic Mission, Mandwa (behind kamuli Hospital) and in Kananage (above the District Headquarters) respectively were never provided as planned.
- A second (new) industrial area proposed in Buwaiswa meant for heavy manufacturing for employment and wealth creation was never established.
- There was no evidence for high density residential developments proposed around the major town commercial centre in Kasoigo and Mandwa Wards particular for low-income earners.

It was further observed that most areas in the former town council were highly built-up while the rest of the land was still virgin with scattered settlements associated with farming practices. The percentage implementation level of the previous Structure Plan 2009-2019 could not be effectively determined as the size of the planning area tremendously changed from approximately 18 KM^2 at the time of planning in 2009 to 102,65KM^2 in 2015. However, as it has already been noted, many of the planned land uses, services and facilities were never implemented during the planning period of 2009 to 2019. But from the above analysis, it is estimated that the performance of plan implementation was way below average.

3.5.2.2. Comparison of Land Use Development in 2009 and 2020

The current outcome of the land use development was compared with the measures or proposals that were reflected in the Structure Plan 2009. Significant areas where there was failure in enforcement of compliance included the following among others;

- Invasion of residential use in areas originally planned for agriculture was evident especially in areas such as Budhumbula, Kiwolera, Badaaza and Kyamuluya among others. The residential area or use grew from 266.92 Ha in 2009 to 2,818.7 Ha in 2020 presenting a huge percentage growth due to the additional areas.
- Invasion of commercial use in residential area became a common feature and was evident in the former town council area covering Mandwa, Muwebwa, Kasoigo and Mulamba forming the Municipal Center and in the upcoming urban centres such Bulindi, Buwudha, Budhumbula, Kabukye, Busota, Buwaiswa among others. The Municipal Centre wards have generally become densely commercialized as most commercial activities and business are concentrated in that area. Hence, this area (former town council) is the most densely populated and commercialized centre in the Municipal Council hence performing duties of the major commercial hub of the Municipal. The commercial area or use grew from 119.74 Ha in 2009 to 185.2 Ha in 2020 presenting a percentage growth of 54.7%.
- There was evidence of sprawled linear development of majorly residential use in the Municipal Council following the pattern of the road network rather than the planned settlement structure as laid done in the Structure Plan 2009-2019.Such areas with linear growth include Budhumbula among others.
- There was also evidence of limited optimal use of land in most parts of Municipal Council as a result of urban sprawl, a phenomenon which has encouraged wasteful utilization of land. Vacant plots, open parcels of land and underutilized plots were commonly observed especially in the peri-urban and rural areas of the Municipal Council even within the municipal centre. Hence, this situation provides possibility of potential infill developments, redevelopment and densification of the built-up areas before more virgin or agricultural land is converted into urban use.
- Failure to form specialized economic sectors and employment centres in the Municipal Council as planned in the Structure Plan 2009-2019. As already noted above, the proposed industrial area in Buwaiswa was never established and this denied the residents of the Municipal and opportunity for employment and other associated benefits. The urban centers continued to grow organically despite the PDP's emphasis on detailed planning of the urban centre in a bid to organize the employment areas especially for the youth in order to support growth of their informal businesses and activities. The proposed two markets at Kananage and in Kasoigo were not established to offer more areas of business and employment.



Map 14: Comparative Analysis of the Implementation of the 2009 Structure Plan

In summary, Kamuli Municipal Council and the urban community had little guidance and capacity on how to prioritize actions that would enhance success in the implementation of the plan. The development control tool that was relied on to cause conformity of developments with or to the Structure Plan was also very weak due to inadequate enforcement and staffing capacity, inadequate awareness building of the target stakeholders who propose land use changes and new developments and lack of adequate logistical support and facilitation among others. Hence, this PDP will try to provide recommendations or actions on the right direction for improving prospects for implementation.

3.5.2.3. Existing Land Use Situation

As is the case with other municipal councils, Kamuli is facing a challenge of dealing with the uncontrolled rapid urban growth due to absence of an urban physical development plan for the entire Municipal Council. The Municipal Council's land covers 10,265 Ha. The existing land uses and the urban form of Kamuli Municipal exhibit a dual character of urban and peri-urban settlements reflecting some typical rural elements peculiar to traditional Kisoga settlements, with limited infrastructure, economic and socio-cultural activities. The peri-urban and rural areas are made up of individual households or dwelling units majorly engaged in urban agriculture.

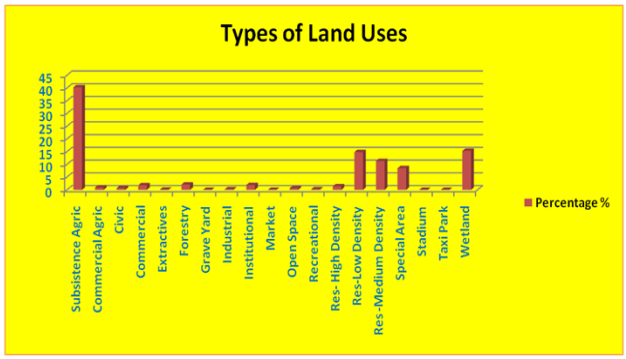
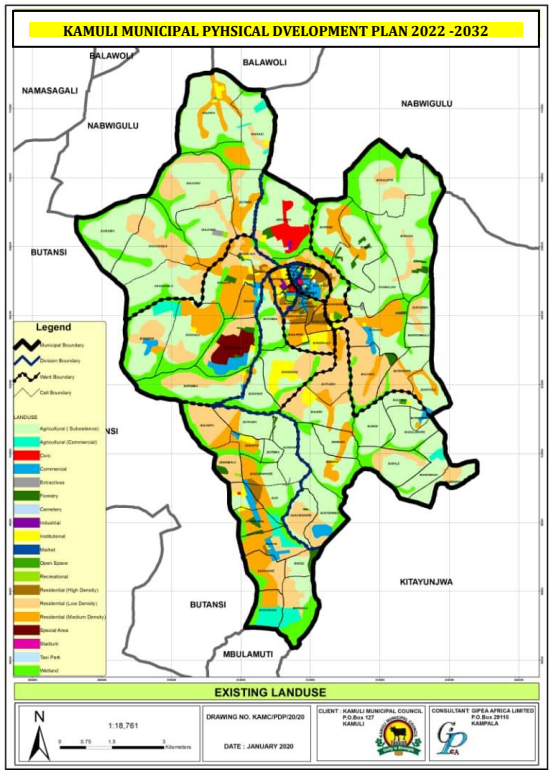


Figure 7: Existing Land Use in Kamuli Municipal Council

Source: Kamuli MC Situational Analysis Report 2020

The existing land use in Kamuli Municipal is distributed over agriculture, residential, commercial, institutional, forestry and environmental among others as shown in Figure 7 below. Agricultural use was the largest land use covering an area of 4,226.5 Ha accounting for 41.2% of the total land use, followed by residential at 27.5% covering an area of 2,819.2 Ha and wetlands at 15.3% covering 1,566.1 Ha respectively. The implication is that almost half of the land in Kamuli Municipal Council is under agricultural use but the percentage is expected to reduce as the Municipal Council becomes a more urbanized.

Further still, subsistence agriculture was the most single use of land with a highest coverage of 40.3% of total planning area, followed by wetlands at 15.3% and low density residential taking the third position at 14.8%. This means that a significant share of households in the Municipal Council is engaged in subsistence farming as their main source of food and extra income. However, urban expansion is slowly taking over agricultural land, which is the main source of food production and major economic activity of the Municipal economy, and if not guided, will have an effect on food production.



Most of the residential areas were scattered or dispersed within the Municipal Council and had minimal neighbourhood supportive commercial retail stores and other infrastructural services. Furthermore, many residential areas in Kamuli Municipal Council were far from the employment and commercial areas which are supposed to provide employment opportunities for residents. The location and characteristics of each of the broad land use categories is illustrated in Map 16.

Map 15: Existing Land Use Distribution

Source: Kamuli MC Situational Analysis Report 2020

Key issues on land use management identified by the consultative workshop participants included among others; non-compliance to building standards and regulations which has led to inappropriate housing and wasteful utilization of land, complex multiple land tenure system that encourages creation of substandard plots hence making planning and service delivery very difficult and expensive, uncontrolled and haphazard organic developments due to lack of a physical development plan of the entire Municipal Council and weak institutional capacity to enforce development control. Others included; prime agricultural areas being threatened by the increasing unguided urbanization process and incompatibility of existing land uses that compromise the health and safety of the public as well as wetland encroachment for agriculture and development.

3.5.2.4. Analysis of the Development Pattern

As earlier noted, Kamuli Municipal Council is facing a challenge of dealing with uncontrolled rapid urban growth and inadequate institutional capacity to control developments among others. The

broad land use pattern exhibits a significant percentage of built-up area resulting into a continuous reduction in prime agriculture areas for food production. The heavily built-up area mainly comprises areas in Muwebwa, Mulamba, Mandwa and Kasoigo Ward that forms the Municipal Center and urban corridors along major traffic corridors such as Kamuli-Jinja Road, Kamuli-Namwendwa and Nairumba Road among others. The land use pattern as observed in the Municipal Council was categorized into four major land uses, (table 28).

Table 29: Broad Land Use Pattern

Land Use	Area (Ha)	Percentage (%)
Built-Up Area	4,261.3	42
Agriculture (Subsistence & Commercial)	4,226.5	41
Environmental Area (Wetland & Forestry)	1,777.2	17
Total	**10,265**	**100.00**

Source: Kamuli Municipal Situational Analysis Report 2020

The broad urban form of Kamuli Municipal Council comprises; (i) Built-Up Area, (ii) Agricultural Land and (iii) Environmental Area, (Table 29). The built-up area in the Municipal Council comprises residential, commercial, industrial, institutional, recreational, open spaces, extractives and the special area and all these activities were spread all over the Municipal Council but mainly located in the urban concentrations including the CBD and urban corridors along major and secondary infrastructure routes. This category accounts for 42% of the total land covering an area of 4,261.3 Ha. Notable among the built-up area is the ‘‘special area’’. This special area covered an area of 877.4 Ha, (8.5%) of the Municipal Council and this includes very important historical, traditional and cultural elements and treasures of Busoga Kingdom and the Kyabazinga of Busoga in particular, which are spread throughout the Municipal Council. Such elements include; Royal Tombs, Royal Palace at Budhumbula, Police Barracks in Mandwa Ward among others. These also act as tourism attraction areas sites that would attract lots of tourists from within and outside the country hence their protection and conservation is paramount.

Further still, the most built-up areas such as Muwebwa, Mulamba, Mandwa and Kasoigo Wards among others require densification through high density high rise and multiple-use buildings. Such areas may be very difficult to change their use in the short or medium term. Where it’s possible, it may present high-cost implications in terms of compensation. However, on the other hand, the built-up area could still be looked at potential areas for future development through consolidation and densification of activities thereby creating denser and more compact settlements using the smart growth approach. The built-up areas of the Municipal Council are largely of low and medium density implying that more space still existed to accommodate additional housing, commercial as well as industrial demands. This compact growth in built-up areas could only be achieved through deliberate planning efforts that strive to promote denser than more sprawled developments. Through creating compact settlements of high-density mixed-use buildings, residents will access jobs and other social amenities (including, services, education and healthcare) easily near to where they live. This therefore reduces travel time and costs which improves quality of life as well as lowering the infrastructural costs to achieve a positive return on investment.

Subsistence and commercial agriculture cover a total area of 4,226.5 Ha and accounted for 41% of the total land. Most agricultural land is located immediately outside the Municipal Centre in the peri-urban and rural segment of the Municipal Council. However, agricultural land is increasingly being earmarked for conversion into urban use to meet the additional housing needs due to

population increase and rapid growth. Although, it's further threatened by the urban sprawl, this PDP will ensure adoption of planned growth that will support conservation of the prime agricultural land to allow food production as it also releases some land to carter for future development needs at the same time in a controlled manner.

Environmental area comprises major rivers, wetlands and forests account for about 1,777.2 Ha, (17%) of the total land. This area also includes drainage channels, streams and springs which were strongly evident in the municipal council. Notable among the wetlands include; Buwaiswa, Kananage, Kisungudi, Saza, Namalemba, kabukye and Musanvu among others. Additionally, forests mainly Buwaiswa and Kiwolera existed as natural forests while planted forests also existed. However, forest loss and fragmentation of forest cover is a major issue as forest areas were being subsequently encroached on for agriculture and other urban uses possibly due to high development pressure. The survey indicated that a total of 178.2 Ha of wetlands had already been degraded. 169.03 Ha of wetlands is lost while 9.17 Ha of Buwaiswa CFR was degraded and lost as well. It's now a noteworthy effort to sustainably protect and manage the available natural forests. Generally, this category requires protection from further encroachment as most of the areas have been degraded and converted to urban use. However, it's important to note that this land is unavailable for development as it is under protection. These environmentally sensitive areas need to be protected and preserved hence making it hard to reclaim them for future development purposes.

3.5.2.4.1. Purpose/Objectives

- To carry out zoning of the Municipal Council and provide suitable land for all the various development's needs.
- To promote compatibility of land uses so that different land uses complement each other in order to achieve sustainable use and development.
- To provide sufficient land for employment and agriculture, in a manner that enables the present needs to be satisfied without compromising the requirements of future generations.

3.5.2.4.2. Strategies/Actions

- Undertake land use zoning of the land into various development needs and make assessment of physical land requirements.
- Preparation of the Land-Use Plan that designates locations of the different land uses, social and infrastructure corridors.
- Encourage tree planting on bare land and those areas where vegetation has been cleared at both municipal and plot level.

3.5.2.4.3. Issues/Risks

- There is general shortage of developable land within the planning area. Although, the study indicates availability of land, it's not actually available as land belongs to the people. A significant share (17%) of land in the planning area is under the protected areas such as forest reserves, wetlands and hence unavailable for development. Strict use of land and allocation rationale of the available land is therefore needed.
- To accommodate the natural growth of the influx of people from other areas, more and more agricultural land is likely to be converted to non-agricultural uses.

3.5.2.4.4. Environmental Consideration

- High gradient areas that constrain human settlement and agriculture. These hilly and very steep mountainous areas must be protected to avert risks of landslides and soil erosion.
- Settlement in unsuitable and hazardous locations such as wetlands, areas prone to floods and hill tops to landslides likely not good for health and safety of the public.
- Conversion of ecologically sensitive areas for development leading to environmental degradation.

3.5.2.4.5. Implementation

- Preparation of a zoning land use map designating the various land uses. Refer to chapter five for details on the proposed land uses.

3.5.3. Land Availability (Physical Potential and Constraint)

3.5.3.1. Land for Future Development

Land availability refers to available land or space for future urban expansion. Most urban activities if not all occur on land and in most cases the same piece of land normally has many competing uses. The many economic sectors, human social activities and environmental protection concerns compete for the limited suitable land available. Accordingly, Kamuli Municipal Council has experienced decades of significant urban growth and is currently among the fastest growing urban centres in Busoga region and Uganda as a whole. Kamuli Municipal has developed into a commercial and residential urban centre and vital to District's economic growth and Busoga Sub-region as a whole. Kamuli Municipal Council has grown and is still growing outwards from the Municipal Centre in a concentric manner with urban corridors along the major traffic routes (Kamuli-Jinja Road, Kamuli-Namwendwa Road and Nairumba Road among others) and developments spreading outwards from small urban corridors and centres. Concentration of developments has also occurred in areas located in upcoming growth urban centres. This sprawled growth, however, has been unplanned resulting into an inefficient pattern of settlement characterized with informal settlements which in many cases have also encroached on the ecologically sensitive areas such as wetlands. As such, this sprawled development has thus constrained provision of adequate services and infrastructure that is badly needed in most parts of the Municipal Council.

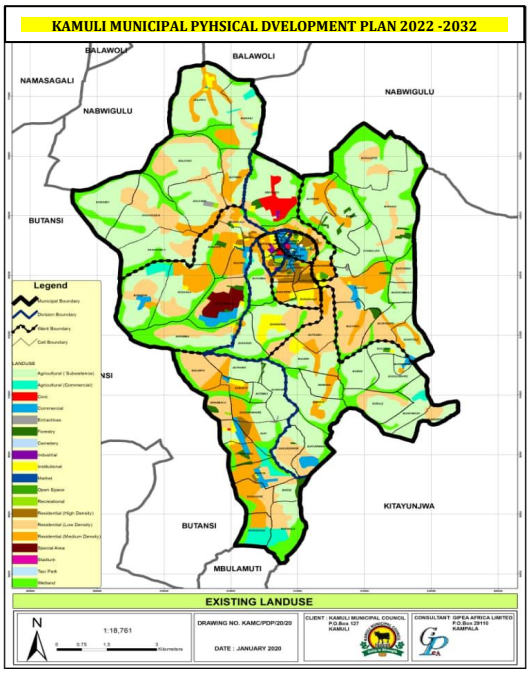
Out of the constrained land in the Municipal Council, almost 55% is fully built-up with residential, commercial, industrial, institutional, cemetery and recreational developments among others as noted above, (Table 30). Kamuli Municipal Council is increasingly becoming urbanized though with quite significant portions of peri-urban areas with rural settlement characteristics. In this respect, over 60% of the land covering 6,053.5 Ha is constrained hence unavailable for future development, of which the built-up area contributed 54.66%. This means that areas to accommodate more additional development needs for present and in future are declining and this may ultimately require use of extra costs to convert some areas into new development potentials. To this end, a very significant share (60%) of the entire land in Kamuli Municipal Council is either developed or under protection hence unavailable for development. Further still, 1,777.2 Ha (29.36%) of the constrained land was wetlands and forest reserves. Wetlands cover an area 1,566.1 Ha (25.87% of the constrained land while the forest reserves account for 3.49% and covers 211.1 Ha. The comparative analysis of development potentials and constraints is illustrated in Map 17.

Table 30: Physical Potentials and Constraints in Kamuli Municipal Council

	Potentials	
Type	**Hectares**	**Percentage (%)**
Agricultural (Subsistence)	4,136.9	98.2
Open Space	66.4	1.6
Extractives	8.2	0.2
Sub-Total	**4,211,5**	**100**
	Constraints	
Type	**Hectares**	**Percentage (%)**
Built- Up Area	3,309.3	54.66
Special Area	877.4	14.49
Agricultural (Commercial)	89.6	1.48
Wetland	1,566.1	25.87
Forests	211.1	3.49
Sub-Total	**6,053.5**	**100**
	Summary	
Type	**Hectares**	**Percentage (%)**
Potentials	4,211.5	40
Constraints	6,053	60
Grand Total	**10,265**	**100**

Source: Kamuli Municipal Situational Analysis Report 2020

The identified potential areas included land under subsistence agriculture, areas of extraction and open space all covering an area of 4,211.5 Ha accounting for 40% of the total Municipal Council, (Table 30). This means that quite a significant share of the total Municipal land area is available to carter for additional new and future development needs. However, without appropriate planning, direction and support and in effective absence of long tern planning and implementation, the available land would not be able to meet all the growing needs of present and future projected urban population. Wasteful utilization of land as a result of uncontrolled urban sprawl which hinders optimum utilization of land will require urgent solutions in order to eliminate the perceived land shortage. This urgently calls for planning interventions and measures that would enhance and promote optimum utilization of the available urban land in the wake of increased population growth and needs. Future planning must meet the challenge of wasteful land utilization and the heavy influx of the rural youth into the Municipal Centre.



Map 16: Comparative Analysis of Potentials and Constraints

As such, this phenomenon of urban growth facing the Municipal Council has resulted from a broad scale urban sprawl originating the Municipal Centre and along the major traffic corridors that traverses the Municipal Council. Broadly, the study indicated subsistence agriculture as the single largest use of land covering an area of 4,136.9 Ha accounting for 40.3% of the total land use. This implies that equally a record share of the land in Kamuli Municipal Council is under subsistence agriculture and this is validated by the fact that over 57.8% of the Municipal population was engaged in subsistence agriculture. To accommodate the natural

growth and the influx of people from other areas, more and more agricultural land is likely to be converted to non-agricultural use. Urban expansion will inevitably cover some agricultural areas and in absence of physical plans to guide the land use changes, it means that urban areas will expand haphazardly. Inevitably, more prime agricultural areas were most likely to be converted into urban use for housing and other investments given the growing demand. Therefore, there is need for effective control over the land use conversions from agricultural to non-agricultural uses.

Given the fact that Kamuli Municipal Council is rapidly urbanizing, this situation presents a need for more urban land to meet the projected development needs of present and future population. This therefore means that the increase in urban population will generate an increase in demand of land in order to meet the increasing housing and employment needs. This will involve issues to do with the degree of intensification of development, extent of mixed-use development, desirable settlement form and pattern without jeopardizing priority and other key land uses such as agriculture for food security and biodiversity conservation. Therefore, to cater for the needs for the increasing urban population up to the year 2032, more land will be required for urban uses.

A major issue for Kamuli Municipal Council is the need for making optimum use of the already developed land through creating and sharing of more space, particularly by encouraging mixed-uses and higher densities in already built-up areas as well as easing mobility and accessibility by use of public transport system in view of environmental aspects and implications on the quality of life within the Municipal Council. This PDP therefore ensures the establishment of public open spaces and recreational spaces to provide identity of the newly emerging communities and to support development of high density and mixed-use buildings through adoption of smart growth concept.

The result of the analysis showed that about 4,211.5 Ha of total land in Kamuli Municipal Council was available for future development hence indicating potential areas to carter for future urban needs. The peri-urban and rural suburbs were still characterized by low density development hence the built-up areas still retained very significant land reserves for large scale infill with adequate space for all requisite infrastructure and services. These areas constitute the Municipal's strategic reserve for balanced long-term development, enabled by land rights regularization and by systematic infrastructural development particularly road access, subject to planning direction and priorities. With appropriate planning, direction and support, most of these areas can be developed to far higher densities, on a scale adequate to absorb the projected population growth to the planning horizon of 2032. However, these areas are effectively inaccessible and lack basic infrastructure and services. But once infrastructure (in terms of roads) is planned or developed in these areas, the land might become an immediate target for speculation, raising prices and restricting supply.

Effectively the land is there on a scale to meet all the current and future needs but it is simply unavailable for development as land belongs to the people. This means that land acquisition through compensation by the Municipal Council will be inevitable for future service delivery in terms of infrastructural development and service provision to occur. The Municipal Council should therefore take and keep an updated record of the available public land within their jurisdiction that they could take advantage of for service delivery and also guard it against encroachment and land grabbing. On the other hand, a total of 3,309.3 Ha of built-up area of the constrained land is however also assumed available for further in-fill and densification as observed earlier. Any in-fill and densification would need to be accompanied by significant improvements to the existing

infrastructure and utility services. Densification will be experienced when subdividing existing plots and providing the necessary sanitation (sewerage) and other infrastructural requirements.

All in all, within the existing built-up areas, there is still much room for infill development as well as redevelopment for mixed-uses and higher densities. A more compact and denser urban footprint as opposed to current urban sprawl is therefore most desirable to promote viable public transport and to protect the open peripheral (countryside) and forested areas as carbon sink in combating climate change. Majority of financial, business and other social service sectors will be concentrated within the urban growth centres for greater synergy and critical mass.

3.5.3.1.1. Objective

- To facilitate and ensure adequate supply of urban land for all urban development needs and provide space for all activities for all segments of people including the vulnerable groups such as the women, youth, urban poor, elderly and people with disability.
- To forestall sprawl in order to minimize urban growth on prime agricultural areas.
- To promote optimum utilization of the already developed land through compact and mixed-use communities using smart growth principles.

3.5.3.1.2. Strategy/Recommendation

- To provide and secure land for various land use development and identify areas for upgrading, densification and intensification through mixed development. The plan, therefore proposes that densification to be done through plot subdivision to promote high densities, construction of high-rise buildings in form of flats and apartments.

- High density developments will be planned to along traffic routes close to appropriate public transport and other infrastructure. This strategy is also designed to protect land from adhoc development and safeguard the irrational conversion of prime agricultural to urban uses and at the same time protect the conservation of the ecological zones.

- Assessment of the available public land in the Municipal Council with a purpose of taking stock and keeping updated record of existing and unencumbered public land that could be prioritized for service delivery in the short run. The cost of land is on an increasing trend yet the Municipal Council has limited resources to compensate land owners for public service provision.

- Undertake a comprehensive audit and mapping of all the Municipal land, property and property rights within the Municipal Council and in the district at large and preparation of a comprehensive Business Plan for their systematic, controlled allocation and development on an economic basis with due consideration of their potential urban contribution.

- Systematic acquisition of appropriately located vacant plots to meet long term public infrastructural, utility and service facility requirements and their effective protection until they are utilized.

3.5.3.1.2. Risks

- The growing urbanization and unprecedented urbanization level of 12.3% over the past decades in the Municipal Council is likely to create enormous pressure on Municipal's capacity to provide access to basic services since the gap between demand and supply of land and housing is growing day by day yet there is a critical shortage of planned areas for providing affordable housing. To accommodate the projected Municipal population, more agricultural land is likely to be converted to urban uses. Yet, if you restrict the loss of agricultural land to urban expansion, it pushes up land and housing prices and reduces still further the proportion of households that can afford a legal housing plot with infrastructure.

- The Municipal Council is also faced with inadequate financial resources to acquire land for provision of required urban infrastructure and services in order to support urban quality life. Land use allocation will, however, be very largely constrained by the existing land use pattern, infrastructure availability and natural topographical conditions.

- The bulk of land in Kamuli Municipal Council operates under a complex land tenure regime of customary land ownership that recognizes unregulated informal mechanisms over land subdivisions and transactions in supply of land for development. This unregulated physical expansion brings in a patchwork of high- and low-density land uses to which it's expensive and difficult to provide infrastructure and services.

- Most customary land owners consider agriculture as crucial for the livelihoods of their people and hence they prefer to keep the land for their future children. This cultural belief or norm of keeping land, whether vacant or under agriculture, for future generations restricts timely supply of land for development. On the other hand, selling of land especially in the urban and per-urban areas of the Municipal Council to obtain cash leads to a high fragmentation of land into small plots, inadequate for meaningful developments hence hindering large investments.

3.6. Report on Local Economic Development

3.6.1. Introduction

Local Economic Development (LED) is defined as a process in strategic planning or a development model where the government, business, non-governmental sectors and the community form partnerships to jointly and collectively engaged in identification, mobilization, management and initialization of resources at the local level. LED is considered to influence the growth and restructuring of an economy leading to desirable benefits such as the creation of jobs, the facilitation of new business start-ups, the strengthening/expansion of existing enterprises, the introduction of new entrepreneurial opportunities especially for women and youth, and hence improve the quality of life. It is thus intended to create a conducive environment for investment, increased household incomes and higher revenues for Local Governments, which ultimately translate into improved livelihoods for the people.

Uganda faces challenges and inconsistencies in service delivery despite a relatedly successful implementation decentralization. The challenges include, but not limited to, low levels of local development a midst increases in central government transfers to Local Governments; dwindling local revenue generation, narrow revenue and tax bases for Local Governments, low savings at

household and individual levels, which translates into 12.7% of GDP nationwide; limited local and community enterprise development due to lack or absence of relevant infrastructure and continued mindset of local government that their role is service delivery than the broader orientation of facilitating and enabling wealth creation for economic development.

Uganda currently is experiencing rapid urbanisation. The urban population has grown from less than one million in 1980 to about 6.4 million in 2014 (UBOS). Currently the urban growth rate is 5.4%. It is estimated that about 16.8% of the population is living in urban areas, which is about 6.4 million people and this figure is expected to grow to 20millions by 2040. This requires serious planning and policies to ensure that this rapid urbanisation can contribute to sustainable and inclusive growth.

Therefore, this section provides a detailed overview of the spatial economy of the Kamuli Municipality, with a focus on the economic activities that are occurring and on where these take place. The PDP will provide guidance on management and sustainable use of land and provide direction on current and future land use taking into account national, regional and local needs and already existing proposals; increase in business support by encouraging local investment centers; enhance growth of the private sector investment in the municipality and increase locally generated revenue in form of direct taxes and LG own revenue generating ventures. The PDP will provide forward planning framework on the best and equitable use of land resources as well as guidelines for future various types of land uses and guidance on the scale, intensity and site requirements of development applications. Major projects will be guided to the most optimal locations to maximize their benefits.

3.6.2. National Background

Uganda is counted amongst the poorest countries with GDP estimated at USD 22.3billion (2013), much as Uganda is endowed with significant natural resources, including ample fertile soils, regular rainfall, and mineral deposits. Agriculture is the largest land use in terms of its extent and significance, it is the economic and social backbone of Uganda. About 45% of total Gross Domestic Product (GDP) and over 90% of Uganda's export earnings are derived from the agricultural sector.

Nevertheless, in 2019, the Ugandan economy was reported to have grown at an estimated high rate of 6.3 % (African Development Bank Group), largely driven by the expansion of services. Services growth averaged 7.6% in 2019, and industrial growth 6.2 % (driven by construction and mining). Retail, construction, and telecommunications were key economic drivers. Ugandan economic growth has been projected at about 7 % (Brooking Institute), between 2020 and 2032, with drivers in the oil industry and infrastructure construction. Indeed, the country is likely to see further growth, given the significant endowment in natural resources, including ample fertile soils, regular rainfall, and mineral deposits.

3.6.3. Regional and Sub-Regional Background

Kamuli Municipality is located in the Eastern region of Uganda, which region has a population of close to 10 million; in Busoga sub region with a population of about 3.6 million. Eastern region generates GDP of about USD. 2.9 billion which is about 13.7% of the total country GDP (Estimating District GDP in Uganda; Frederick S. Pardee Center for International Futures), while the Busoga sub region has a GDP of USD.1.4 billion.

In terms of GDP per capita, Eastern region lags behind Central and Western region which are the richer regions of the country. The Sub region districts have GDP per capita ranging from the highest

USD.1180 (Jinja) to lowest USD 108(Kaliro), more local governments in the region including Kamuli municipality have GDP of less than USD 200, as shown in figure 8.

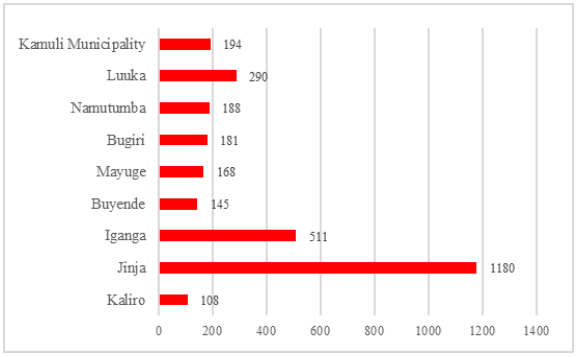


Figure 8: GDP per Capita (USD) for Local Government in Busoga Sub Region.

Source: Estimating District GDP in Uganda; Frederick S. Pardee Center for International Futures

The Eastern region like the rest of Uganda has agriculture as a main economic activity. The region grows a variety of crops including: rice, sugar cane, maize, sorghum, millet, sweet potatoes, fruits such as oranges, cotton and coffee are still grown in some areas. The region has a high potential in agriculture especially if road infrastructure, irrigation and mechanization is improved. The strategic location along the new possible alternative route from the east which is the oldest trade route from and / to Kenya through to and /from Kampala the capital and beyond to Southern Sudan, DR. Congo, Rwanda and Burundi are all reasons to show that the region can experience rapid economic growth. The region has little tapped tourism potential with varied landscapes including Lakes Victoria, Kyoga and rivers Nile, with its source in Jinja and Mpologoma; sip falls, Tororo rock, Mount Elgon, Nero rocks all which offer of attractions to tourists.

Government of Uganda is investing in road infrastructure in the region, hence improving communication within the region, but also with the rest of the country and neighbouring countries. For example, government is constructing Isimba dam with a bridge to connect Kamuli and Kayunga districts; there are proposals to connect Kamuli and Kaliro; but also, Kamuli to Buyende districts. This improved infrastructure in the region and connection to other regions will make fast movement of passengers and goods, hence stimulating economic growth in the region. The planned and eventual improvement of railway transport infrastructure will likely attract more investment in the region and drive the region further to prosperity.

3.6.4. Municipal's Competitiveness in the Regional/Sub-region (Eastern/Busoga)

Kamuli Municipality is strategically located in the Eastern region, in northern end of Busoga sub region about midway between the furthermost tip on Lake Kyoga (Bukungu landing site) and main eastern route (Jinja-Tororo to Kenya) through Jinja town. This gives Kamuli Municipality unique strategic position of "capital" of the Northern Busoga Sub Region.

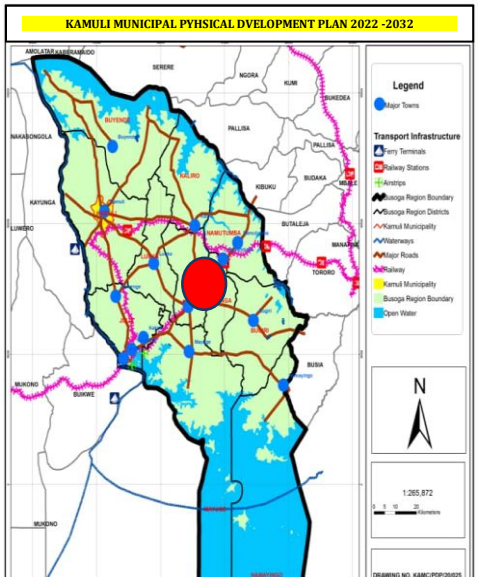


Plate 5: Strategic location about midway between the furthest tip on Lake Kyoga and Jinja with good road network which is under improvement.

Plate 6: New (Isimba dam with a bridge - top) and planned revamping (railway- below) of infrastructure will foster development in Kamuli Municipality

Kamuli has a good road network which could be improved to have good connectivity to the northern part of the sub region. The town has good paved road to Jinja and other earth roads to Iganga, Kaliro, Luuka, Namutumba and Buyende. These roads can be improved to create good connectivity to the hinterland of the municipality and cause development in Kamuli.

The construction of the New Isimba dam with a bridge connecting Kamuli and Kayunga districts and the paving of Kamuli - Iganga road will improve road connection between Central and Eastern Uganda, providing an alternative route (apart from the Jinja bridge) from the east to central region including to the capital city and western Uganda even to other neighbouring countries such as Southern Sudan. This route which provides an alternative route from the east through Iganga and Kamuli to Kampala the capital city is about 176km from Iganga to Kampala which is shorter than Iganga through Jinja to Kampala a distance of about 200km but also has a disadvantage of spots of traffic jam from around Namataba to Kampala. The construction of Kayunga – Nakasongola road will provide an alternative shorter route to northern Uganda and southern Sudan from the East all of which will turn Kamuli into a busy transit town.

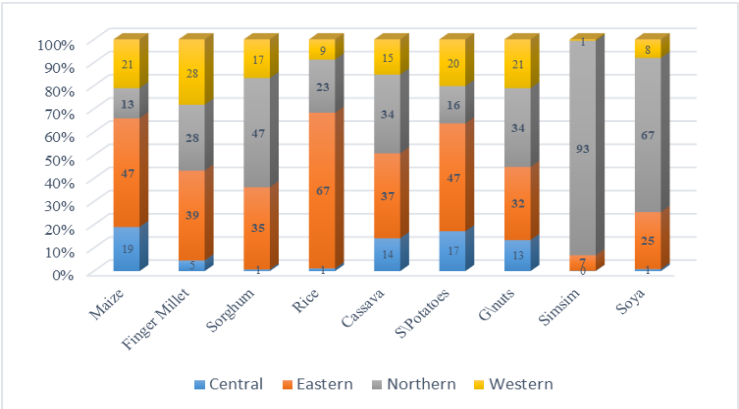


Figure 9: Production of some of the Major Crops by Region

Kamuli has an advantage of one of those towns having a rail connection. As railway transport is revamped in Uganda, Kamuli will have a cheaper alternative transport which can deliver inputs, goods and passengers but also provide cheap transport for finished goods to be delivered in other areas which provide the market. Kamuli Municipality has a strategic location in an endowed Eastern region with fertile soils and

climate supporting agriculture and some tourism attraction resources. Statistic available indicate that Eastern region is a leading food production area. Figure 9 shows Eastern region.

As a leading producer in Uganda of: maize (47%), rice (67%), Sweet potatoes (47%) and finger millet (39%). In terms of oil seed; groundnuts, simsim and soya, the region is second to northern region which is the main producer of the three crops. The region is a big producer of fruits, coffee and sugarcane. This regional potential can be harness to Kamuli Municipality's advantage by opening value addition industrials to gain from the agriculture production in the region.

3.6.5. Economic Activities and Employment in Kamuli Municipality

Kamuli municipality is located in the poorer region in the country, that is, the Eastern region and Busoga sub region. It was mentioned earlier that the region produces about USD. 2.9Billions of GDP which is about only 14% of the national GDP, while housing about 25% of the population. Meanwhile the Busoga sub region produces about 7% of national GDP and has about 10% of the population. GDP per capita for Kamuli municipality is USD. 194.

3.6.5.1. Agriculture in Kamuli Municipality

Agriculture is still Uganda's most important sectors of the economy employing over 72% of the population, majority of whom are women and youth; and contributing about 23% of GDP over the years. Therefore, Agriculture sector is one of the three key sectors recognized in the NDP III as its predecessor NDP II to drive economic growth and reduce poverty. Government has over the medium term focused on modernization of this sector to transform it into a spring-board for socioeconomic transformation through gender responsive mechanization, commercialization and provision of infrastructure to facilitate marketing, production and productivity. The NDP III just like NDP II, aims to increase sustainable production, productivity value addition and Labour Productivity (GDP per Worker). The Agriculture Sector Strategic Plan, classified the country into ten Agriculture Production Zones (Agriculture Ecological Zones).

Kamuli Municipality is located in Kamuli district which falls in the Lake Kyoga Plain as per the ASSP, where the whole Busoga Sub region falls. The main crops identified for Kyoga plain are; sweet potatoes, citrus, pineapples, maize, sorghum, and oil seeds (groundnuts, simsim and soy). Others agriculture activities include; aquaculture, poultry and piggery. While rice and sugar cane are not included, they are grown on a large scale in the area. Many of the prescribed crops are already grown widely in whole region. These crops will form a good basis for value addition industries in the Kamuli municipality as production and productivity are boosted as planned in the NDP III.

Agriculture is still economically important to Kamuli municipal residents. The NPHC 2014 figures indicate that, about 74% of the households were involved in agriculture of either crop or livestock (table 31). The same study shows more than half of the household (53%) still survive on subsistence farming as main source of income which is comparable to consultant's study of about 40% households surviving on farming as main source of income. This is quite a large proportion for an urban area, and even as compared to the neighbours in the region such as Jinja municipality (about 4%), Iganga (about 5%) and Bugiri municipality (21%) residents surviving on subsistence farming.

Table 31: Percentage Households in Farming main crops (Important for Food Security) and Livestock.

Agriculture Activity	Households
Crop growing	69.7%
Maize growing	66.4%
Beans growing	53%
Sweet Potato growing	33%
Livestock keeping	48%
Either livestock or crop farming	74%
Subsistence farming as main income	52.8%

Source: UBOS, NPHC 2014.

The agricultural activities carried out include among others crop growing, livestock keeping, fish farming and bee keeping. Among the crops grown include; sugar cane, maize, sweet potatoes, cassava, rice, coffee, beans. Animals kept include poultry, piggery.

Plate 7: Farming is very significant in KM with 40% of land still under agriculture

Plate 8: Sugar cane growing and trading is one of the main economic activities in KM

The significance of agriculture is further indicated by the land devoted to agriculture, that is, 40% of the land and is the largest single land use in the municipality. The Kamuli Municipal Five-year plan noted that agriculture is still a major economic activity especially in the six wards of Busota, Namisambya II, Buwanume, Kamuli Namwendwa, Kamuli-Sabaawali and Nakulyaku. These wards portray a typical rural setting, which provides a planning opportunity in that this land can properly be planned and developed without much hindrances and large compensation. The agriculture dominance also implies that urban agriculture should be included as main economic strategy in the plan.

Particular concern was given to Sugarcane growing which is one area of contention in Kamuli municipality as to the benefits and negative consequences. In the Uganda Poverty Assessment Report, it was noted that sugar factories workers buy bricks and construct brick houses, and this was contributing to a forward linkage in construction and brick making industry in the region. It was also reported that sugarcane growing has high returns compared to traditional food crops also

sold for cash such as maize, sweet potatoes beans and groundnuts. However, in the same document it was reported that sugarcane growing has negative consequences which include;

- Food insecurity due to move away from food crop production, combined with limited market integration, especially for households with small acreage.
- Some households especially the youth sell or lease their land and move to town to do business (especially boda boda riding) which may be stolen or depreciate without replacement. This results into poverty for these households.
- The households have borrowed heavily to invest in sugarcane growing, yet factories who are oligopoly buyers, take long to pay which increases interest on loans and inability to meet basic needs of the households such as school fees.
- Oligopoly Factory buyers adjusts the agreed upon price downwards without involving growers, hence reducing on anticipated income yet costs of production such as labour, pesticides and herbicides remain expensive.

3.6.5.2. Trade Sector

Trade is an important driver of economic growth and job creation worldwide. The success of the South East Asian countries (like South Korea, Thailand, Taiwan) shows that, with political stability and commitment to development accompanied by proper policies, trade can drive economic growth and development. For Uganda, a small economy with low consumer purchasing power and agriculture as the dominant sector, regional and international trade enables local producers to participate in the wider global value chains, access larger markets and increase productivity, efficiency and overall competitiveness in production. Trade contributed 11.7% to the GDP (Uganda Statistical Abstract 2018) of Uganda, provided about 12% main jobs to the working population and 23% of the persons in employment.

Trade is the largest sector in Kamuli Municipality with 67% of the business enterprises in Kamuli involved in trade as indicated in figure 10. The Municipal role in trade is control/determine location of operation, the quality of the premises and the licensing of the business units, more of regulator than facilitator and enabler. Trade activities are predominant in the municipal CBD, sub centres and municipal periphery trading centres such as Muwebwa, Mulamba, Mandwa, and Kasoigo wards. Trade in Kamuli includes retail trade and whole trade. The trade activities in Kamuli municipality include; sale in general merchandise such as; sugar, soap, salt, tooth paste and food items like maize flour, beans, groundnuts and cooking oil: Construction Materials such as cement, nails, iron sheet; Agricultural produce like Food items including matooke, sweet potatoes, Irish potatoes, vegetable, milk and meat which are usually sold a market; Clothing and Footwear including second hand clothing and wear; Fuel; wood and timber sales; Repair of and sale of spare parts for vehicles and motor cycles; household goods and items among others.

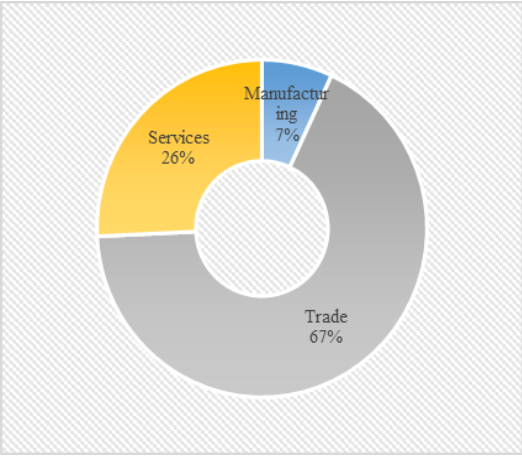


Figure 10: Business Enterprises in Major Economic sectors of Kamuli Municipality.

The Service Sector

The service sector is the largest sector in Uganda, having grown from 32% in 1990 to 49% in 2015 (An ABC of industrialization in Uganda). The Ugandan

economy is driven by the service sector, which sector contributes to a high level of the informality at the expense of industry and manufacturing sectors, resulting into non inclusive growth. Around 59% of Uganda's workforce operates in the informal economy as reported by the An ABC of industrialization on Uganda.

In Kamuli municipality, the service sector alone, accounted for 26 % (figure 10) of the businesses. Like trade, services are concentrated in the same areas of the municipality. Most of them are in the CBD with others in sub centres in less urbanised wards of the municipality. Service employment in Kamuli include; health and medical care services, Professional consultancy services, Banking and Finance, education services (primary, secondary, post-secondary), Hotel, restaurant and eating places, beautification and salon services, mobile money and airtime services, Printing and photocopying, Others include; administration and public sector services.

3.6.5.3. Manufacturing in Kamuli Municipality

Ugandan manufacturing is dominated by last stage (end-product) assembly and raw materials processing, a high share of which is food processing, both of which are low value addition activities. The manufacturing sector, accounts for about 8.7 % (Background to the Budget 2019/20) of the GDP. Government's commitment to industrialization is further elaborated in the planning documents operationalizing the Vision 2040, for example the NPD III, were the theme is Sustainable Industrialization for inclusive growth, Employment and sustainable wealth creation. The manufacturing sector is predominant in GKMA region. The ABC for industrialization on Uganda says growth of manufacturing sector in Uganda has been suffocated by the large trade and service sectors of the informal sector.

In Kamuli municipality, only 7% of the businesses were in Manufacturing. Kamuli Municipality manufacturing is composed of small-scale plants in agro processing which include coffee hulling (15 in northern and 3 southern divisions); grain milling: with 3maize mills in Northern division and 10 in southern division, 11 rice millers in southern division and 5 groundnuts millers in Northern Division. Other agro processing plants include animal feeds production, and milk processing (Victoria Queen Yoghurt); metal fabrication producing such products as window frames, metal doors, gates among others; carpentry workshops producing products like chairs, tables and other wood products. Other components of manufacturing include; brick making especially in the more rural wards of the municipality.

Plate 9: Agro-processing is one of manufacturing Businesses in Kamuli Municipality.

The manufacturing sector in Kamuli, like much of Uganda is characterized by limited value addition. Among the challenges for poor performance of the sector are: Inadequate access to finance; lack of skilled workers; insufficient promotion of innovation; and poor infrastructure and electricity which leads to high costs of production.

3.6.5.4. Informal Sector

The informal sector is the biggest business in Africa, estimated to be contributing an average of 41% of GDP in sub-Sahara Africa. The sector is a big employer estimated to contribute 72% of the total employment in sub- Sahara Africa; and representing 75% of non-agriculture employment (Quartz Africa). In Uganda, the informal sector contributes over 50% of Uganda's GDP, and about 80% of the labour force is working in the informal sector. The informal sector and household enterprises make critical contribution to household in terms of boosting a household's income, providing employment, and reduction in poverty and has become of much interest to Government and the private sector as well.

In the Uganda National Household Survey of 2016/17, it was revealed that 37% of the households in Uganda had an informal enterprise. Busoga region had 33%, which means that for every three households, one had an informal enterprise. The statistic for the urban areas was 45%, meaning that almost for every two houses, one of them had an informal enterprise. Given that Kamuli municipality is an urban area, the informality is likely to be above the Busoga figure of 33 % (which includes the rural areas) and close to the urban figure of 45%. Therefore, Kamuli municipality informality could be about 40%.

According to Business Census about 70% of the enumerated businesses in the whole country were micro businesses hence the informal sector. 93% of the businesses employed less than five employees, showing further the magnitude of the informal sector in the country. These are usually very small business with limited amount of capital and according to the business census 73% of them have annual turnover of less than UGX. Five million.

In the manpower survey 2016/17 by UBOS, the youth (18-30years) owned 44% of the informal enterprises, while the majority 51% were owned by those age group 31 – 59 years. The remaining 5% were shared between those below 18 years and those who are 60years and above. Hence the youth are largest single age group owning business in the informal sector. The majority of the paid employees in the informal sector were youth, that is, about 80%, while about 15% were in age of 31-59 years and the 5% were in ages below 18 years and those who are 60 years and above.

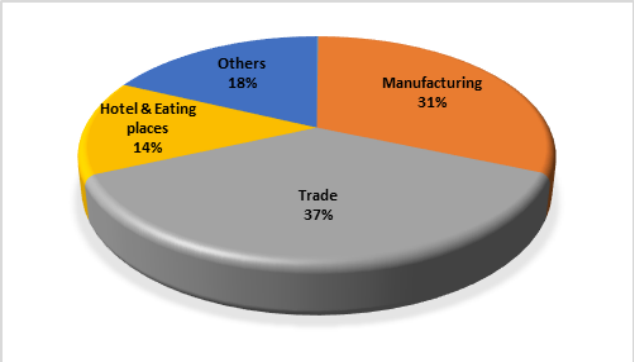


Figure 11: Informal Enterprises by Economic Sector

This shows that the informal sector contributes a great deal in providing employment for the youth. The statistics available from Busoga sub region indicate that the majority of the informal businesses are in the trade sector, contributing 37%, followed by manufacturing with 31%. Hotels, Restaurants and Eating place account for 14% of the informal enterprises, while others are 18% and agriculture are less than one (figure

11). Others include; transport and storage, Construction, Finance and Insurance, Human Health, and social activities.

The women are more involved in the hotel, Restaurants and Eating places at about 40%, followed by trade where the proportion is comparable with male counter parts at about 32%. The males in the informal sector are more in trade at about 33% followed by manufacturing at 32%. The youth in the informal sector are more involved in trade at about 31%, followed by Hotel, Restaurants and Eating places at 24% (table 32). The Manpower survey revealed that 52% of those in the informal sector stopped at primary level of education.

Table 32: Informal Enterprises by Activity Type and Some Important Characteristics

Characteristic	Type of Economic Activity					
	Agriculture	Manufacturing	Trade	Hotel & Eating places	Others	Total
Female	1.2	9.3	32.2	39.7	17.6	100
Male	1.9	31.7	32.6	9.0	24.8	100
Youth	0.3	18.7	30.7	23.6	26.7	100
Eastern	0.1	27.0	37.2	16.5	19.2	100

Source: Uganda Manpower Survey 2016/17 by UBOS

As already mentioned, the lack of opportunities for formal sector employment and the decline in minimum wage has led to the growth of informal-sector for survival strategies and coping mechanisms, therefore the informal sector in Kamuli Municipal Council is a big proportion of people in Kamuli Municipality. The sector consists of small entrepreneurs, non-permanent employment. A large number are not registered with any authority. Activities in informal sector of Kamuli include: radio repairing, tailoring, salon services, retailing especially in the periphery areas of the municipality, brick making, building construction, chapatti making, car washing and taxi operations and others.

Plate 10: Brick Making is one of the Informal Activity in Manufacturing

Plate 11: Informal Retail Trading in Periphery of the Municipality.


Plate 12: Informal Activities such as Boda Boda Riding employ Many Youths in Kamuli Municipality

3.6.6. Constrains of the Informal sector

- Many of the informal enterprises lack capital and are small businesses. The Business census indicated that about 70% have capital of less than UGX. 5millions and yet many with far much less. The manpower survey indicated that 52% of those interviewed showed lack of capital as their main constraint.
- There is no policy to guide informal sector. This results in the sector being viewed as a menace and being witch-hunted instead of being supported.
- Many of the people involved in the informal sector are people with limited education (47% stopped in primary schools) and limited skills, limiting innovation, creativity and seeking support in institutions.
- High cost of doing business, where the enterprises lack or have intermittent amenities such as electricity and water, decent working space.

3.6.7. Labour Force and Employment/Unemployment in Kamuli Municipality

According to the National Labour Force Survey 2016/17, Uganda has a total population of 37.7 million people. The Working age population is 18.8millions out of whom 9.8millions are female. The proportion of Working Age to total population is 49.9%, while the working population in comparison to working age is 81% and lower in urban areas at 73% than rural areas at 84%. The number of those employed is 9 million with 4millions of these being female. The population employed in urban areas is 3millions, which is lower than counterparts in rural areas standing at 6millions. The proportion of employment to population is low at 47.6%. This proportion is higher in urban areas at 60% and very low in urban areas at 42%, implying low capacity of generating jobs by the economy. The employment to population ratio is low at 49.8%. This ratio is lower for females at 42% compared to males at 59%. This rate is higher for urban areas at 60% than rural at 45% showing that urban areas have more capacity to generate employment for all in general but also or the youth.

Kamuli municipality had a total population of 58,984 people. Municipality has a working age population of about 28,000people. The proportion of Working Age to total population is about 48% slightly lower that the national at 49.9%. The Working population in comparison to working age

stands at approximately 75% lower than the Ugandan proportion at 81% and close to the national urban areas at 73%. It was not possible to establish the proportion of employment to population for Kamuli but it has been taken to be represented by the urban areas figure at 60 implying a higher capacity of generating jobs by the economy compared to a rural setting at 45%.

Table 33: Estimated Selected Local Economic Indicators for Kamuli Municipality

Projected Population	Growth rate	Projected Labour Force	GDP per Capita, Vision 2040	Anticipated GDP in USD. in billions
113,000 (2040)	2.5	51,000	USD. 9500	1.07
137,000 (2040)	3.3	62,000	USD. 9500	1.30
164,000 (2040)	4.0	74,000	USD. 9500	1.56

Note: Labour force figures are calculated using the UBOS 2018 The National Labour Force Survey 2016/17, while GDP is estimated using National GDP per capita 2040 and the projected

In order to achieve the per capita of USD 9,500 in the Vision 2040, Kamuli municipality, would require to generate a municipal GDP of USD. 1.56 billion (by 2032) and provide jobs to a working force of not less than 74,000 people, if those working will be 75% of working age group as currently it is (table 33). That is if the municipality grows at the most likely rate of 4%.

The proportion of youth working is about 71%, and the youth who were neither working nor in school were 11% suggesting a big proportion of unemployment among the youth. Over 700,000 Ugandans enter the labour market each year (An abc of industrialization in Uganda). The Labour Force Survey of 2016/17 conducted by UBOS reported that the unemployment rate for the youth is 13%. The Ugandan government has made significant efforts towards the development of Uganda's workforce to meet the challenges of industrialization. The current scope of vocational training is limited to traditional courses like carpentry, civil work masons, and electrical foremen, but not skills required in the industries. In Kamuli many of the manufacturing activities are small scale industries of grain milling, carpentry, building masonry etc. When medium scale industries are constructed, they are likely to suffer shortages of critical skills as experienced and reported in the Kampala Metropolitan region industries by World Bank

Many youths in Kamuli are engaged in small income-generating activities like boda – boda riding, brick making, masonry, petty trade, carpentry and in the service, sector including salon services, which do not require specialised skills. It is important to note that ensuring that the labour force has the appropriate skills will increase productivity in the economy. Therefore, efforts should be focused to supporting the youth to build their enterprises as proposed in report for GKMA region known as "the GKMA Economic Development Strategy", but also in developing the specialised skills required in medium scale industries in manufacturing. This would absolve more youth in employment reducing on unemployment and underemployment and resulting in the desired structural changes and transformation.

The main challenges facing the youth include; Poverty, unemployment and underemployment. These are caused by lack of employable skills, lack of access to land and capital, lack of apprenticeship schemes, negative cultural attitudes and mind set to work. In the consultations, the leaders indicated that support to the youth is required to change mind-set especially towards work, drug abuse and good funds management.

3.6.8. Major Challenges of the Local Economy

- Predominantly an agrarian economy of 53% households surviving on farming as main source of income (subsistence) which a large proportion for an urban area.
- Large informal sector, with limited support by the municipality for success of their firm in the informal sector. The large informal sector has been accused of suffocation manufacturing by some studies which is critical for structure transformation.
- Small scale enterprises, the majority of whom (70%) having an annual turnover of less than five million hence resulting in low income and low taxes and low or no wealth creation.
- High cost of operating business due to high; taxes, utilities rates, especially electricity, high rental for business premises and high cost of borrowing
- Young unskilled labour with negative attitude to work.

Therefore, the economic objective of this plan is ***to stimulate entrepreneurship, innovation and investment for employment creation and prosperity.*** This will be achieved through the following strategies; -

Kamuli Municipal Council to change role to enabler and facilitator than regulator and controller. Local governments view themselves as regulators of business and economic activity and there is no legal framework to support investment especially small-scale enterprises. The Municipality should be at the fore front to engage, empower, enrich, and educate the stakeholders. The KMC Five Year Development Plan notes that the role of the municipality is control/determine location of operation, the quality of the premises and the licensing of the business units. However, it is important for the local governments to realize their importance in stimulating growth by supporting investment, creativity and innovation especially of the informal sector and its contribution to people's livelihoods, GDP and employment. This will require Kamuli Municipality to view self as enablers and support investment. NDP III stresses the role of government (especially even at parish and sub county which is equivalent of ward and division in urban areas) in providing services.

Improve public private dialogue. One of the main issues in consultative meetings was limited collaboration between the Municipal authorities and her stakeholders, especially the business community. Therefore, the municipality will have to work to strengthen this. This could be done by holding municipal hall meetings to disseminate the kinds of business services which Kamuli municipal council can provide and will provide in the future and listen to the issues and constraints facing the private sector. This may help reduce the mistrust of government and the business community, but will help prepare plans which are more relevant to the business community and other stakeholders.

Plate 13: Government should be enabler and facilitator to engage, educate, empower and enrich than controller and regulator.

In setting self as an enabler and facilitator, Kamuli municipal Council will have to devise new roles where the Municipal council will take a more aggressive role of selling and advertising Kamuli municipality as a centre for investment, why is the best centre for investment. The Municipal council will further take on the role of initiating partnerships with religious institutions, private sector, Civil Society Organisations etc. to provide services.

Such roles will differ in urban areas and rural areas given the challenges in these different economies. However, such roles could be catered for by activating the role of the Commercial Office in the provision of support to the informal fabrication / cottage industry sector which is critical as proposed in the NDP III. This would mainly include the provision of business development support such as financial literacy training, business plan development, cooperative establishment, collective bargaining, and quality upgrading advice.

Support Small Scale Business and the Informal sector. This plan will require to open up a One Stop Business centre. This will be constructed at Municipal Council Headquarter. Such a centre will be opened up in partnership with other stakeholders such as private sector (Private Sector Foundation); Civil Society such as Brac, religious institutions but initiative could be led by Commercial office as mentioned above. At the centre, the business sector will be supported with a good number of activities, which would include the following.

- Assisting business entities in financial literacy to attract funding for business development and growth, but also advice on where to access cheaper business credit.
- Giving support to enhance business entrepreneurship, management skills; Market analysis, products improvement to suit the market and business competitiveness.
- Other activities will include support innovation, creativity, research; and business development support such as business plan development, cooperative establishment/business associations, collective bargaining, and quality upgrading advice.

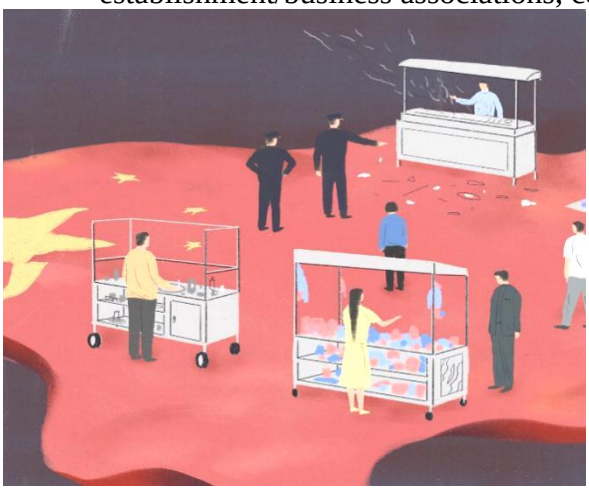


Plate 14: Providing pre-fabricated stalls and Kiosks will provide better working space to informal sector, revenue to municipality and improve ambiance

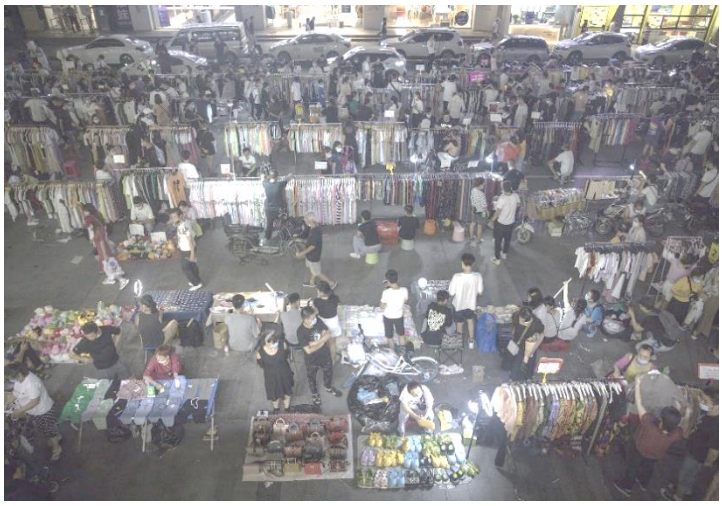
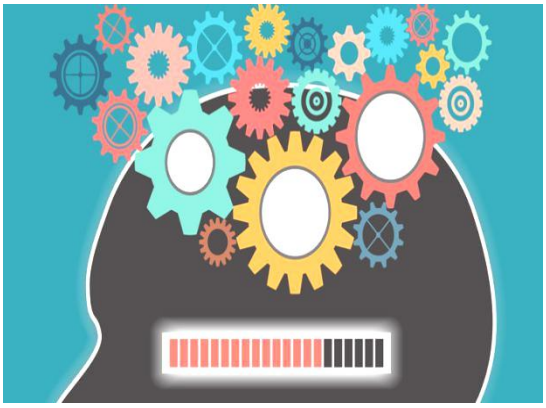


Plate 15: Support to informal sector may include providing organised space and industrial produced stalls and kiosks which will improve ambiance and be revenue source

This plan emphasizes further the support to the informal sector enterprises which will ensure continued livelihoods to the urban poor but also improve productivity and transit to higher quality jobs. A major constraint for informal enterprises is finding suitable work premises, located near customers, which matters for firm success in the informal sector. Support to informal sector includes providing organised working space and stalls. Such stalls would be industrial fabricated by private sector with partnership by Kamuli municipal council getting revenue from them. This plan therefore provides for artisan parks in Kananage (with common user facilities) but also provide work space in all Local centres of Kananage, Buwanume, Namalemba, Buwaiswa, and Busakwa. In preparation of detailed plans of these centres, this will be taken into consideration.

Skilling, Innovation, Creativity and Research Institute at Buwaiswa. Skilled labour was a constraint to Medium and large-scale sized firms many of which are concentrated in the GKMA region, and these were reported to have difficulties in finding and recruiting technically skilled employees (World Bank 2017) in the face of high rates of unemployment even among the youth. If this is the situation in the GKMA region, it cannot be any better in other regions of the country. The Vision 2040 and NDP III encourage the skilling of the population for better productivity, transformation and prosperity.



Relevant Skilling, Innovation, Creativity and Research are Critical especially for the Youth. Therefore, the skills development institute will provide relevant skills (not the usual ones such as carpentry, building, tailoring skills) to enable its graduates work in factories in Kamuli, nearby city of Jinja, the rest of Eastern region and the whole country. The skilling centre will conduct research to establish the required skills in upcoming factories and hence tailor the training syllabus. The institute will encourage research and innovation amongst trainees to come up with new products (for example new food products using local foods such as cassava, millet, sorghum, maize, soya,

groundnuts etc.) and ways of doing things. This institution will be started in partnership with private sector and religious institutions in partnership with higher institutions of learning such as Busoga University, Mbarara University of Science and Technology and Makerere University College of Engineering, Design, Art and Technology.

***Support and Encourage Manufacturing in Kamuli Municipality*.** The Vision 2040 and NDP III both underscore industrialization as key to economic development and transformation of the country. The theme for the NDP III is sustainable industrialization for inclusive growth, employment and sustainable wealth creation. Therefore, this plan proposes to strengthen manufacturing in Kamuli Municipality and provides for industrial areas, in Nakulyaku and Busota Localities. The NDP III has a specific project of construction of a fish factory in Kamuli but does not specify whether district or Municipality. This will be located in the municipality to benefit from economies of scale from other industrial establishments. The Municipal council with other partners will prepare detailed plans and provide basic services in these industrial areas, to attract the investors.

The plan proposes further that, manufacturing in Kamuli be focused on agro-processing, given the big agriculture potential of the whole Eastern region, even the Busoga Sub region, but also Kayunga district which is a large producer of fruits and yet does not have factories to add value to these fruits. Food processing and value addition will be the focus of industries in Kamuli. Innovation and creativity will be encouraged through the Skilling institute to come up with new products using the existing raw materials in terms of food produced in the region.

Kamuli municipality will investigate the possibility of having industries with linkages to the industries in Jinja. Kamuli will strategically position herself to have semi-finished products which can be raw materials in Jinja industries. But also have industries which consume Jinja industries by-products, products and wastes as raw materials for their industries. This could include products like starch from cassava for the clothing industry. Maize flour, soya flour/paste cassava flour, groundnuts flour/paste, millet and sorghum flour for new food products which fit the tastes of the population.

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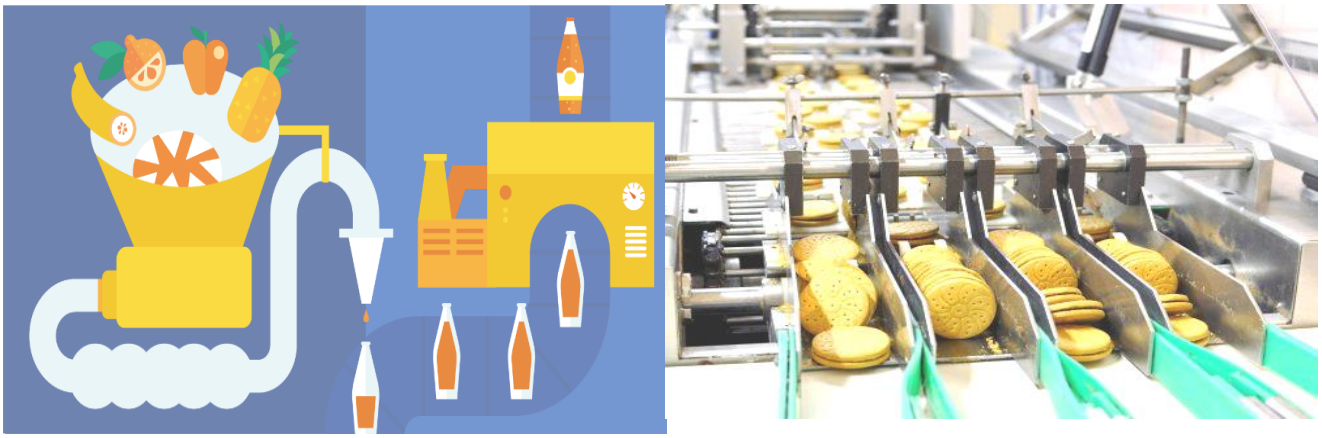


Plate 16: Kamuli industrialisation will be based on Agro/food processing given the potential in the region.

Enhance investment in trade and other tradable service activities. As the traffic from/to eastern Uganda (and Kenya) to Central, western and Northern side of the country (and Rwanda, Burundi, DR. Congo and Southern Sudan) becomes more divided between Iganga - Kamuli road and Iganga - Jinja road, Kamuli Municipality will become a major business hub. some districts like Kayunga, Luwero, Nakasongola, Buyende, Luuka, Kaliro, Namutumba and some parts of Northern Uganda just across Lake Kyoga will obtain bulk purchase of their products, hence providing market for products from Eastern side through Kamuli.

This plan therefore, has provided for Commercial areas at different levels to promote Investment and employment. The plan provides for enlarged CBD to cover the areas covering the former Town Council which include: Kasoiga, Mandwa, Mulamba and Muwebwa wards. The plans provide for five Intermediate Centres at Nakiwulo, Nakulyaku, Busota, Bugulete and Buwuda. These centres will be core planning and service delivery centres. Among the services will include markets, schools, health centres, playground, ITC hubs, community libraries and community centres. Other services will include whole and retail trading of general merchandise, tourism promotion services (Tour and Travel Services, Hotel and Restaurant services), transportation, Insurance and Banking. These centre/s will play a major role by promoting the Municipality as an attractive investment location.

The plan further provides for local centres which will also be employment centres. These will house shops, markets, eating places/restaurants and cottage industries in the locality. These will provide employment to people in the locality and are Kananage, Buwanume, Namalemba, Buwaiswa, and Busakwa. In detailed planning space will be provided in these centres for informal activities.

Promotion of Commercial Urban Farming. The consultant is of the view that agriculture is still a key economic activity in Kamuli Municipality given its contribution to livelihoods in terms of food security and household income provision and income subsidization. As already noted, one in two households of the household survive on subsistence farming as main sources of income. Studies in other urban areas (especially GKMA region) indicate that agriculture is practiced as coping mechanism to subsidise incomes which are low in most circumstance especially for public service. Kamuli Municipality will tap into the potential market existing in Kenya, where Kenyan traders, buy agriculture produce especially fruits and horticulture products such as tomatoes from

neighbouring Kayunga, but also from as far as Masaka and Kyotera. With the alternative route through Kamuli, produce from the area can easily be bought from Kamuli than further away in Uganda. However, even the local market in Jinja, Iganga, Kayunga can provide good market for all products from Kamuli Municipality.

Plate 17: Agriculture provides a big potential with wide range of products from crops, poultry, dairy farming and fishing farming.

Urban farming will be promoted to adopt modern methods of farming and get involved in high yield farm outputs such as dairy production, poultry production, piggery production, mushroom and vegetables/horticulture growing, which are recommended by the Agriculture Sector Strategic Plan. Therefore, high technology and high value products can be promoted in line with the relatively

small plots in Kamuli Municipality. High technology could include horticulture in greenhouses; poultry keeping, rabbit keeping in storied structure, especially as space becomes scarce; Fish farming in water pools which could be constructed on small plots in compounds. Wetlands should be conserved but cannot be maintained in their natural form since the municipality is an urban area. Wetlands will therefore be modified to accommodate wetland friendly activities such as dairy farming, growing pastures, fish farming and sports/recreation. This type of farming will take place in areas of Buwanume, Namisambya, and Kamuli-Namwendwa.

Kamuli is a big fish market in the sub region and the NDP III has a proposal of constructing a fish factory in Kamuli to process fish from Lake Kyoga. This should be in Kamuli municipality to benefit from the economies of scale from proposed industries to be located in Nakulyaku industrial area. The municipality should encourage fish farming in swamp ponds but also other innovative ones such as ones made from wood boxes and polythene paper. These fish farmers will benefit from the ready market from the factory.

Promote associations and economic clustering among producers especially the informal sector and the small Agricultural holdings. This plan proposes the Strengthening and promotion of cooperatives and associations. These can be avenues of saving, funding development, boost production, and create wealth in the municipal economy but also reduce on the informality and poverty. The population involved in all economic activities will be mobilized and trained to form and manage associations. Associations play a major role in empowering members through access to economic and social services, namely financial services through SACCOs, delivery of inputs to producers, access to markets, enhancing the bargaining power of small-scale producers, imparting skills for better production and marketing services, advocate for rights through collective bargaining and dialogue. Associations will facilitate members to acquire mechanization and carry out research, innovation and encourage creativity among its members.

Cooperatives and economic clustering among producers in small scale industries, informal sector has many advantages and should be encouraged.

Risks

- Failure to reduce corruption and also produce adequate power to reduce the power tariffs so as to reduce cost of business operation which may discourage the private sector investment.
- Failure for Uganda's global rating for "ease of doing business" to improve which might divert business elsewhere
- Failure by the Kamuli Municipal Council administration to measure up to the new challenging role of enabler, efficient mobiliser of other stakeholders.

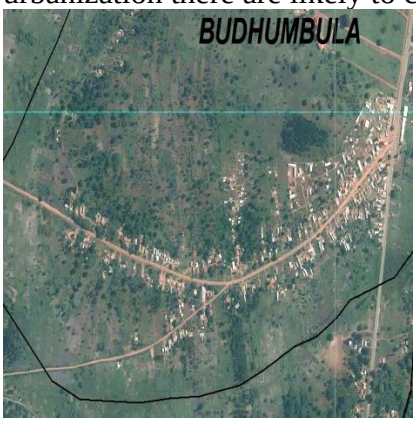
3.7. Report on Settlement and Housing Development

3.7.1. Introduction

This report covers the Settlement patterns and development trends of Kamuli Municipality. It also gives the objectives and strategies that will help to improve the current situation but also highlights the impediments that may cause the failure to achieve the set objectives

3.7.2. Analysis of Settlement Pattern and Spatial Structure

The settlement pattern in the Municipal Council has been largely influenced by urban sprawl and organic growth originating from Municipal Center toward the rural peripheral areas of the Municipal. The settlement structure defined by the current growth pattern has manifested in form of linear, nucleated, leapfrog and formal settlement patterns, (Plate 18). The nature of settlements in urban concentration areas were mainly commercial and residential with segments of urban agriculture in a linear and nucleated pattern whereas outward settlements in the peri-urban and rural areas were more dispersed and mostly with single dwelling units or households associated with agriculture. However, the agricultural areas were beginning to diminish and with this rate of urbanization there are likely to completely disappear in the near future.



Linea Settlements in Budhumbula Trading Centre

Nucleated organic settlement in growth centres-Bulindi Trading Centre.

Planned Settlement Pattern in the CBD.

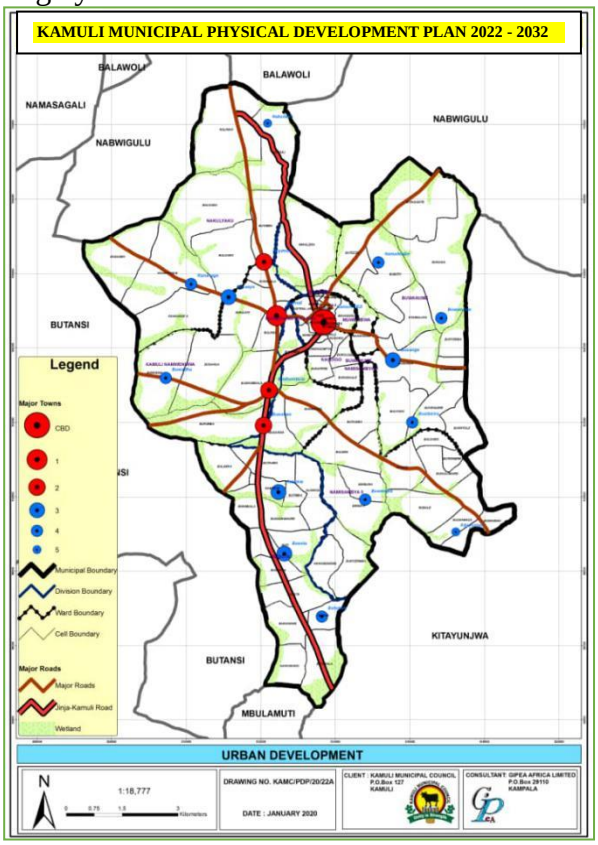
Plate 18: Types of Settlement Patterns in Kamuli Municipal Council

Source: Kamuli Municipal Situation Analysis Report 2020

The Municipal Centre in the Kamuli Municipal Council originated as a concentration of population around a small trading that later turned into a town established by the British Administrators. The reasons of water availability and land use patterns attracted an urban settlement while rural people living in a more dispersed manner. The town was laid out with plots of land and in a grid pattern, features that generally survive today. Outside the Municipal Centre are the small growth centres serving the surrounding rural areas in the Municipal, (Map 18). The Municipal Centre reflected a mixed influence of Western and Indian architecture and consists largely of low-density commercial buildings laid out in a grid. Many buildings are old but these are slowly being replaced with new ones. Most business buildings are one-storied commercial buildings of shops, with new shops especially on Dhizaala Road, Central Market and other sprawling village markets.

The Municipal Centre is the main urban centre of the Municipal Council performing a primary role of providing both low and high order services and amenities serving partially the middle class

whereas the various growth centres within the Municipal provide basic low order services and largely local informal commerce.

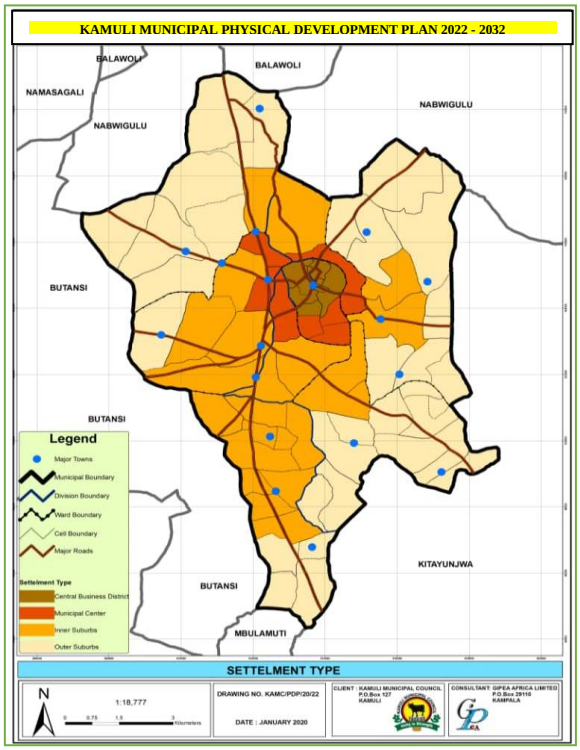


The Municipal Centre lacks a coherent urban structure with distinctively distributed, interlinked and complimentary centre of specialization. Its growth remains concentric and transit-oriented, increasing inner densities and spreading out concentrically with significant linear settlements along the traffic corridors without a meaningful structure, amenity or adequate services. Kamuli Municipal Council has a clear radial movement settlement network which concentrates almost all activities of significance, including residences in and around the Municipal Centre and linear developments along the traffic corridors especially on arterial road of Kamuli-Jinja Road and other secondary roads connecting to the periphery. Kamuli Municipal Council displays a clear radial structure concentrated on its Municipal Centre with clear concentric rings around it developing into the peri-urban periphery.

Map 17: Urban Structure of Kamuli Municipal Council

Source: Kamuli Municipal Situational Report 2020

Kamuli Municipal Council is growing concentrically from its Centre and continues to expand and extend along the traffic movement routes or corridors and filling the gaps between various routes. The Municipal Council's settlement structure is effectively composed of three rings as illustrated in Map 18.



Map 18: Settlement Structure of Kamuli Municipal Council
Source: Kamuli Municipal Situational Report 2020

Ring1 is the Municipal Centre composed of the Central Business District (CBD), is a main commercial core area of the Municipal Council with a high density of commercial activities and a concentric growth structure with other supportive uses such as civic use. It is characterized by relatively good infrastructure, high urbanism and high intensity of activity and has a high density. The CBD provides primarily high and low order business and services and the western and southern sections of the Municipal Centre is reasonably expanding more

growth especially along the arterial road but requires attention in terms of public transport including pedestrian, cyclists and parking solutions. The area generates over 52% of the Municipal local economy, covers 14.8 Km^2 (14% of the total Municipal land) and houses 19,144 people (28% of the Municipal's population) with an average density of 1,292 persons or 281 households per Square Kilometers, (Figure 12).

Ring 2 is the Inner Suburbs; this area is in transition undergoing urbanization and some form of densification though at lower rate compared to ring 1. The area is relatively urbanizing and developing with some undeveloped plots and some pieces of land still used for urban agriculture. There is limited infrastructure, limited intensity of activity and generally limited to a mix of local services, informal low order commerce and urban agriculture with limited processing of agricultural products. This area covers approximately 33.5 Km^2 (33% of the Municipal land) and houses 23,483 people (34% of the Municipal's population) in a reasonable density of about 700 people or 152 households per Square Kilometer.

Ring 3 of Outer Urban Centres and Rural Suburbs constitutes of a largely scattered, with very low densities with a rural village setting settlement structure of a typical rural village setting with residential single dwelling units, farmlands and small growth trading centres with a very limited infrastructure and utilities and some basic public institutions like primary school etc. Agriculture remains the major economic activity and most of land is used for agriculture making this area the food basket for the Municipal Council. The growth centres provide local services majorly of informal low order commerce and trade with some residual urban agriculture. It covers 54.3 Km^2 (53% of total Municipal land) and houses 25,966 people (38% of the Municipal's population) with a low average density of 478 people or 104 households per Square Kilometer and estimated to contribute 20% of the Municipal local economy.

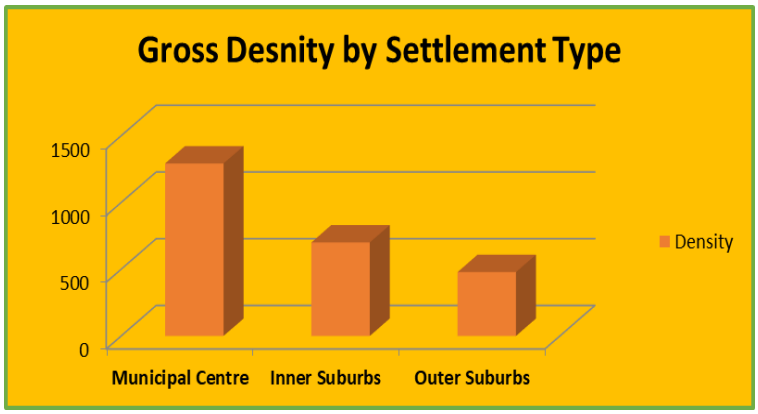


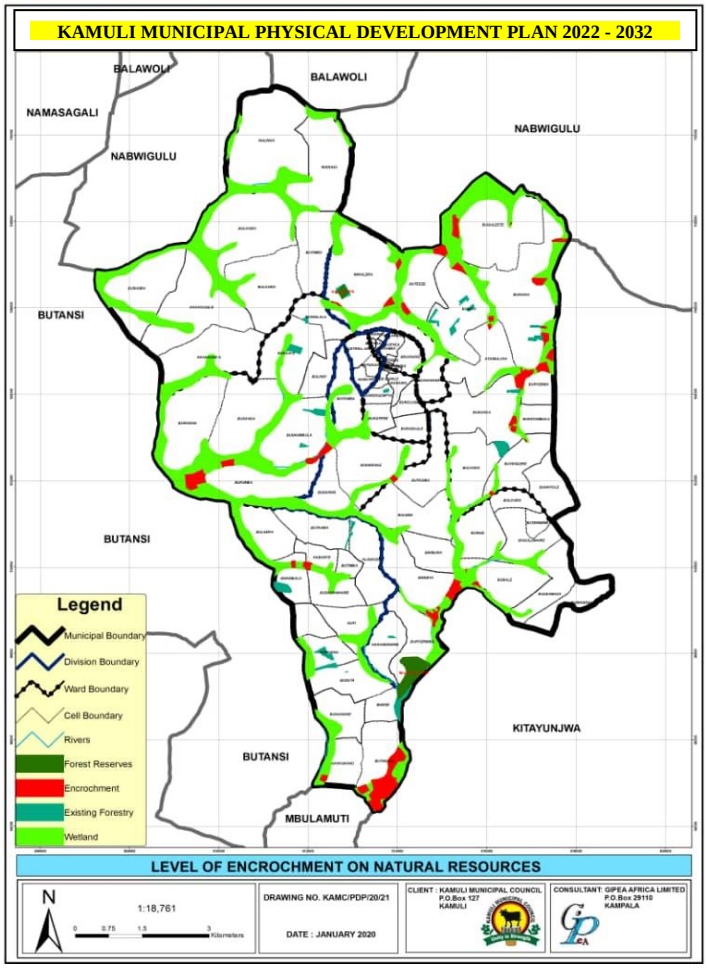
Figure 12: Gross Density (persons per Km^2) by Settlement Type

Source: Kamuli Municipal Situational Report 2020

The urban growth in Kamuli Municipal Council has not occurred in a compact manner despite the fact that the Municipal was developing fast for the last 20 years. However, Kamuli Municipal has become denser than ever before but has grown in a sprawled manner resulting into largely informal settlements with limited basic services in terms of infrastructure and utilities. Urban sprawl results into wasteful utilization of land and therefore constrains service delivery. Over 95% of the settlements in Kamuli Municipal Council were unplanned hence informal. The informal settlements like in other parts of the World were composed of largely low-income earners while the middle- and high-income classes largely settled in the planned settlements in the Center. Land speculation practices are starting to emerge as some land is left vacant for future gain through sale or using it for non-agricultural uses and in absence of physical plans to guide land use changes means that urban areas will expand haphazardly. The unregulated physical expansion due to little effective control over land use conversions from

agricultural to non-agricultural uses would result into a patchwork of high- and low-density land uses to which it's expensive and difficult to provide infrastructure and services.

Inequality and high levels of informality remain a defining characteristic of most nucleated settlements especially in the unplanned growth centre in Kamuli Municipal Council. The density of housing to employment was quite significantly high. As a consequence, most settlements consisting of largely residential houses lacked integration of supportive uses and facilities in terms of commercial and employment against the neighbourhood principles. Hence, this means that most settlements were hardly self-sustaining. As such, education and other public facilities were equally dispersed, although some concentrations existed especially in the heavily built-up areas of the Municipal Centre. Furthermore, there is a fragmentation and loss of natural resources and vegetative cover to mainly agriculture. Loss of 169.03 Ha and 9.17 Ha of wetlands and forest reserve as a result of encroachment has since occurred, (Map 20). These ecological areas are essential for better functionality of the Municipal Council and where there are degraded, they need to be replaced or restored to their original status which is normally at a colossal sum of money.



Map 19: Level of Encroachment on Natural Resources

Source: Kamuli Municipal Situational Report 2020.

The consequences of sprawled development in the Municipal Council if not effectively controlled and managed will include; increased costs of service delivery in waste collection, piped water extension, road network etc. Best practices indicate that compact, mixed-use medium to high density settlements were more sustainable in the use of resources. The preparation of this Physical Development Plan therefore seeks to nurture a liveable environment, enhance the integrity of complimentary relationships between the Municipal Center and other key growth or urban centres within the Municipal Council and this will prevent areas of the Municipal from becoming a chaotic and continuous mass of undifferentiated urban uses with inefficient provision of infrastructure and amenities.

Generally, the real challenge lies not in upgrading the informal settlements with infrastructure such as water, electricity, drainage and sewage but also in finding sustainable solutions to integrate these settlements into the formal urban structure and economy. The informal settlements of today are how great European cities used to be in the medieval times. During the process of upgrading, the Municipal services cannot be provided

in bulk infrastructure delivery. Planning guidance earlier on with detailed physical layouts/schemes of informal settlements can allow for the gradual and incremental development of a well-structured urban environment. It can provide location advantages for affordable housing in relation to the social amenities and transport infrastructure of the Municipal Council, as well as proximity to opportunities of employment in the Municipal Council. The process of urbanization can become the engine for distribution of the right quality and quantity of public facilities to meet the challenge of inclusiveness.

3.7.3. Development Growth Trends

The built-up area of Kamuli Municipal Council has rapidly increased into urban corridors and concentration along the traffic routes and in some rural areas (Map 21). From 1995 to 2020, the built-up area within the Municipal Council has been steadily increasing with a highest change recorded from 2015 to 2020 of 212.9 Ha. The built-up area has since increased from 254.7 Ha in 1995 to 3,110 Ha in 2020 indicating an increase change of over 70% in a period of over two decades, (Table 34). The table below illustrates the trend in the conversion of vacant or agricultural land to urban uses within the past 25 years. The bulk of Municipal's urban growth was residential in nature and covered over 27.5% of the total land use and about 85% of the total built-up area. This sporadic development explosion in Kamuli Municipal Council could be attributed to natural increase and influx of youth from the rural areas for non-farm employment.

Table 34: Development Trends Between 1995 - 2020

Year	Coverage (Ha)	Change	Percentage Change (%)
1995	254.7		
2000	357.8	103.1	**29**
2005	452.8	95	**21**
2010	555.4	102.6	**16**
2015	638.2	82.8	**13**
2020	851.1	212.9	**25**
Total	**3,110**		

Source: Kamuli Municipal Situation Analysis Report 2020

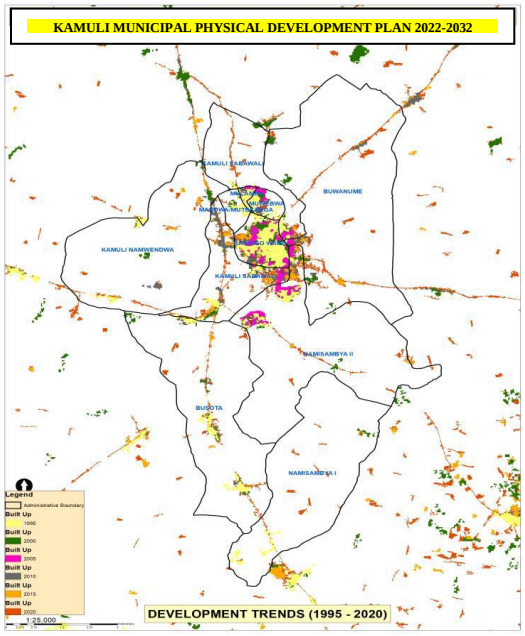
The nature of settlements in the Municipal Council significantly changed over the last two and half decades, particularly since the elevation of the area to a Municipal Status and its strong role in Kamuli District. Kamuli Town is the Municipal, Commercial, and Administrative Centre of Kamuli District and hosts vast majority of District and Central Government Offices of various sectors. Additionally, Kamuli Municipal Council is the main centre and market of fish from Lake Kyoga. The small trading centres have over the years slowly expanded into small urban concentrations serving the local populations and these areas act as neigbourhood urban nodes or urban centres for low order goods and services. Such urban concentrations include: Budhumbula, Buwudha, Kananage, Kabukye, Busota, Buwaiswa, Nakulyaku, Bulindi among others.

The growth of the Municipal Centre as an integrated and sustainable urban conglomerate settlement is likely to improve service delivery and goods and services produced in Municipal Centre will be distributed to other urban centres in the Municipal. These urban centres are projected to expand with growth of new local neighbourhoods and this will create stronger economic linkages to the Municipal Centre and in turn increase the opportunities for growth and prosperity, transforming Municipal Centre into a key Commercial Hub of the Municipal Council and spurring its growth. The completion of a bridge across River Nile at Mbulamuti will further enhance the vibrancy of the

Municipal Council and will bring numerous economic and connectivity opportunities. Additionally, the improved market mechanism connections to Kampala through Kayunga and Mukono will spur and foster more growth of the Municipal Council.

The level of urbanization in Kamuli Municipal Council has increased to 12.3% in the inter-sensual period 2002 -2014 from 1.6% in 2002 and is expected to rapidly increase by 2030 and 2032. During the plan period, the intensification of urbanization will be a dominant feature of Municipal's geography and economies. The fastest growing areas in 2002-2014 have been those within and in close proximity to Municipal Centre which is the fastest growing urban centre in Kamuli Municipal Council. However, with the increase in population particularly the in-migration of people especially the youth in search for non-farm employment, trade and commerce businesses opportunities as well as to engage in transportation industry (boda-boda) has gradually and eventually resulted into unregulated physical urban expansion. Selling of land especially among the youth to obtain cash has also led to high fragmentation of land especially in the urban and peri-urban areas thus impacting the socio-economic transformation. The unguided expansion has brought segregation of low-income earners in unplanned and informal settlements often on unsuitable sites devoid of basic infrastructural services such as water and sanitation, storm water, drainage and solid waste collection among others. It was also observed that some urban centres immediately outside the Municipal boundaries such as Butende in East along Kamuli-Kaliro Road and Kiloba in the South along Kamuli-Jinja Road were growing faster than some of the centres within the Municipal Council. It's worthy also to note that Southern and North divisions should be renamed as Western and Eastern respectively according to the right compass direction.

Kamuli Municipal Council will continue to grow faster and attract in-migration. The population growth has been projected to reach 134,412 people by the year 2032. As a result, this PDP will almost certainly need to take into account growth in the foreseeable future which would be accommodated through more densification and intensification of the existing built-up areas. Currently, Kamuli Municipal Council has an area of 102.65 Square Kilometers with a density of 574.6 Km^2 giving substantial scope for further densification before land use conversions from agriculture to urban uses is required. The Municipal's density remains low because successful compact urban centers display a much higher density. For instance, New York City has a density of 38,242 people/km2, Manilla (41,515 people/km2) while Mexico City had 31,598 people/km2. Otherwise, the increase in population growth should be commensurate with the rate of service delivery in of terms housing, recreation and employment services and facilities.



Map 20: Development Growth trends of Kamuli Municipal Council.

Source: Kamuli Municipal Situation Analysis Report 2020

As part of the development process due to urbanization, the Municipal Council is going through a transformation and the agricultural land converted to urban use is beginning to increase, and if not

guided, will have an effect on food production. This means that urban development is slowly taking over agricultural land, which is the main source of food production and major economic activity of the Municipal economy. The increasing conversion of agricultural land to urban use is due to heavy movement of the rural youth to the Municipal Centre as a result of the significant changes in the rural land utilization hence the rapid urban expansion. Hence, future planning must meet the challenge of wasteful utilization of land caused by urban sprawl, over shift of the rural youth to the Centre and balance of urban and rural economies of the Municipal. The Municipal Centre like other any other growth centres in the Municipal must be more organized to be able to accommodate the natural growth and the influx of people especially the youth coupled with adequate provision of infrastructure and services, and planned urban spaces to cater for all needs of urban residents.

About the future development trends and strategies, Kamuli Municipal Council will require a focused shift from the unplanned dispersal of land uses caused by urban sprawl to an organized and sustainable urban spatial form to give a particular uniform development direction and pattern. The strategies for developing a sustainable settlement spatial form include among others:

***a) An integrated natural resource structure*:** The natural environment is essential in the structuring of the future Municipal. It's the environment around which all planning, development and land use decisions should be based. And as such, the protection of the Municipal's natural assets must be a starting point for all development. A total of 1,777.2 Ha (17.4% of the municipal land) constitutes areas of ecological importance and requires conservation and protection. The natural structure should form an irreplaceable asset of the Municipal Council that promotes ecosystem services and not merely as unused land available for development. Conservation of these ecologically sensitive zones will attempt to make surrounding developed areas of the Municipal Council more sustainable and livable.

b) Definition of Transformation Zones: These include areas where investments should be prioritized for future urban intensification and growth, as they have the capacity to trigger positive effects on a Municipal-Wide scale. The transformation zone also indicates areas where urban renewal and enforcement of detailed plans, should be prioritized. Such areas include Muwebwa, Mandwa, Kasoigo and Mulamba with a centre focus at CBD. Intensification of the areas is emerging at a high rate with a lot of commerce and trade. The area is therefore a big future potential for urban diversification and intensification and needs to be a centre of future planning and organization. Kamuli-Ssabawali is another area under the transformation zone. This area is envisaged to grow into a compact and mixed-use urban concentration and to also perform civic and institutional functional role as well. This area links the Municipal Centre to other small urban trading centres of Busakwa, Kabukye, Busota among others along the Kamuli-Jinja Road and the pattern is beginning to emerge.

The area hosts the District Headquarters, Central Government office premises such as the Magistrate's Court and Prison, Busoga Kingdom offices, Royal palace and a wide variety of other institutional offices and premises and therefore needs urgent and prioritized investment in planning, development and infrastructure establishment as well other social and institutional facilities. For the urban structure, besides the Municipal Center, intermediate urban centres such as Buguleete, Busota, Nakulyaku and Buwudha were identified to compliment the main centre and become the core planning unit for local service delivery. Services expected in these intermediate centres involve

indicative primary school/secondary school, public open spaces, residential zones, commercial streets, banking facilities, healthcare facilities among other infrastructural and utility services. Other supportive urban growth and local centres were recognized to provide service to the immediate rural hinterland areas. Urban growth centres include Budhumbula, Bukaaye and Busanga while local centres involve Busakwa, Buwaiswa, Buwanume, Namalemba and Kananage.

***c) Neighbourhood/Community Revitalization*:** Neighbourhood nodes should also be considered planned and enhanced to support local planned growth. The growth urban and local centres which are small transit-oriented development nodes along the various roads that traverse the Municipal Council should be supported to ably serve the surrounding neighbourhoods and communities with local basic low order trade and commerce business and social services such as local shops and markets, education facility (nursery and primary school), public open spaces/small park, public transport etc. Some of these cnetres include Budhumbula, Bukaaye, Busanga, Busakwa, Buwaiswa, Buwanume, Namalemba and Kananage among others. These should be supported as focal points for growth in the entire Municipal Council through localized reasonable density, land use mix and through significant infrastructure investment by the Municipal Council. Industrial nodes should also be planned as a focus for future job creation as well as diversification to allow a mix of income areas. Kamuli Municipal Council is however short of well-planned shopping centers for its big population.

In a way, majority of residents commute to distant urban centres to access shopping facilities especially in the per-urban areas of the Municipal Council simply because the commercial use did not correlate well with the emerging residential areas. Through the preparation of this Physical Development Plan, areas that have already assumed the industrial use such as Kisege, Kiwolera, Industrial Area and other suitable areas will be identified for economic growth potential and mechanism will be put in place to stimulate economic growth. Support will also be given to small sector enterprises including those in the informal sector. Otherwise, the under-serviced parts of the Municipal Council (unplanned, informal and marginalized informal settlements) that account for the biggest percentage should also receive infrastructural investment since they hardly have significant infrastructure to enable them perform better.

d) Definition of Green Ecological Zones: Through the formulation process of this Physical Development Plan for Kamuli Municipal Council, measures will be put in place to attempt to reduce or prevent further urban sprawl by defining the urban development limits or boundary in order to limit new developments beyond the limit. Protection of all rivers and their associated wetlands, forest reserves, hilltops & sceneries, and public spaces should form a priority. Notable among the rivers is Bulegeya which feeds into other minor tributaries and these include Nawangaiza, Nabigaaga, Kananage and Buvumba among others. This will intend to protect the existing agricultural areas as well as protecting the natural vegetative environment. Emphasis beyond the development limit will be on ecological resource protection, enhancement of food production, provision of low intensity of social services and amenities, agricultural related investments, leisure and tourism as well as green energy initiatives.

In conclusion, Kamuli Municipal Council during the formulation of this Physical Development Plan has an opportunity to seek policy and strategic directions that intend to realize a long term and sustainable urban form and settlement pattern that will foster social, environment and economic

development. Three scenarios that will shape the future pattern of Kamuli Municipal Council will include the following possible conceptual models: Business As Usual Concept model which simulates the continued dispersal and scatter of developments, transit oriented development which simulates concentration of people and buildings along extensive transit corridors and higher concentration of activities in urban core areas and finally, the compact polycentric development which simulates clustered population in urban core centres with high residential and commercial densities and a highly developed social infrastructure such as education and health.

These areas would be connected with efficient infrastructure network to support affordable and safe connectivity. The preferred conceptual spatial development model adopted a combination of the transit-oriented development concept and the polycentric development model in order to accommodate the projected and future urban population and promote balanced development which enhances easy access to the basic social and economic services. To accommodate urban population growth, the Municipal Council will increase its current carrying capacity through intensification of density of the existing built-up areas and also create a spatial system of multiple urban nodes with a web-grid of complimentary growth urban centres. This would promote decentralization of urban functions even to the rural areas to enhance the rural economy.

3.7.4. Objectives

1. To promote geographically-balanced, organized and sustainable settlement patterns. The objective intends to ensure that urban land is planned at all levels in order to cater for the needs of present and future populations. This would require preparation of community settlement physical plans to enhance organized and sustainable urban settlement structures.

2. To forestall the continued organic settlement growth and prevent further sprawl. The planning should therefore facilitate provision of the required infrastructure and social services required to support development of compact, organized and serviced settlements.

3.7.5. Strategies

1. Undertake effective settlement planning as key in ensuring effective and controlled urbanization and as a prerequisite for well functional urban land and housing markets. Kamuli Municipal Council needs development strategies that respond to the settlement challenges facing most areas of the Municipal Council at all planning levels. There is need therefore to have a structure that would balance development and allow delivery of adequate infrastructure and utilities as well as mitigating the loss of natural resource assets in order to preserve and enhance the natural resource system.

2. As demand of land for urbanization increases, land to enable economic growth and industrialization through local economic development will equally be required. Densification and mixed-use development through a sustainable urban form especially in the built-up areas need to be undertaken as deliberate strategies to create more space and encourage optimum use of land.

3. Un-serviced areas need to be supported in terms of urban infrastructure provision and employment centres. There is need for education and training programmes to help prepare the unemployed youth population to integrate into the urban economy to reduce on the

levels of urban poverty.

4. Existing unplanned and informal settlement should be tolerated and a programme instituted for their incremental upgrading through both Government and self-help projects. Planning guidance early on with physical plans or layout of informal settlement areas would allow for the gradual incremental development of a well-structured urban environment.

5. Formulation of development standards and requirements that would help to integrate physical planning in both public and private sector driven settlement developments and housing investments in the Municipal Council.

3.7.6. Risks

1. The current urbanization process is irreversible and with increased delivery of urban infrastructure and social services in the Municipal Council more people through rural – urban migration and increase in natural population are expected to migrate into the Municipal Council in search for economic opportunities and to undertake investments especially in housing, trade and commerce, service and manufacturing industry among others.

2. The land tenure system is largely customary which impacts on investments in terms of long-term improvements and/or permanent investments. About 90% of the land owners in the Municipal Council do not have land titles and their rights remain unregistered. Customary tenure is however the predominant mode of access to land in the Municipal.

3. Most of the land is privately owned with little existence of public land which is likely to cause delays in physical plan implementation. The Municipal Council would require significant financial resources to acquire land for public infrastructure and service facilities and this constrains delivery of services.

3.8. Report on Transport and Infrastructure

3.8.1. Infrastructure

Infrastructure refers to structures, systems, and facilities serving the economy of an area, including the services and facilities necessary for its economy to function. The physical systems of an area (Municipality) include transportation, communication, sewage, water and electric systems. These systems tend to be high-cost investments; however, they are vital to the Municipal Council's economic development and prosperity. This report was prepared by undertaking analysis of the network perspective to assess each infrastructure. Because infrastructures are networks which often cross boundaries, cross regional perspective issues were touched on. Below is summary of assessment approach and explanation.

Table 35: Methodology

Assessment approach	Explanation
State	Extent to which infrastructure is fit for the current purpose and enduring.
Trend	Outlook based on forecast pressures from the drivers of change on future demand and ability to meet changes in demand.
Risk	Extent to which governance and management mechanisms available in place to manage future demand and meet agreed expectations. Extent to which corrective action is required.

For the purpose of proper analysis in this report; infrastructure is divided into; Transportation, Water supply, Sanitation (including Solid Waste and storm water management), and Energy. The above was identified as being significant to the economy and the population of the Municipal Council.

3.8.1.1. Municipal Council Transportation Network

Transportation is a major factor in contributing to social and economic growth and development of a region and so the presence and state of the transport network is key to development as it facilitates the smooth flow of goods and people.

3.8.1.2. Road transport infrastructure

Road infrastructure in Kamuli Municipal Council was comprised of National roads, urban roads and Local access roads. Kamuli Municipal Council Road network forms part of Eastern region Road network. A road network is currently and will continue as the primary means of transport within the Municipality.

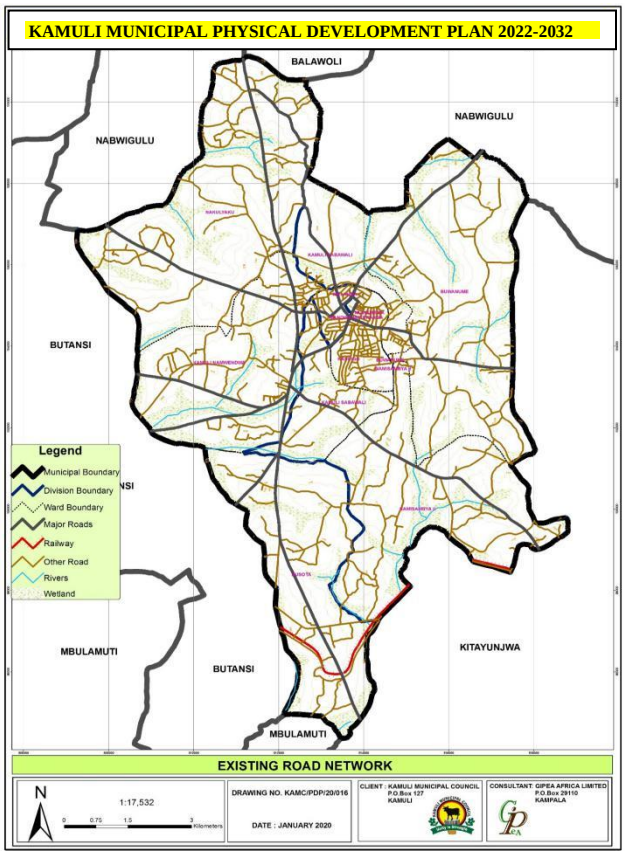
3.8.1.2.1. Municipal Council Road Network Condition.

The total length of road network was 841.97 Km, of which 34.4 Km were National arterials owned by Uganda National Roads Authority (UNRA), 77.96Km were Municipal roads and 729.61Km were local access roads owned by Divisions. Only 3 % of the entire network was paved and in good condition. It should be noted that under the USMID-AF interventions the following roads were earmarked for upgrade to tarmac; Byaino, Industrial area roads, Babhubhai, Nadiope, Badaza, Ben Lubaale, Hajjat Watongola, Muwanga, Kadhuba, Lubaga and commercial roads. 93% were Earth roads all not in good condition (Table 36).

Table 36: Condition of the Municipal Council Road network.

Category	Surface Type				Surface Condition			Connectivity
	Bitumen	Gravel	Earth	Total	Good	Fair	Poor	Degree of Circulation
National (arterial) roads	10.4	24.0	0	34.4	10.4	24	0	Good
Municipal collector roads	15	8.02	54.99	77.96	15	41.41	21.55	Fair
Local access Roads (Div)	0	4.4	725.21	729.61	0	17.48	712.13	Poor
Total	**25.4**	**36.42**	**780.2**	**841.97**	**25.4**	**82.89**	**733.68**	
%	**3**	**4**	**93**	**100**	**3**	**10**	**87**	

Source: Municipal Council Road inventory (2020)



Map 21:Existing Road network

3.8.1.2.2. Existing Road Network defined by hierarchy.

Road hierarchy is a means of defining each roadway in terms of its function such that appropriate objectives for that roadway can be set and appropriate design criteria can be implemented. Kamuli Municipal Council hierarchy wise comprised of 4% (arterials), 9% (urban collectors) and 87% (Local Accesses) as indicated below;

Table 37: Existing Road hierarchy

Hierarchy	Length (Km)	%age	Desired purpose	Existing Situation
Arterials (UNRA)	**34.4**	**4**	through traffic movements and long-distance movements	Mixed movements (long distance and short distance movements).
Collectors (**Urban roads**)	**77.96**	**9**	Carry traffic having a trip end within the Municipality	Trips exist but not at desired speeds (40-60Kph) due to narrow and impassable roads
(**Local** Access roads)	**729.61**	**87**	Direct access to properties	Accessibility is hampered by Poor road surfaces and narrow roads
TOTAL	**841.97**			

Roadways serve a variety of functions, including but not limited to the provision of direct access to properties, pedestrian and bicycle paths, bus routes and catering for through traffic that is not related to immediate land uses. Many roads serve more than one function and to varying degrees, but it is clear that the mixing of incompatible functions can lead to problems. The road hierarchy is required in order to form the basis of planning and system management aimed at reducing the mixing of incompatible functions.

3.8.1.2.3. Existing and future Road Transport infrastructure demand

The most recent comprehensive set of traffic data available were those produced by UNRA Traffic census for the year 2016 on only UNRA roads. Results may be summarized as follows;

Table 38: Transport demand in Kamuli Municipality

2016 ADT-PCU/day	Road Name	2016 PCU/hr	Future 2032 PCU/hr	Future level of service	Expected road operating conditions
2094	Kamuli-Buwenge	131	610	A	Free Flow
2242	Kamuli-Nawantale	140	653	A	Free Flow
855	Kamuli-Kaliro	53	249	A	Free Flow
855	Kamuli-Namasagali	53	249	A	Free Flow
552	Kamuli-Nabirumba	35	161	A	Free Flow

3.8.1.2.4. Future Road traffic growth.

UNRA awarded a contract to ***China International Water and Electric Corporation (CIWEC)*** for construction of a bridge across river Nile linking the districts of Kayunga and Kamuli. The 800m public access bridge is part of the contract for Isimba hydro power dam which was commissioned in 2019. The completion of this project is expected to attract and generate more traffic volumes (*Diverted traffic and Generated traffic*)**.** Diverted Traffic is traffic expected to change from other routes to the improved road because of the improved pavement, but still travels between the same origin and destination. Generated traffic arises either because a journey becomes more attractive by virtue of a cost or time reduction or because of the increased development that is brought about by the road investment. (Iganga-Kamuli-Kayunga-Kampala distance is 170Km Whereas Iganga-Jinja-Kampala is 200Km.

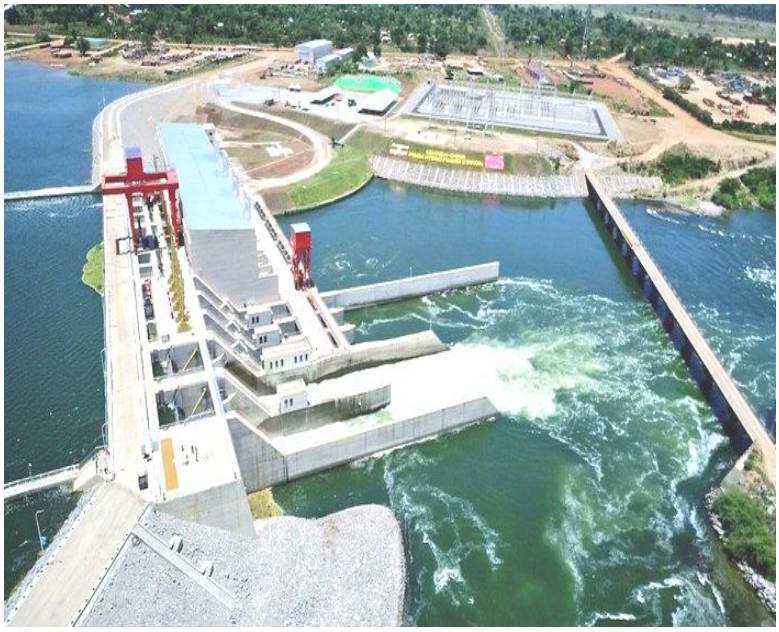


Plate 19: Proposed bridge across River Nile to Kamuli

The National Transport Master Plan projected that there will be a traffic growth rate of 8% per annum from 2008-2023. National population and housing census 2014 reported National GDP growth rate of 5% and a population growth rate of 3.2% for Kamuli Municipal council. Traffic is expected to reflect economic growth through traffic growth rate of 8% and this was used to project future traffic. On assumption of these roads being 2-lane paved road where expected operating conditions will be free, stable, unstable flow however, Projections by 2032 indicate these through movement roads will be operating at free flow road operating conditions. Hence the need to upgrade these roads to standard Bitumen single carriageways.

3.8.1.2.5. Road Safety

In general, high traffic volumes and congestion affect road safety. Road safety is affected by the increase in vehicle traffic and number of interactions between vehicles. In analysing safety, it was important to separate road sections and intersections because these have different characteristics.

Normally road sections are characterised by uninterrupted traffic and intersections are characterised with interrupted traffic.

3.8.1.2.6. Intersections.

In Kamuli Municipal Council the most common intersections were traditional 3 or 4 arm intersections which create many conflict zones as a result becoming unsafe and a few Round Abouts. There was therefore need to improve safety at intersections by providing more roundabouts and signalized intersections that are considered to be safer due fewer or no conflict zones.

Plate 20: 3-arm intersection

Plate 21: Round about

3.8.1.2.7. Road sections.

These are uninterrupted traffic flow facilities. When the traffic is not much traffic flow speed is high and vehicles can overtake each other. Characteristics of the road and road side are very important factors which play a role in road safety and traffic volumes such as the presence of area access roads, Presence of vehicle stop areas and heavy vehicles. There were four types of deficiencies which occur in the entire length of road network in Municipality which were identified: -

- Roads lack vehicle stop areas and as a result, vehicles stop within the carriageway, road section narrows reducing clearance for passing vehicles.,
- Inadequate provision of public transport stopping areas and areas for passenger transfer (Bus and Taxi Stands),
- Inadequate vehicular and pedestrian separation in urban areas and commercial centres especially along those roads with heavy traffic,
- Sporadic urbanization along road networks (Linear Settlements) which eventually spread into organic infill growth between these major roads.

Plate 22: Road section with no vehicle stop area

3.8.1.2.8. Parking, loading and lighting facilities.

It is important to put much emphasis on regulating street parking and loading in order:

- to relieve traffic congestion in streets/roads,
- to provide for safe and adequate space for temporary storage of vehicles,
- to ensure safe ingress and egress of vehicles entering and leaving public street system,
- to provide immediate access for fire and emergency services,
- and to minimize storm water runoff.

The Municipal Council was likely in future to experience traffic congestion partly because of unregulated street parking. In Future off-street parking areas are recommended in relieving congestion on streets. And these among others include multi-storied parking structures.

3.8.2. Pressures and trends

3.8.2.1. Road Funding.

Overall, the road and Engineering sector in Kamuli Municipal Council receives funds as follows;

Table 39: Road sector Budget for FY 2019/2020

Revenue Sources	Budget allocation (FY 2019/2020)
Recurrent	429,368,000
Development	4,272,396,000
Total	**4,701,764,000**

3.8.2.2. Road Construction and Maintenance.

Road maintenance aims at keeping the road conditions as close to its original (design) standard as possible as long as possible without any major investments. This enables un disrupted traffic in a safe and efficient manner. Designed standard roads are either paved or gravel roads (13%), and non-designed roads (87%). The biggest share of available road sector funds is committed to road maintenance and upgrading of selected roads. Periodic maintenance is implemented either through maintenance contracts or in-house as force account tasks. Periodic Maintenance activities are preventive and undertaken on a road after a number of years, to improve surface and structural integrity, waterproofing, skid resistance and to increase the strength of the pavement (paved roads) and re-gravelling (gravel roads). However, Kamuli Municipality lacked road equipment for effectively carrying out in house activities remaining with the option of maintenance contracts. NDP-III released road maintenance unit costs as produced by MoWT as indicated below;

Table 40: Road maintenance unit costs as per NDP-III

Indicator	UGX /KM
Urban roads-Periodic Maintenance, Paved	51,000,000
Urban roads-Routine Manual Maintenance, Paved	7,800,000 - 9,250,000
Urban roads-Routine Mechanized Maintenance, Paved	14,000,000 - 17,800,000
Urban roads-Periodic Maintenance, unpaved	26,600,000 - 51,400,000
Urban roads-Routine Maintenance, unpaved	2,600,000 - 8,900,000

According to NDP-III upgrading of road to paved standard with bitumen surface treatment is UGX 3.1 billion per Kilometer. What is required therefore is upgrading of Municipal roads to either paved or gravel standard targeting 63km of critical roads.

Table 41: Required funds

Activity	Overall cost
Upgrading of 63Km to Gravel Standard	6,500,000,000
Upgrading of 63Km to Bitumen standard	195,300,000,000

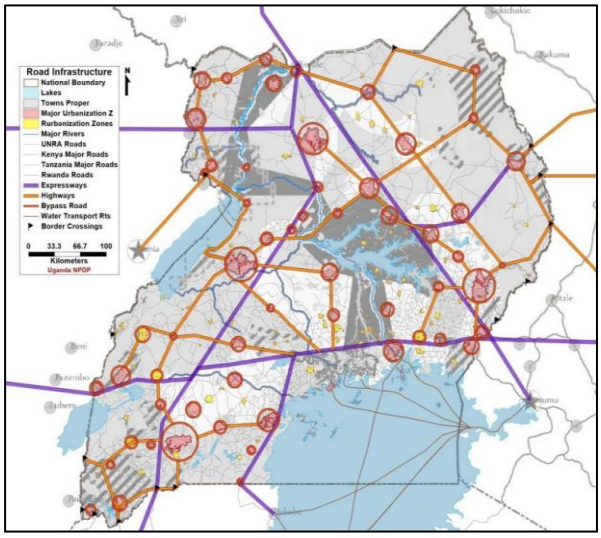
It was therefore evident that adequate funds are required currently and in future to carry out major road investments to improve connectivity in the Municipality. Keeping roads open at all times has a great positive influence on economy of the municipality.

3.8.2.3. Influence of Population growth on Road transport.

Population change has a strong influence on economic activity by affecting the size of work force and local markets. The Municipality had a Population of age blacked 15 – 64yrs (49.7%), High rate of growth (3.2%) hence urban labour force was available. This Population structure was likely to increase the growth of private car users. The economic growth depicted by majorly trade sector of 6% and with agriculture becoming less significant. Vehicle traffic was expected to increase in line with economic growth of 8 % per annum as projected in National Transport Master Plan.

3.8.3. Strategic investment signals/Plans.

There was National Physical Development Plan (2019-2040) which sets out a road network framework and integrated transport infrastructure based on future land use strategy which emphasizes the introduction of By-pass Road for Kamuli District that will define the outskirts of the district (where the Municipal lies) and in turn reduce urban sprawl.



Map 22: Proposed Road Infrastructure 2040

3.8.3.1. Road Transport Services

Road Transport Services were provided to the residents of Kamuli Municipal Council mainly through;

a) Public Transport, and
b) Private Transport

3.8.3.2. Public Transport services

Public transport is a shared passenger-transport service which is available for use by the general public, as distinct from modes such as taxicab, carpooling, hired buses, and transportation network companies, which are not shared by the general public.

3.8.3.2.1. Inter-regional Bus/Taxi services.

Inter-regional bus services were available but on limited scale as established by field household survey that 27% of Kamuli residents use public taxis or buses. Infrastructure was not available in terms of Bus Stops, Bus lanes, Bus Shelters.

Plate 23: Malaika Bus Service

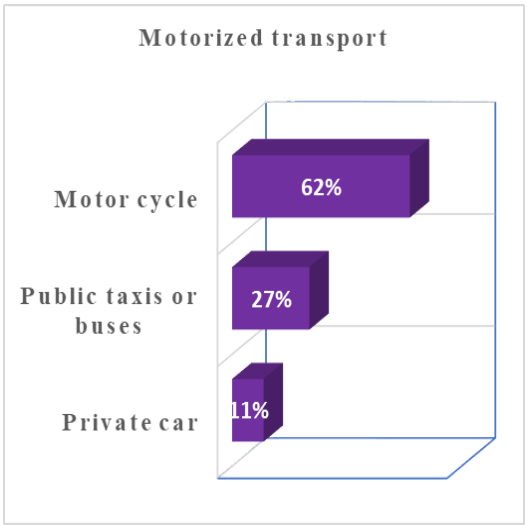


Plate 24: Transport type

As a substitute, Passengers were using commuter taxis (14-seat minibuses known as "taxis" or "Kamunyes") plying mainly along arterials in good condition (Kamuli-Jinja road, Kamuli-Buwenge and Kamuli-Mbulamuti). the other arterials (Kamuli-Kaliro and Kamuli-Iganga were in poor conditions as a result taxis services are limited. Infrastructure for taxi services was not available in terms of gazetted and planned parking areas/spaces as well as passenger Shelters. As result they park in unregulated way along road sides and in non-designated areas.

Plate 25: Non-designated Boda-boda Stage

3.8.3.2.2. Local Bus/Taxi Services.

There were no local bus services as a substitute 62% of Residents were using motorcycles (Boda-bodas) plying mainly along earth roads that are seasonal earth roads.

3.8.3.2.3. Boda-boda Services.

Majority of Municipal's population relied on boda-bodas as an alternative for movement within the municipality. However, these services were characterized by the following shortcomings; -

- Lack of designated parking stages for boda-bodas and as a result, boda-bodas stop within the carriageway, road section narrows reducing clearance for passing vehicles.
- Inadequate vehicular and pedestrian separation in urban areas and commercial centers especially along those roads with heavy traffic.

Plate 26: Private Car, boda-bodas and Bicycle

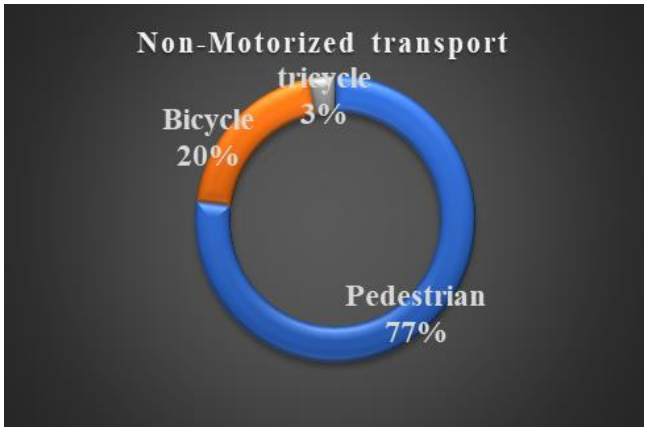
- Over speeding by Unlicensed and reckless riders explaining the reported high accident rates.

3.8.3.3. Private Transport as an alternative

Private Transport is a modality of transportation in which people use their own vehicle for movement (cycle, motor cycle and cars). It has advantage over public transport that it saves time, comfortable in travelling and allows wide use of vehicle according to schedule of the person using it. Only 11% could afford private cars.

3.8.4. Non-Motorized Transport

NMT transport modes in Kamuli Municipality include walking, bicycles, and Tricycles, all of which are low-cost and can contribute to alleviating poverty. Majority (77%) preferred walking as a result it was important to provide adequate facilities in the form of pavements or bicycle paths and lanes which were lacking. Pedestrian crossing facilities were also an urgent requirement, especially in Central business district, where crossing a busy road was extremely hazardous.



3.8.4.1. Rail Transport.

Railway transport is internationally recognized as the cheapest form of land transport. The railways sub sector is managed by the Uganda Railways Corporation through an Act of Parliament of 1992.

3.8.4.1.1. Rail Transport Infrastructure

Railway infrastructure includes railway lines and other structures, buildings and equipment, together with the corresponding land, located on railway premises, designed for the management, passenger or freight transport, and for the maintenance of the infrastructure manager's property for these purposes. There was a rail corridor within Kamuli Municipal connecting to Namasagali. The rail network within Kamuli Municipal was largely dysfunctional for many years. Rail assets like road rail were vandalized and railway premises abandoned.

Plate 27: Dysfunctional rail route where Road rails were vandalised

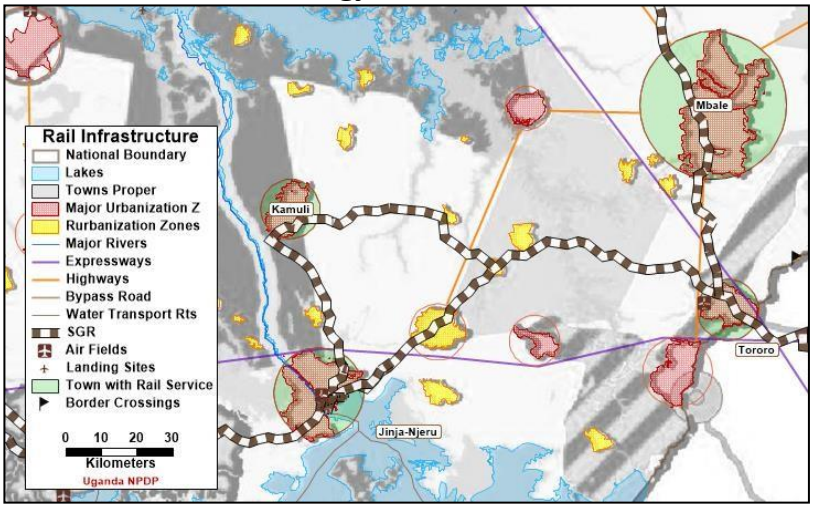
Plate 28: Abandoned railway station

3.8.5.

3.8.6. Pressures and trends.

3.8.6.1. National Rail Transport Infrastructure strategy 2040

The rail sub sector is set to undergo upgrading from the meter gauge rail (1,067mm) to the standard gauge (1,435mm). This change will allow for higher operational speeds and harmony with regional railways. One of potential routes is a loop that goes through Kamuli Municipal as indicated in the map below;



Map 23: Proposed National Rail infrastructure in Kamuli 2032

3.8.7. Key findings/Issues on Road Transport infrastructure and services.

- There was National Physical Development Plan (2019-2040) which sets out transportation infrastructure corridors through the Municipality.
- Road network hierarchy was not clearly defined and this caused the mixture of incompatible road functions (long distance and short distance movements mixing together causing congestion).
- Urgent need to upgrade all arterial roads to standard Bitumen single carriageways or creation of new routes for through traffic movements to avoid future traffic congestions.
- Lack of Road safety management system. The exiting road network was characterized with many uncontrolled area access roads, no heavy vehicles stops and with almost no road side area as there are road reserve encroachments. Pedestrians and cyclists are not separated from motorized road traffic.
- Lack of traffic management system. There were many (3 or 4) arm intersections within road network hence many traffic conflicts zones that affect traffic flow. There was need to shift away from these traditional intersections to controlled signalized intersections.
- Absence of parking management system (need for off street parking, loading to relieve traffic congestion, provide safe and adequate space for temporary storage of vehicles and provide immediate access to fire and emergency services).
- Adequate funds were required then and in future to carry out major road investments to improve connectivity in the Municipal Council.
- Majority of urban and local streets were earth roads limiting Connectivity because it was not easy to freely move from one end of the network to the other and traffic cannot freely and safely circulate within the network. Only 3% of road network within the Municipal Council was paved.
- Lack of integrated transport management systems limiting intermodal linkages (between road, rail, and air transport).
- High cost of land for infrastructure development.
- Absence of proper public transport led to Prevalence of high transport costs as reported in the household survey attributed to the use of private transport (in particular boda-bodas), high accident rates associated to use of boda-bodas.

- Absence of public transport boarding points, bus stops, lay-bys on all main traffic routes.
- Lack of appropriate lighting on all urban streets at key locations like intersections and pedestrian crossing.

3.8.7.1. Key findings/Issues on Rail transport

Information obtained from the National Physical Development Plan 2040 report indicated that there was railway infrastructure loop through Kamuli under the Ministry of Works and Transport (Standard gauge rail project).

3.8.8. Transport infrastructure Objectives

- Enhance connectivity between Kamuli Municipality and other Areas of the Busoga sub region.
- Develop an improved, integrated transportation network to support industrialization, tourism, modern agriculture and market access in Kamuli Municipality.
- Ensure improved safety of transport networks and operations.
- Ensure improved road traffic management and street parking management.

3.8.8.1. Transport infrastructure Strategies

Road transport

- Upgrade 50.1Km of National arterial routes which connect through traffic movements and long-distance movements. This will help in separation of through traffic movements from local movements.
- Upgrade 45.5Km of Municipal roads which connect commercial and community properties as well as those connecting residential streets with traffic carrying roads.
- Adopt an integrated transportation management system where emphasis is put on use of public transport (reduce use of cars and bodas instead promote buses) and NMT.
- Improve on Road safety;
- Acquisition of a fully-fledged road equipment and plant, providing capacity to the Municipal Council to develop and maintain its road network in sustainable manner.
- Improved road infrastructure which will encourage more investments in Public Transport services by the private sector.
- Acquire land for infrastructure corridors.

Rail transport

Adopt the proposed standard gauge rail line looping through Kamuli as recommended in the NPDP.

Air transport

Acquire land at District Headquarters (Kamuli-Sabawali Ward) for development of a planned airstrip to promote tourism.

3.8.9. Risks and opportunities

3.8.9.1. Risks

- Attitude towards road reserve expansion (cost of compensation)
- Continuing to achieve an integrated planning approach to land use, infrastructure and funding;

- Providing a resilient road network that appropriately meets Municipal's community and business needs.
- Enabling planned land use change while not compromising the function of the transport network;
- Managing the competing demand between commuter taxis, buses and boda-bodas.

3.8.9.2. Opportunities

- Working collaboratively to plan, manage and fund the road network;
- Better understand how land use form and responses can influence demand for the road network;
- Investigate mechanisms to understand how future affordability challenges can be managed.
- Promoting a 'one network' approach for the customer and response to dealing with future demands e.g., understanding how the rail and road network can work together to address future freight demands;
- Promote increasing walking, cycling and public transport use to manage future demands;
- Work with freight operators to better understand how future freight demands can be managed to meet customer expectations (both the freight operator and commuter).

3.8.10. Integrated transport system

Transport plays a vital role in maintaining quality of life and enhancing attractiveness for industry development and investment. Therefore, the transport system must be maintained effectively and enhanced through an integrated planning approach. A suitable framework for such an approach should combine long-term planning for land use, all modes of transport and the environment.

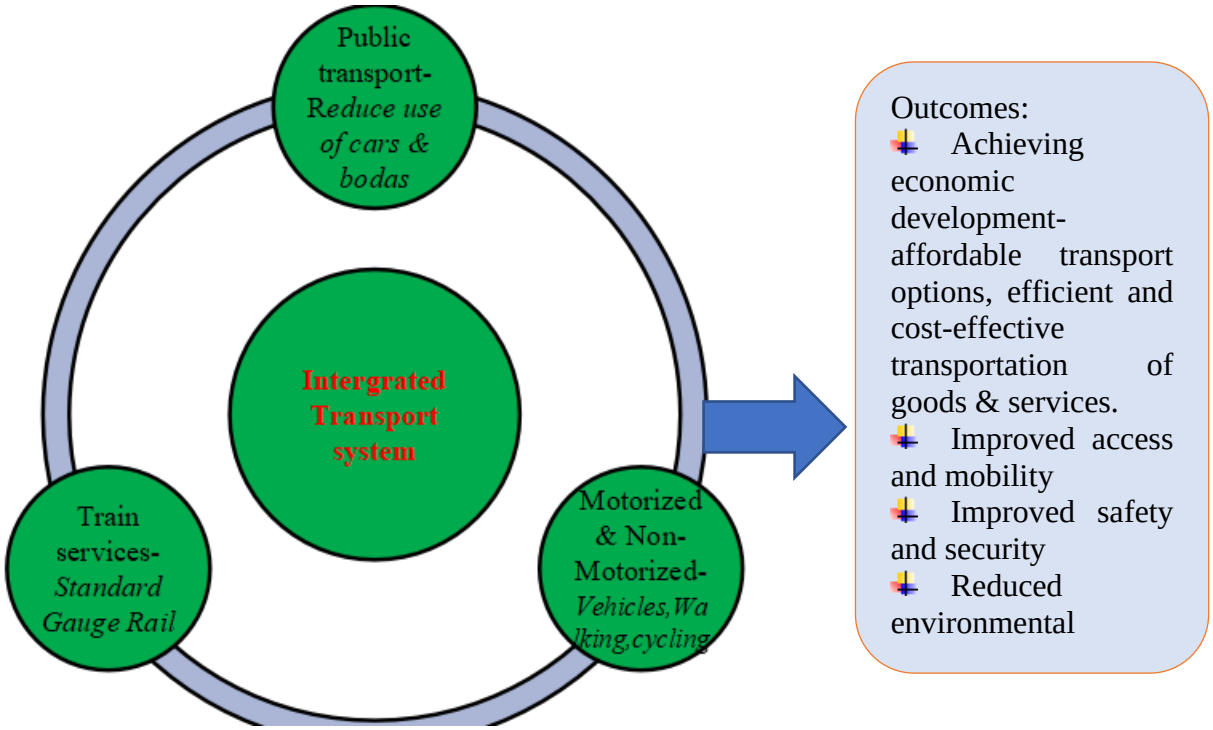
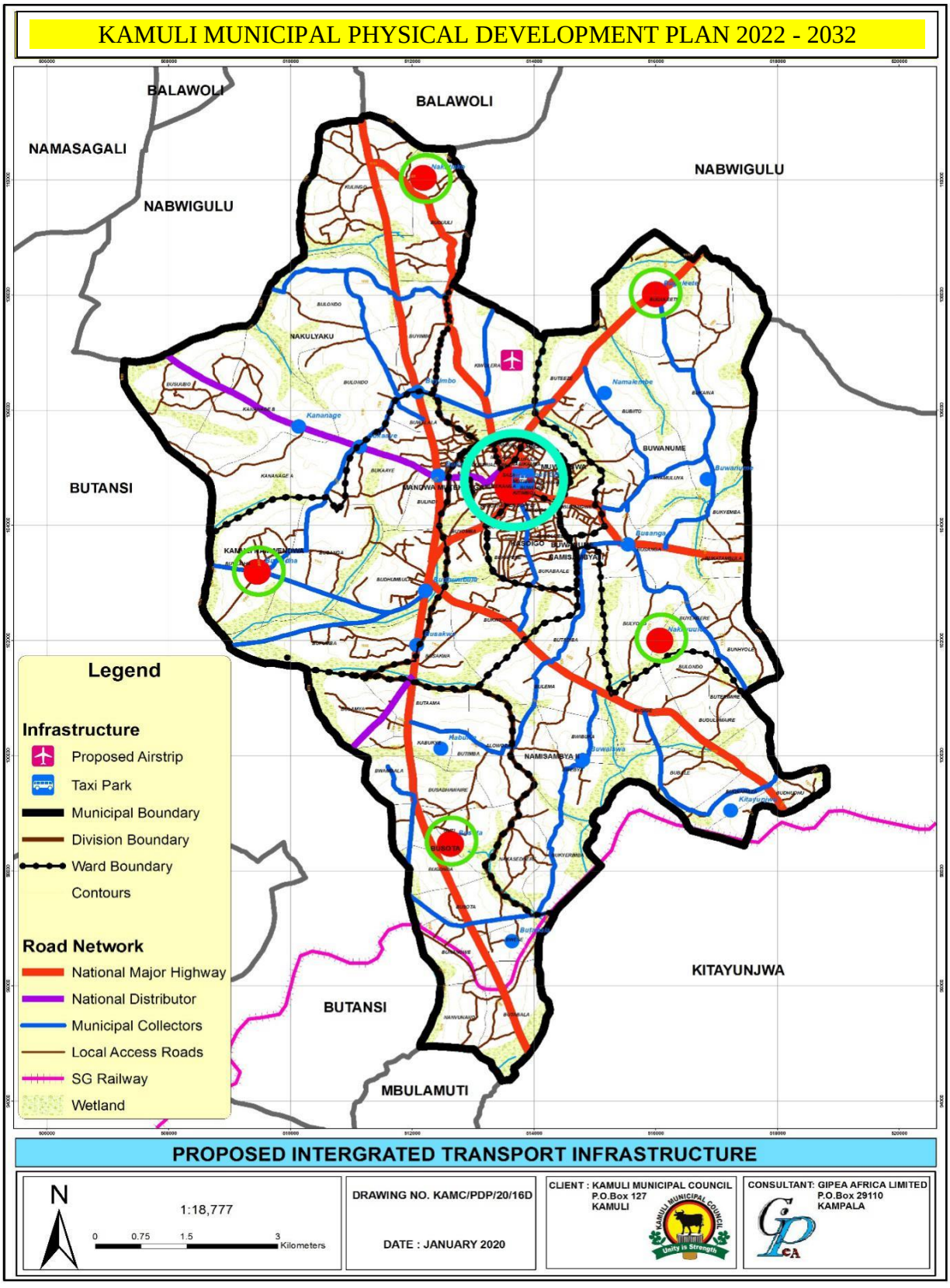


Table 42: Impact of Key Drivers on the Transport System.

Key Drivers	Impacts on Transport System
Land use	Residential land uses are mixed with both residential and agricultural activities. This increases distance travelled to other land uses (commercial, Civic and institutional and hence imposes a transport cost to both system user and provider. More dwellings will lead to increased trip making independent of population levels.
Demographics	A young population will result in increased peak travel and leisure travel. More people will be accessing work places, peri-urban shopping centers, recreation facilities and hospitals rather than workplaces. A young population will mean an increased demand for safe and accessible public transport. It will also affect the planning of services and infrastructure.
Industry	Short-distance, small-load freight services will increase in importance with the changing nature of industry. Just-in-time regional freight and transport nodes will play an increasingly important role. Increasing road-based freight will impact on the overall transport system through congestion, safety and the need for improved infrastructure, with an increasing demand on rail. Road-based tourism will increase demand for quality access.
Technology	Intelligent transport systems can reduce travel demand and make more efficient use of existing system capacity.
Community	Changing work patterns present challenges for public transport. If public transport options are inflexible, workers will use their private vehicles for work transport. The increasing number of transport disadvantaged who do not have access to the private motor vehicle either as passenger or driver will increase the demand for alternative transport.
Government	Government priorities value the environment and a better quality of life for Kamuli residents. A balanced approach will be required as funding for transport will be limited.
Environment	With increased traffic greenhouse emissions will continue to rise while habitat destruction will continue with increased transport infrastructure requirements.

Map 24: Integrated transport Infrastructure



3.8.11. Proposed Road Network

Land Use/Road Hierarchy Relationship

One of the key aims of the hierarchy is to optimize accessibility, connectivity, amenity and safety for all road users including motor vehicles, bicycles, pedestrians, and public transport patrons. To do so, the relationship between hierarchy and the land uses it serves needs to be considered.

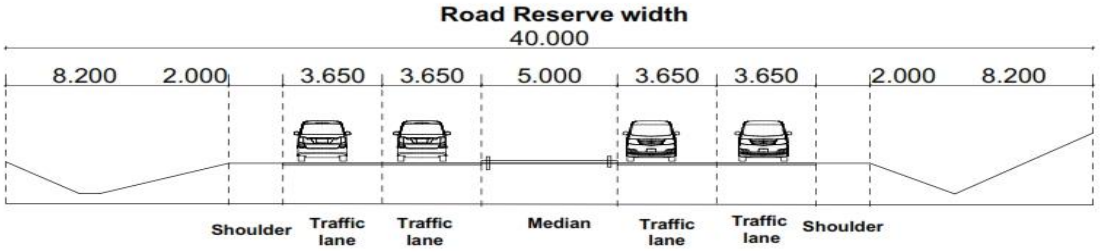
Proposed arterial Routes

The plan proposes arterial routes of 42.3Km which are highways designed for fast traffic, with controlled entrance and exit, a dividing strip between the traffic in opposite directions, and typically two or more lanes in each direction. They will require a road reserve width of 40 meters and these are; -

Table 43: Proposed Arterial

Road Name	Length (Km)	Map Colour	Category/Class	Relation to land use
Kamuli-Jinja	17.7	Red	National Major highway	Arterial (Through movements)
Kamuli-Luuka	7.2	Red	National Major highway	
Kamuli-Kaliro	4.3	Red	National Major highway	
Bukungu Road	8.0	Red	National Major highway	
Kamuli-Nabirumba	5.1	Red	National Major highway	
Total	**42.3**			

*** Length in KM from the centre to Municipal boundary**



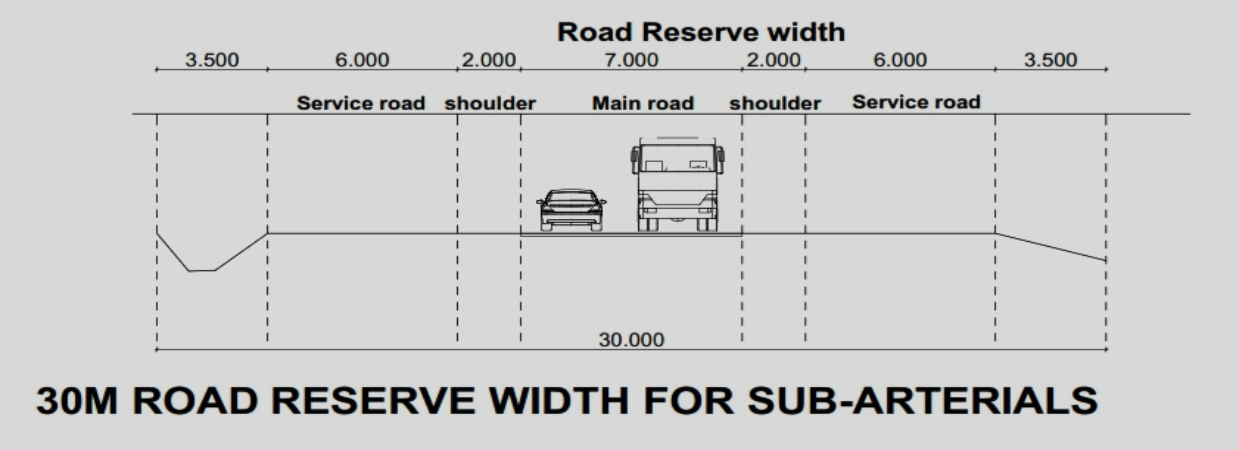
40M ROAD RESERVE WIDTH FOR ARTERIALS

Proposed Sub-Arterial Routes.

The Plan proposes 7.8Km which are Dual carriageways. These will be upgraded and properly engineered roads with a minimum of two lanes, adequate shoulders and proper drainage. They will be paved which require a road reserve width of 30 metres and these are;

Table 44: Proposed Sub-arterial

Road Name	Length (Km)	Map colour	Category/Class	Relation to land use
Kamuli-Namasagali Road	6.2	Purple	National Distributor	
Kamuli-Mbulamuti Road	1.6	Purple	National Distributor	
Craw Ford		Purple	National Distributor	
Total	**7.8**			



Proposed Municipal Collector Streets.

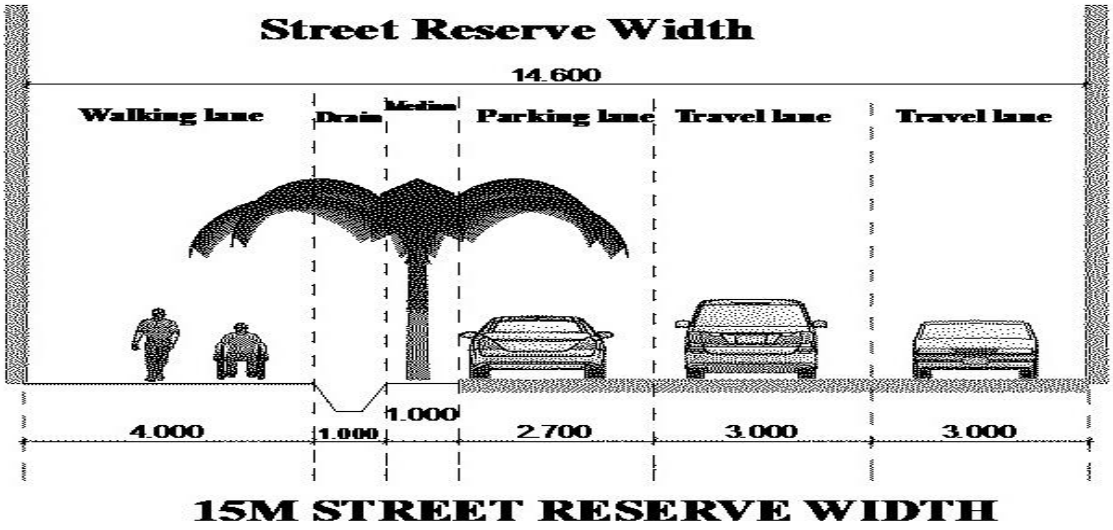
Streets are critical arteries for transporting goods and people, but they are also the places where we live, work, play and interact. The design and management of an urban street must reflect and accommodate these diverse and competing uses. The layout and operation of streets can prioritize and enhance particular uses for the benefit of all. It illustrates innovative designs that meet the varying and changing needs of urban streets. This includes: -

- Fundamental safety and operational strategies
- The spatial qualities of the street, from building line to building line
- The relationship between land use and traffic
- Management strategies for parking and other curb side uses.

The Plan proposes 45.5Km of Municipal collectors which are single carriageways. These will be upgraded and properly engineered roads with a minimum of two lanes, adequate shoulders and proper drainage. They will be paved which require a road reserve width of (15-25) metres and these are;

Table 45: Proposed Major Collectors

Road Name	Length (Km)	Map colour	Class	Relation to land use
Buwaiswa– Bukyemba-Butabhala	4.4	Blue	Municipal Collector	Connections of residential streets with traffic carrying roads. Connection to commercial and community properties
Kabukye Road (Butaama-Butadiba)	3.6	Blue	Municipal Collector	
Kiwolera – Nakulyaku	1.6	Blue	Municipal Collector	
Busanga-Nakiwulo-Buterimire	3.5	Blue	Municipal Collector	
Buyimbo-Buteeze	2.3	Blue	Municipal Collector	
Bukwenge-Bukapere	2.6	Blue	Municipal Collector	
Bunangwe-Bukaina-Bugulete	5.5			
Kyamuluya-Bubito	2.3	Blue	Municipal Collector	
Busanga-Bukyemba-Buwanume	2.1			
Buyimbo-Bulondo	3.4			
Buwalala-Bulondo	3.0	Blue	Municipal Collector	
Buyimbo-Bukaaye-Buwudha	4.6	Blue	Municipal Collector	
Busige-Bubale-Kitayunjwa	3.7	Blue	Municipal Collector	
Butadiba-Bukabale-Bunangwe	2.9	Blue	Municipal Collector	
Total	**45.5**			



Proposed Minor Collectors and Local access roads.

With the proposed acquisition of fully fledged road equipment, the Plan proposes 751.47 Km which are single carriageways. These will be upgraded and properly engineered roads with a minimum of two lanes, adequate shoulders and proper drainage. They will be gravelled which require road reserve widths of (12-15) metres and these are;

Table 46: Road category in relation to land use

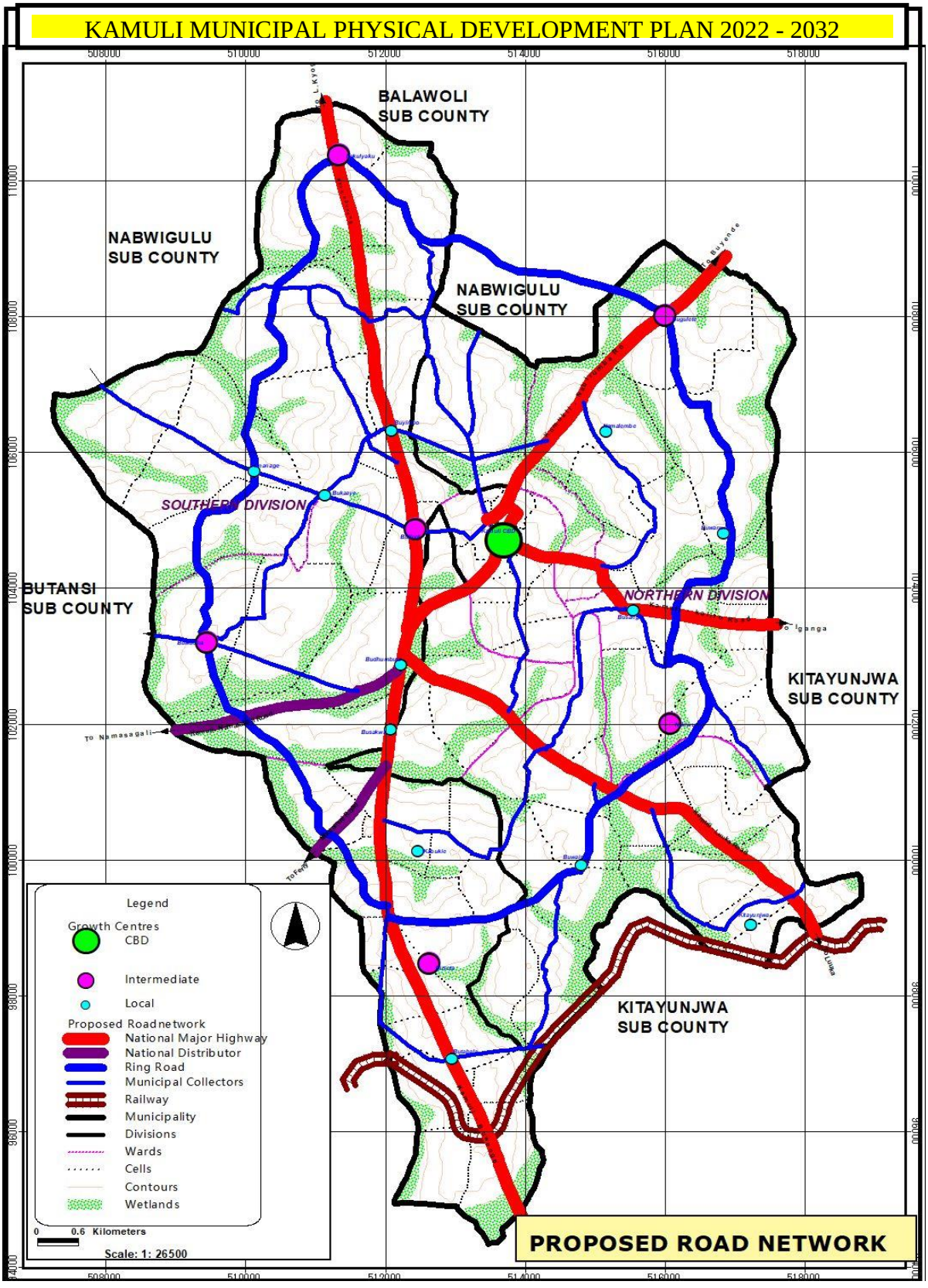
Road category	Length (km)	Relation to land use
Minor collectors	26.26	Minor Collectors (connections of residential streets with traffic carrying roads).
Local access roads	725.21	provide local area access and access to individual adjacent properties
Total	**751.47**	

3.8.12. Proposed Road Transport management system

The plan proposes that the Town Council should develop Traffic Management System. This will include;

- Identified locations where Intersection improvements are required,
- An intersection is any place where different users mix and compete for time within the same space. Intersections take many forms and shapes, ranging from complex junctions to driveways to the meeting of two paths. They are often defined by their layout and operations: traffic signals, roundabouts, T-junctions. Simplicity, compactness, low speed and eye contact are favoured in intersection design.
- Provision of vehicle stops on all Sub-arterial and Urban streets,
- Expansion of existing Taxi Park at Muwebwa Ward and transfer the exiting Market.
- Introduction of paved walkways that are separated from motorized traffic.
- Standards for commercial plots to include ingress and egress provisions.
- Requirements for off-street parking by developers and promote the development of off-street parking facilities (multi-storied parking structures)

Map 25: Proposed Road Network



3.8.13. Water supply Infrastructure

Water services infrastructure includes;

- intake structures,
- Water treatment plants,
- Storage Reservoirs,
- pipe network that distributes to residential, commercial and industrial activities,
- pump stations.

Ownership and governance

The National Water and Sewerage Corporation (NWSC) was mandated to operate and provide water and sewerage services to Kamuli Municipality (being an urban center with a population of more than 20,000). Piped Water by NWSC was supplied by four different connections types:

- House connections
- Private yard taps
- Public standpipes with prepaid water meters
- Taps operated by yard-tap owners and kiosk operators

3.8.13.1. Water resources

There were two distinct water resources categories (surface and ground water). Surface and groundwater resources play a major role in domestic water supply, watering livestock, industrial operations, hydro-power generation, agriculture, marine transport, fisheries, waste discharge, tourism, and environmental conservation. The water resources of Kamuli Municipality were mainly related to drainage area of the Lake Kyoga.

Plate 29: Namalemba Surface water dam

Ground water resources occurrence

The depth to the groundwater table ranges from few meters to over 70 m below ground level, with shallower groundwater (with potential to support wetland areas) in lower-lying areas and adjacent to rivers.

Surface water resources occurrence

Water-bodies present within the municipality area were wetlands and small rivers. The most prominent wetlands were Namalemba. Rainfall was the principal contributor of water to the surface water-bodies.

3.8.13.2. Water supply technologies.

These involves provision and construction of water facilities which include: Hand dug wells, Hand augured wells, Protected Springs and piped water infrastructure.

Results from the social economic survey conducted showed that 35% of the population were accessing piped water by NWSC, majority (56%) were using boreholes by the Municipality and NGOs, and 9% using untreated water extracted by other technologies.

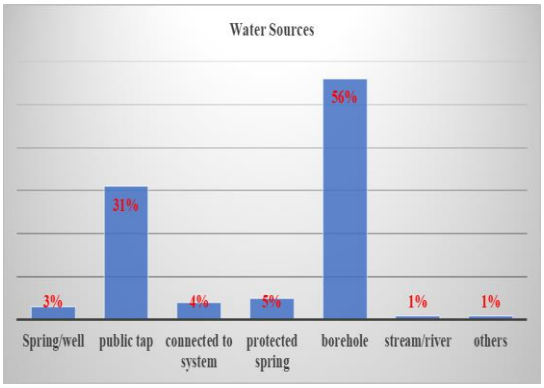
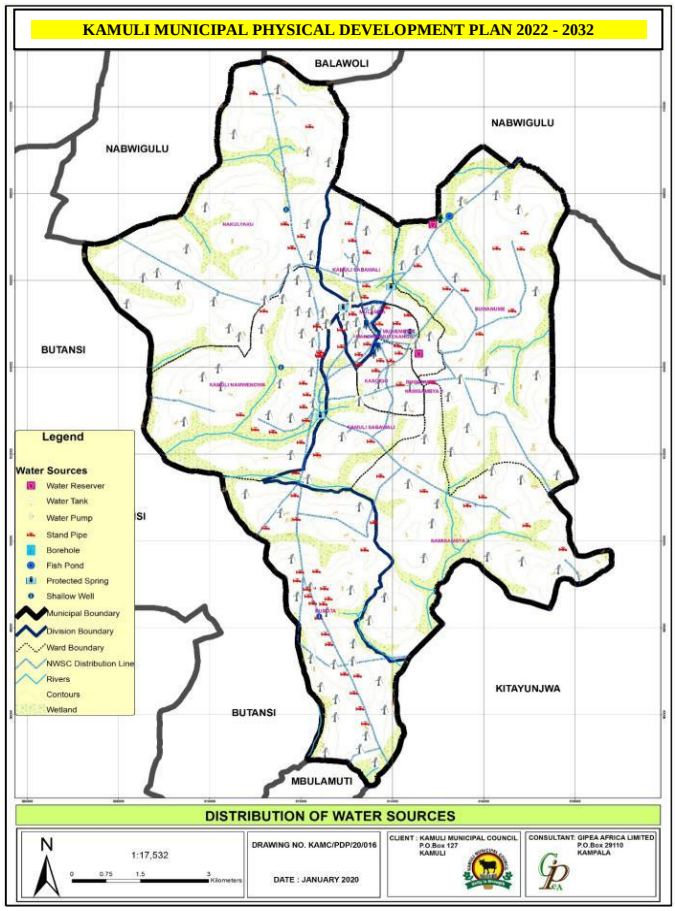


Figure 13: Water sources in Kamuli Municipality

3.8.13.3. Distribution of water source facilities

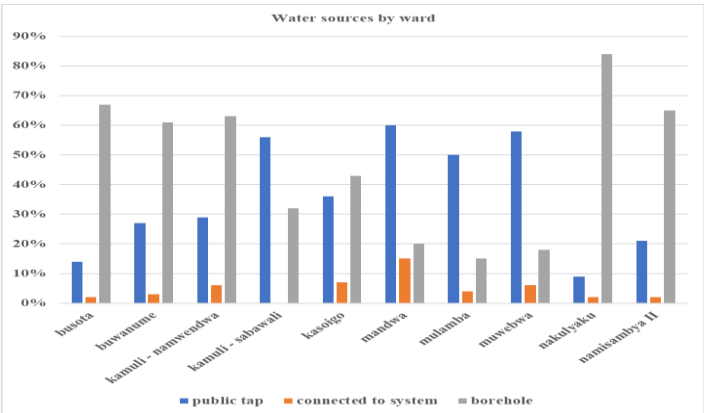
The water distribution mains by NWSC exist but only 4% were directly connected to these lines and 31% were accessing water indirectly from these mains through public taps. There were cells in Kamuli Municipal that were completely not directly connected to piped water lines. NWSC met only 35% of the water needs of the population by mainly providing public taps. Adequate provision of public taps was in 5 out of 10 wards (Kamuli-Sabawali, Kasiogo, Mandwa, Mulamba and Muwebwa). Inadequacies were in 5 other wards (Busota, Buwanume, Kamuli-Namwenda, Nakulyaku and Namisambya). In an effort to fill the gap left by NWSC, the Municipality supplemented by provision and construction of water facilities which include: Boreholes and Protected Springs. The municipality met 56% of the water needs of the population but in urban setting boreholes were no longer tenable due to water quality deterioration.



Map 26: Distribution of water sources

3.8.2.2 Water Supply System.

The National Water and Sewerage Corporation (NWSC) operates and provides water and sewerage services in Uganda to 240 towns and rural growth centers assigned to it (urban centers with populations of 5000 and more. These areas are organized under four regions (Kampala Metropolitan, Central, Northern and Eastern, and Western and south-western regions. The towns and rural growth centers are further clustered into 51 operational areas. Kamuli Municipality is assigned to NWSC and falls under the eastern region in Kamuli Cluster (which has Kamuli municipality and Mbulamuti Towns). The existing water supply system for Kamuli Municipal Council was upgraded in 1999 with a design horizon of ten years (2009).



Water supply infrastructure.

Analysis of topography in Kamuli Municipal Council showed that all areas were situated below 1130masl and could be supplied by the existing system. Water was abstracted from a surface water dam (size 300m x 45m x 25), excavated and constructed at Namalemba. Water was then pumped directly to Kasoigo Water treatment plant, and in order to boost production groundwater

was also abstracted and connected to the system through use of 3 motorized boreholes.

Table 47: Current Water supply infrastructure.

Infrastructure	Characteristics and Assessment	
Water Production (surface water resources)	✚ Surface water dam (337500 m³) ✚ 1 Water Treatment Plant at Kasoigo	
Water Production (surface water resources	✚ Pump house at Namalemba	
Water Production (Ground water resources	✚ 2 motorized boreholes at Saza ground ✚ 1 motorized borehole at Kaliro Road	
Water Storage	✚ 2 Primary reservoirs at Kasoigo (1130masl) ✚ Reservior-1 capacity: ca. 120 m³ at an elevation of 12m. ✚ Reservior-2 capacity: ca. 180 m³ at an elevation of 15m. ✚ Total Capacity is 300 m³	
Transmission Mains	✚ Transmission Mains from the dam to water treatment plant (pipe size 100mm diameter)	
Distribution pipes	✚ pipe network that distributes to residential, commercial and industrial activities,	

Public standpipes with prepaid water meters

NWSC had introduced prop poor initiatives in form of public stand pipes (PSPs). PSPs remained major means of providing water services to the urban poor in informal settlements. NWSC had increased the number of prepaid water points to at least 160 in order to eliminate the exploitation of the urban poor by vendors. Due to high demand more were required.

3.8.13.4. Water Demand Forecast.

Information regarding water supply systems is fundamental to quantify the domestic water demand. Main data used to estimate the domestic water demand are the served population and the per capita consumption. Per capita consumption rates adopted were those for large towns with populations of more than 20,000 as recommended by water supply designers manual 2013 and Kamuli municipality had a population of 58984. the served population according to the household survey is 35% (20,644).

With regard to the socio-economic situation of the people which influences their water usage patterns, 28% of the population lived in low and medium density areas with house connections, while 72% lived in semi-planned peri-urban areas where homesteads with piped water supply use yard taps, public stand posts and water kiosks and those without use traditional sources mainly swamps and springs. The proportions of people on house connections would increase while that on lower level of service supply would reduce as the economic situation of the people in the supply area improves and living standards improve over time as improved living conditions would call for higher levels of service preference.

Water demand computations

Water supply service coverage at (2020) was around 35% of the total population in the Municipality (i.e., 20644 people) but was expected to increase to 100% in the project ultimate year 2040. With regard to specific per capita demand, it was assumed that:

a) Residents of high/medium income / low/medium density areas would have house connections and will on average consume 100 l/c/day;
b) Residents of the unplanned high density/low-income areas would consume around 20 l/c/day.

The specific unit consumption in each category was assumed to remain the same over the study horizon. Physical losses were assumed to be 32 % in 2020

Table 48: Water Demand Computations

Parameter	Unit	2020
Population	No	68564
Water service coverage	%	35
Served population	No	23997
Domestic consumption	m^3/day	2907
Per capital domestic consumption	l/c/day	121
Institutional consumption	m^3/day	1846
Industrial/Commercial	m^3/day	299
Average day Demand	m^3/day	5052
Per Capital Consumption based on Average day demand liters		211
Distribution Leakage	%	32
Leakage	m^3/day	1617
Total demand	m^3/day	6669
Peak day factor		1.3
Maximum day demand	m^3/day	8670
Per capital overall consumption	l/c/day	361

The 2020 water demand was 8670m^3/day with per capital overall consumption of 361 liters/capital/day while 2020 water supply was 300m^3/day (capacity of the storage reservoirs).

3.8.14. Pressures and trends.

Uganda Strategic Towns Water Supply and Sanitation Project 2018.

The implementing agency for this project was Ministry of Water and Environment (Water Supply Development Facility-Eastern) and the funding agency is African Development Bank. it was under Feasibility and design Phase. The overall objective of the Project is to support the Government of Uganda's efforts to achieve sustainable provision of safe water and hygienic sanitation, based on management responsibility and ownership by users to 90% of the urban population by the year 2022, with improved resilience to Climate change effects.

One of the specific outputs is Urban water supply: town water supply systems will be constructed covering 30 strategic towns Kamuli Municipality inclusive, especially targeting District Headquarters, which are highly urbanizing and highly populated. Activities will include drilling of production wells, hydrological and surface water investigations, designs and construction of water supply infrastructure, including related activities of mobilization and capacity building of beneficiary community to actively participate in WATSAN activities. it was expected to increase coverage of reliable water supply to Kamuli MC.

3.8.14.1. Key findings/Issues on Water supply infrastructure.

- Results from the social economic survey conducted showed that 35% of the population were accessing piped water by NWSC, majority (56%) were using boreholes by the Municipality and NGOs, and 9% were using untreated water extracted by other technologies.
- The existing water supply infrastructure was insufficient to meet the current and future water demand.

3.8.14.2. Objectives of Water supply infrastructure.

- To increase coverage and reliable water supply for all communities and adopt the Vision 2040 water supply targets as shown below;

Table 49: Indicators for Uganda Water and Sanitation 2040

% Water access (2035)	% Access to safe piped water (2040)	% Water functionality (2035)			Water consumption (m^3 per capita) (2040)	% Sanitation access (2035)
		Urban	Rural	WFP		
100	100	95	95	80	600	100

Source: Vision 2040; Uganda Water Supply and Sanitation Programme, African Development Bank; Ministry of Water and Environment Strategic Sector Investment Plan, 2009.

- To provide safe water supply within easy reach distance (0.2 km in urban areas).

3.8.14.3. Strategies for Water supply infrastructure.

The existing water supply infrastructure is maintained however addition capacity is provided through investment in alternative water sources such as River Nile with high yields. The on-going water supply project under the Strategic Towns Water Supply and Sanitation Project (STWSP) is expected to provide the required addition capacity to meet the 2032 Demand.

Future Water Supply Infrastructure Under STWSP.

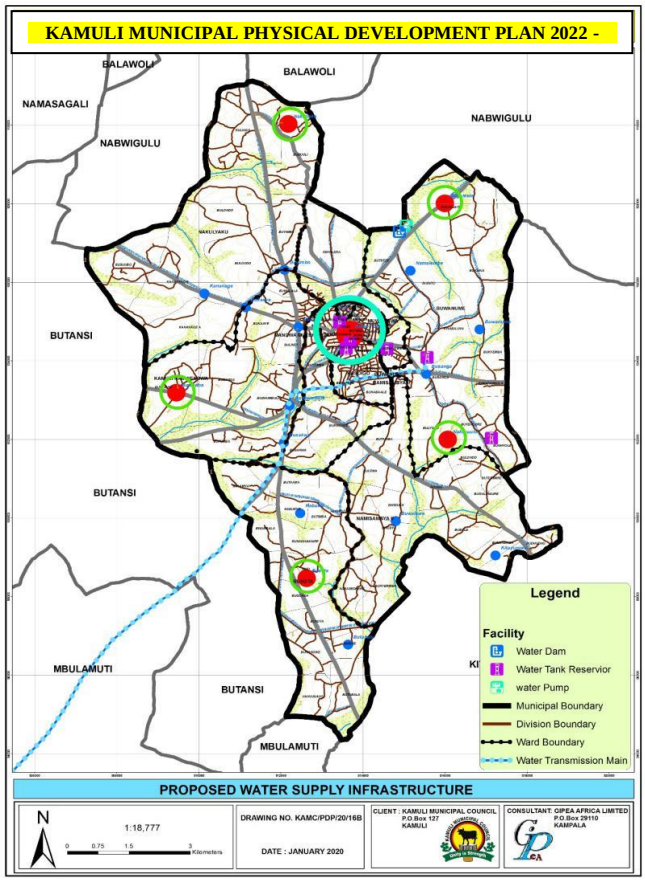
The proposed water supply area includes Mbulamuti Town Council and Kamuli Municipality and neighbouring urban centres of Nawansaso, Naluwoli, Balawoli, Kasambira, Namwendwa, Nawanyago, Naminage and Namaira. The proposed water supply system is design to serve approximately 160,000 people in 2032. The improved system is based on an abstraction of water from River Nile via a new water intake and treatment plant at Mbulamuti and the details are shown below;

Table 50: Future Water supply Infrastructure

Infrastructure	Proposed Characteristics (Kamuli)
Water Production	New Intake on Nile River (Capacity 15,000 m^3/at Mbulamuti),
Water Production	New Nile water treatment plant (at Mbulamuti about 15,000 m^3/day),
Water Storage	Reservoirs (i) on the way to Kamuli through Mbulamuti Town to supply water for Mbulamuti and (ii) in Kamuli – 1500 m^3,
Transmission Mains	Transmission main to Kamuli (35 km – diameter 200 to 300 mm),
Distribution Mains	Distribution lines within the project area (125 km – diameter 25-100 mm),
Pumping stations	1 booster station on the way to Kamuli (about 1,000 m3/hour on long term).

Table 51: Locations of Future Water Reservoirs

Reservoir	Ward	Location of Hill	Elevation (masl)	Capacity(m^3)
Old Water Tank-1	Mandwa	Soroti Water Supply	1130	180
Old Water Tank-2	Kasoigo	Soroti Water Supply	1130	120
New Water Tank-3	Namisambya II	Bunhyole	1130	300
New Water Tank-4	Buwanume	Busanga	1130	1500
Old Water Tank-5	Buwanume	Buwanume	1110	



Based on the topography of Kamuli Municipality all areas were situated below 1130masl and were supplied by the existing system. The plan proposes the following hills as suitable for locating additional future water reservoirs;

Map 27: Proposed Water Supply Infrastructure

3.8.15. Sanitation.

Sanitation covers key areas of excreta disposal/management, personal and food hygiene, solid waste management, waste water disposal, and drainage. Sanitation facilities and services are required to protect public health. Without sanitation facilities commercial, industrial, health and education facilities would not function. Traditionally the Sanitation service chain is as follows;

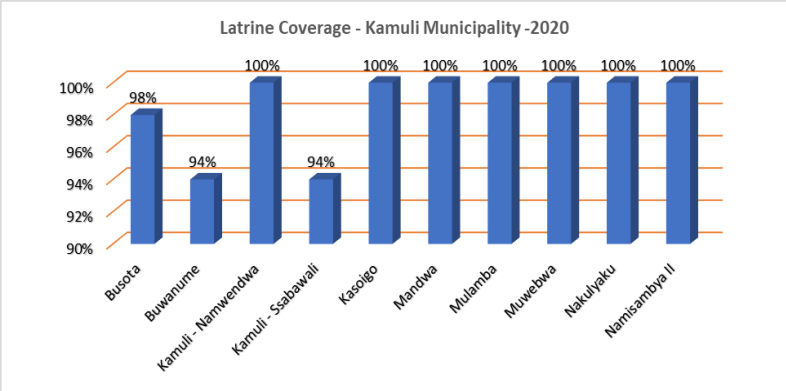
Table 52: Sanitation service chain

Containment	Emptying	Transport	Treatment	End Use/Disposal
Sewerage				
Water Closet	Sewerage Network Pumping stations		Sewerage treatment works	End Use/Disposal
On-site Systems with Fecal Sludge Management				
Latrine or Septic	Vacuum truck		Treatment Plant	End Use/Disposal
	Primary Emptying	Transfer		
	Safely Covered and Replaced in a new location			

3.8.15.1. Containment.

Household sanitation

In Kamuli Municipality Provision of household sanitation was a responsibility of individual households. By law the Municipal responsibilities include developing standards for onsite sanitation facilities and development & enforcement of sanitation. 80.5% of the households were using pit latrines, 2.6% water borne toilets while 7.9% were using VIP latrines. Below is the latrine coverage;



Major Challenges to household sanitation included the high cost of construction of better facilities (61.6%) and lack of space for construction of new facilities (38.4%).

Public Sanitation

Provision of Public sanitation is a responsibility of NWSC and urban councils. Responsibility for containment involves provision and construction of public toilets to urban growth centers. The entire Municipal Council had only 5 public toilets mainly in Northern Division where the CBD lies and these were either lined VIP latrines or pit latrines all provided by the Municipality. These facilities were poorly managed and never emptied. There was lack of public toilets in all Southern Division growth centers, and in all Northern Division Growth centers outside the CBD.

3.8.15.2. Emptying and Transport feacal sludge.

By law (Local Government Act 1997) the Municipality was responsible for organization and supervision of fecal sludge collection and transfer activities whereas (Water Statute 1995) NWSC was responsible for Waste water collection. Due to lack emptying services, 76% of on-site facilities were never emptied and whenever they fill-up of new pits are dug. This practice affects the optimal utilization of land and increases probability of contamination of water sources. The Municipality lacks waste water sewers & pipe network, and pump stations intended for waste water collection.

3.8.15.3. Treatment of faecal sludge

NWSC was by law (Water Statute 1995) responsible for Waste water treatment, fecal sludge treatment, Industrial wastes discharge consents and investment planning and implementation transfer activities whereas (Local Government Act 1997) Municipality was responsible for Safe and healthy Environment.

Faecal Sludge Management

The use of pit latrines by majority in an urban setting negated the optimal utilization of land and increased contamination of water sources. This practice was no longer tenable and with the expected increase in urbanization, promotion of drainable sanitation technologies like lined pits and septic tanks was expected to increase. The Ministry of Water and Environment through the Urban Water and Sewerage Departments takes mandate to construct sewerage systems in the large towns, small towns and rural growth centers in Uganda. During the year 2019, The mandate was implemented through the 4No. WSDFs of Central, South Western, Eastern and Northern. It was also implemented through Lake Victoria Water and sanitation project, Water Management Development Project, ERT and Support to small towns. Under Water Management Development Project by Water and Sanitation Development Facility (WSDF) – East, in 2019 fecal sludge management plant at Kiwolera (Kamuli-Sabawali Ward) was constructed and it was expected to benefit 72,214 people. When commissioned this facility was expected to solve the problem of fecal sludge management in Kamuli.

Conventional sewerage system

Sewage and sewerage infrastructure include urban and non-urban treatment plants, waste water sewers & pipe network, and pump stations. The Municipality council lacked a centralized sewage system to facilitate the functioning of commercial, industrial, health and education centers. NWSC lacks adequate funds to invest, plan and implement piped sewerage system in the near future.

Small treatment plants.

Major polluters like Hospitals and universities have established small treatment plants comprising of waste stabilization ponds and these are;

Table 53: Existing Small Treatment plants

No	Small Treatment plant
1	Kamuli General Government Hospital
2	Iowa State University
3	Kamuli Catholic Mission Hospital

Plate 30: Waste Stabilization Pond at Kamuli General Hospital

3.8.15.4. Waste and Storm water infrastructure.

Storm water drainage is concerned with the measures taken to control flow of surface water by collecting it and trapping it through suitably designed conduits away from developed areas. This is done to generally discourage the adverse effects of excess storm water build up. Undirected storm water would otherwise cause flooding thus impairing safety, health and well-being of the public to disrupt essential public and commercial services.

Kamuli Drainage system

Kamuli Municipal Council was generally endowed with adequate surface and sub-surface water reserves with numerous streams, rivers and wetlands both permanent and seasonal. Minor valleys have distinct seasonal swamps and rivers, which contain water especially during the wet season. The water table along these swamps is quite high. Sub surface water reserves occur in fissures and aquifers of the rocks.

Floods in Kamuli Municipal council

Kamuli Municipal Council had seasonal swamps and rivers, which contain water especially during the wet season. The water table along these swamps was quite high. This caused floods making roads through swamps impassable.

3.8.15.5. Key Findings/issues on sanitation.

- There was need to improve sanitation by creating Waste water treatment plants for CBD, sewer lagoons for intermediary growth centers, and promote use of promotion of drainable sanitation technologies like lined pits and septic tanks.
- Lack of fecal sludge collection and disposal.
- Lack of fecal management services.
    - Lack of emptying services.
    - Lack of decentralized sludge disposal sites.
- Cost of constructing disposal facilities was high due to high cost of construction materials.
- Cost of hiring vacuum trucks is high.
- Kamuli Municipal Council had limited number of public toilets.
- Need to Prepare a drainage master plan to improve on proper storm water management.

Plate 31: Flooded area in Namisambya II ward

3.8.15.6. Objectives of sanitation

- Improve sanitation by providing tenable sanitation infrastructure and solutions that meet the growing demand in the Municipal.
- Enforcement of sanitation bye laws.
- Maintaining a safe health environment providing and improving storm water management

3.8.15.7. Risks

- Insufficient resources from NWSC to meet the growing demand for sewerage services.
- Limited Municipal's financial resources envelope to fund sanitation activities and environmental issues impacting on sanitation.

3.8.15.8. Sanitation infrastructure Strategies

In order to improve the sanitation service chain, the plan proposes the following interventions;

- Construction of Waste Water treatment plant for the CBD and Decentralized sewer lagoons and sewer network for all intermediary growth centers.
- Construction and sustainable operation and maintenance of Centralized Fecal Sludge Treatment plant to reduce haulage distances
- Provision of fecal management services by providing emptying services and commercial fecal sludge collection and disposal.
- Promotion of drainable sanitation technologies like lined pit latrines to increase demand in all local growth centers.
- Provision of drainable public toilets in all Administrative, commercial centers and public places.
- Enactment and enforcement of sanitation laws.
- Development of Municipal drainage masterplan to improve storm water management.

3.8.15.9. Future sanitation service Chain

The system will be based on piped sewerage system, sewage and fecal sludge treatment facilities which are under the Municipal Council. Waste water collection and transfer shall be by gravity following natural gravity to avoid pumping stations. The major polluters are densely populated areas and industries. The future sewerage system shall be based on waste water treatment facilities according to the topography and details are as follow;

Table 54: Long Term Sanitation strategy

Hierarchy of Urban centers	Center name	Facility	Location	Elevation (m)	Land requirement
Central Business District	CBD	WWTP & FSTP	Kiwolera	1090	8 acres
Intermediary Centers	Nakiwulo	Sewer Lagoon	Bukyemba	1090	3 acres
	Nakulyaku		Busuubo	1070	3 acres
	Busota		Butabala	1070	3 acres
	Bugulete		Bugulete	1070	3 acres
	Buwudha		Buwudha	1060	3 acres
Local centers	Kananage	Promotion of drainable sanitation technologies	N/A	N/A	N/A
	Buwanume				
	Namalemba				
	Buwaiswa				
	Busaakwa				

3.8.16. Solid Waste infrastructure

Solid Waste disposal infrastructure includes incinerators, sanitary landfills, recycling plant, composting plants and bio-gasification.

Ownership and governance

Responsibility of solid waste disposal is solely on District and Urban Local governments however they lack legislation to regulate solid waste management.

3.8.16.1. Existing Solid Waste Management system

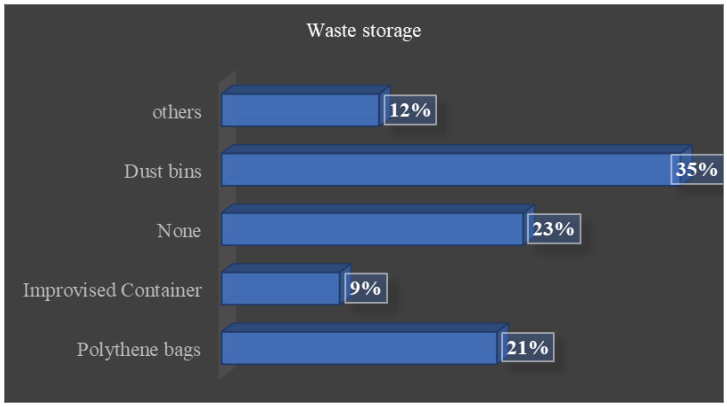
Solid waste can be managed with many processes such as Source reduction, recycling and treatment. A system that uses a full-scale integration of all types of waste management is the strongest type of waste structure. However, this was not the case in Kamuli Municipality.

Source reduction.

Source reduction practices are mainly avoiding generation of solid waste, re-use, composting and incineration. Currently the waste management system in the municipality does not encourage avoidance of solid waste generation.

Re-use

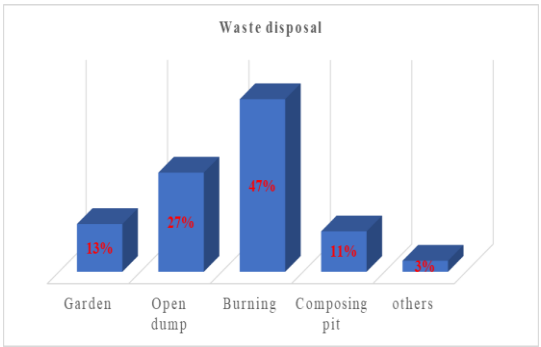
All methods used for waste storage were not encouraging re-use. No earth friendly manufactured products were promoted to encourage re-use as well.



Composting and incineration.

Composting is the biological decomposing of organic wastes such as yard wastes (grass clippings, leaves), food scraps, and manure. It exists on multiple scales from small scale that can be implemented by a single household to large scale, used by municipalities as a key strategy in waste management. In Kamuli, it was practiced at small scale only by 11% of the households. large scale is where the end product is biogas- which can be combusted to generate electricity and heat as well as composting for large scale agricultural use. Incineration was practiced on small scale by 47% of households where incomplete combustion was carried out which is open air burning producing smoke, ashes and bad odors

Plate 32: Showing incomplete combustion



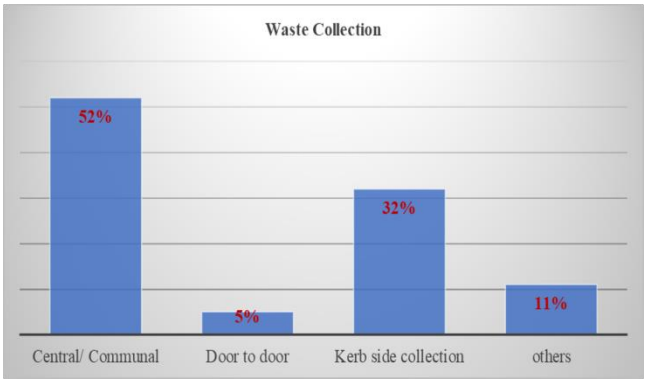
Recycling of Solid Waste.

Recycling is the process of separating, collecting, processing, marketing and ultimately using a material that would have been discarded. It has benefits similar to other forms of source reduction. Recycling options include drop-off depots, buy-back centers, curbside collection programs, apartment collection programs, commercial collection programs, and composting.

Figure 14: Methods of solid waste ddisposal

Benefits of Recycling;

- Conserves resources for our children's future;
- Prevents emissions of many greenhouse gases and water pollutants;
- Supplies valuable raw materials to industry;
- Creates jobs;
- Stimulates the development of greener technologies;
- Reduces the need for new landfills and incinerators (about 30% of the solid waste is disposed through recycling);
- Saves energy;



Kamuli Municipality had instituted measures to collect and separate solid waste through use of Garbage bunks as communal/central collection points utilized by 52%. However, garbage bunks were being abused by misuse where garbage was dumped outside the bunks. This practice discourages the essence of separation.

Plate 33: Typical Garabe Bunker

Plate 34: Kerb side Collection

Kamuli Municipality didn't have commercial collection programs. Kerb side collection existed but not properly managed and there was lack of drop off depots along all its streets like the one shown below; -

Plate 35: Typical Street Drop Off Point

Treatment of solid waste.

This is the safe and environmentally sound disposal and dumping of solid waste. Treatment involves land filling, bio gasification, garden dumps and controlled dumping on sites of structural design. The Municipality lacked a central dumping site and consequently waste was dumped indiscriminately. Transport was also major factor with only one Garbage available to collect and transport in the entire municipality.

Plate 36: Only available garbage truck

Plate 37: indiscriminate dumping

3.8.16.2. Key findings/issues on Solid Waste Management.

- There were minimum efforts for solid waste source reduction.
- Degrading waste in open dumps emits greenhouse gases (methane), toxic leachates pollute subsurface and surface waters and enhance the risk of disease transmission to nearby residents.
- Open burning was the major source of toxic gas emission such as dioxins and furans.
- Kamuli Municipality Council lacked its own sanitary land fill where to deposit and where waste is isolated from the environment until it is safe.
- Garbage bunks as communal/central collection points were misused, a practice which discourages the essence of separation.
- The fact that there was only one garbage truck collecting waste from individual households, confirms that solid waste management is not properly managed.
- Lack of commercial collection programs.
- Need for Town solid waste management bye laws to guide, collection, transport and disposal.
- Inadequate financial resources allocation towards solid waste management.

3.8.16.3. Objectives of Solid waste infrastructure

- Enactment and enforcement of solid waste management bye laws to guide collection, transport and disposal.
- Develop an integrated solid waste management system and associated infrastructure.

3.8.16.4. Risks

- High cost of land acquisition for infrastructure.
- Limited funds.

3.8.17. Integrated Solid Waste Management strategy.

A system that uses a full-scale integration of all types of waste management is the strongest type of waste structure. It involves sustainable planning of all functional elements useful for effective and efficient waste systems. Furthermore, it includes selection and application of suitable techniques and technologies to achieve design of a sustainable system.

The five functional elements of an integrated solid waste management structure include the following: avoidance, minimization, material recovery through treatment and processes, disposal, and dumping. The top point of the pyramid depicts the most desirable solution and the base as the least desirable solution in the structure.

Source reduction

The plan proposes Waste Reduction as the highest priority in the hierarchy of solid waste management. The best way to manage solid waste is to not generate waste materials. Waste or source-reduction programs may be as broad and diverse as manufacturing earth-friendly products or encouraging selective purchasing and reuse patterns among consumers. Effective waste reduction programs result in broad-ranging benefits, such as natural resource conservation, reduced energy consumption, and reduced air, water, and land pollution.

Waste reduction alternatives:

- Encourage citizens and businesses to minimize excessive purchasing.
- Reuse materials such as clothing, furniture, building materials, industrial by-products, etc. Second-hand and thrift stores, commercial and industrial materials
- exchange organizations and yard sales are all examples of supporting the conservation of resources by maximizing their use.
- Implement programs to businesses and industry to provide information on proper disposition of waste materials and waste reduction strategies. Educate during waste audits.
- Provide financial incentive through variable rates application: higher rates for higher volumes / lower rates for active participation in waste reduction.
- Provide educational programs at schools, youth organizations, and volunteer organizations.
- Expand the Comprehensive Education, Information, and Promotion Program by the County, municipalities, recycling industry, and service providers; create Public/Private programs and Inter-departmental coordination to demonstrate the relationship between the environment and our impacts.
- Adopt and implement procurement policies specific to reuse and selection of materials that contain recycled products.

Recycling

The plan is proposing recycling as the second priority in the hierarchy of solid waste management. Recycling is the process of separating, collecting, processing, marketing and ultimately using a material that would have been discarded.

Composting

It exists on multiple scales from small scale that can be implemented by a single household to large scale, used by municipalities as a key strategy in waste management. The scales and techniques are defined:

Table 55: Composting Scales

Scale	Use	Technology
Small Scale	House hold use	Backyard/on-site composting (*Piling grass clippings/leaves*)
		Vermicomposting (*Relying on red worms to decompose organic waste)*
Large scale	Agricultural use	Wind row composting(*Piling organic matter in long rows outdoors)*
		Static-pile composting (*Piles of organic matter placed on top of perforated piping, providing air circulation for controlled aeration)*
	Municipal use	In-vessel composting *(Any method of composting that confines organic matter in a container, in which air flow and temperature can be measured*)
		Anaerobic digestion (*Process in which microorganisms break down organic matter in the absence of oxygen*.) End product is biogas- which can be combusted to generate electricity and heat

Landfills (Sanitary landfills)

Landfill has been the cheapest methods of solid waste disposal. The sanitary landfill is a technique for the final disposal of solid waste in the ground that causes no nuisance or danger to public health or safety; neither does it harm the environment during its operation or after its closure. This technique uses engineering principles to confine the waste to as small an area as possible, covering it daily with layers of earth and compacting it to reduce its volume. In addition, it anticipates the problems that could be caused by the liquids and gases produced by the decomposition of organic matter. The purpose of landfilling is to bury or alter the chemical composition of the wastes so that they do not pose any threat to the environment or public health. Landfills are not homogenous and are usually made up of cells in which a known volume of waste is kept isolated from adjacent waste cells by a suitable barrier. Barriers between the cells commonly consists of a layer of natural soil or clay, which checks the downward or later escape of the waste components or leachate.

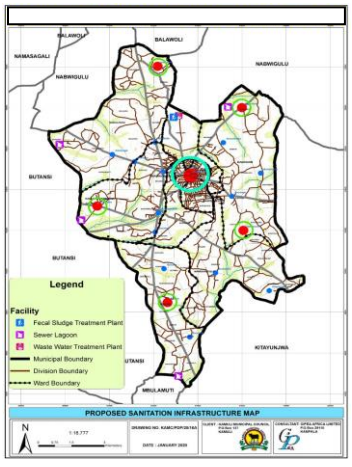
Town Waste Management Strategy 2040

The strategy adopts an integrated solid waste management strategy as outlined above. A central final disposal site proposed at Bunakabokho 13 Km from the CBD. It is expected to serve as solid waste treatment plant (recycling and compost plant). When waste has completely degraded biologically, chemically and physically it shall be finally dumped on site.

Table 56: Solid waste management strategy

Local Authority	Infrastructure	Location	Land Requirement
Municipality	Recycling & Compost Plant	Bunakabokho	50 Acres
Wards	Source reduction campaigns, recycling.	N/A	N/A

Map 28: Proposed Sanitation Infrastructure



3.8.18. Energy Infrastructure.

Energy infrastructure is the organizational structure that enables the large-scale transportation of energy from producer to consumer, as well as the directing and managing of energy flow

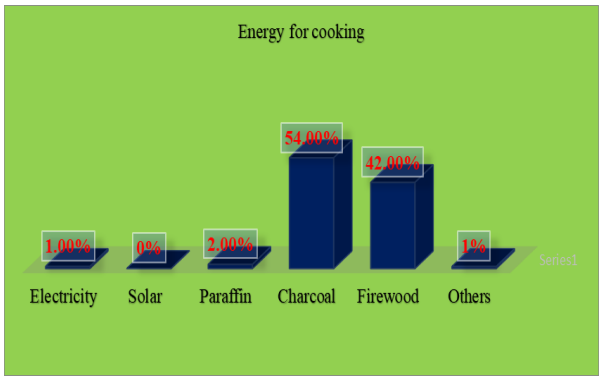
3.8.18.1. Biomass Energy

Biomass energy is an industry term that refers to obtaining energy by burning wood, plants, and other organic matter. Wood fuel (or

fuelwood) is a fuel, such as firewood, charcoal, chips, sheets, pellets, and sawdust. Wood fuel can be used for cooking and heating, and occasionally for fueling steam engines and steam turbines that generate electricity.

Energy for cooking

At household level biomass energy was the common energy use for cooking. The household survey established that 42% of the household in the Kamuli Municipal used firewood and 54% used charcoal for cooking. This was prevalent in all wards.



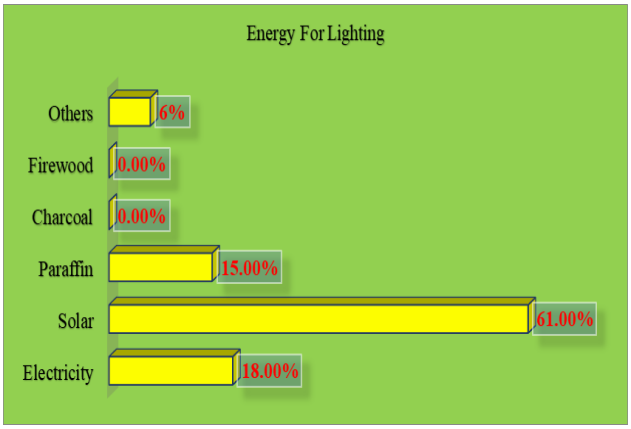
Over reliance on biomass had depleted the environment in unsustainable manner. Firewood and charcoal as source of energy was the threat to the environment and aggregated effect of climate change. Use of alternative renewable sources of energy for cooking such as recycling biodegradable garbage from domestic waste and markets to make briquettes and biogas from both animal and human waste should be promoted.

3.8.18.2. Solar Energy

Solar power harvests the energy of the sun through using collector panels to create conditions that can then be turned into a kind of power.

Energy for Lighting

At household level solar energy was the most common energy use for lighting. The household survey established that 61% of the household in the Kamuli Municipal used solar energy for lighting. Low-income earners could not afford solar energy which was explained by 15% using paraffin as a source for lighting and paraffin was no longer recommended for use due to its associated health problems.



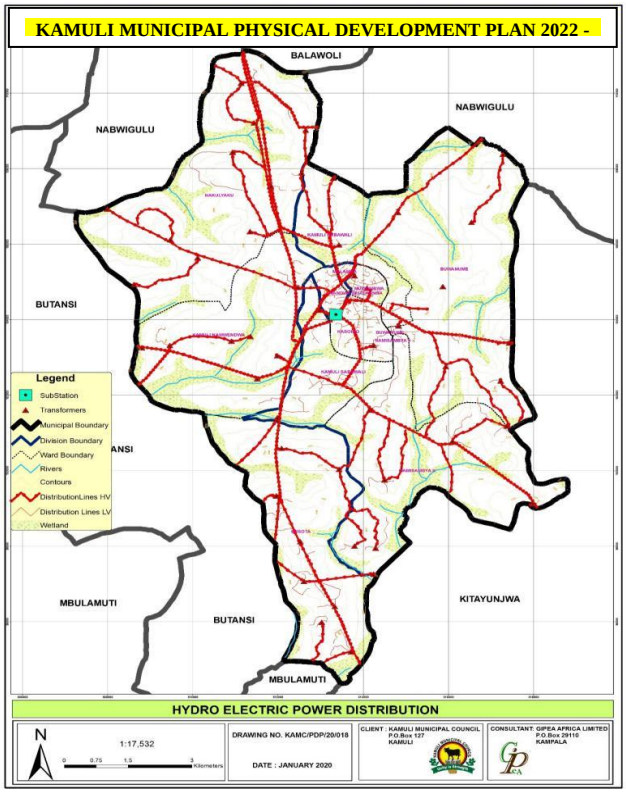
3.8.18.3. Hydro Electric Energy.

At household level only 18% were accessing hydroelectric power electricity and used it for mainly lighting purposes. This was attributed to the limited/ poor distribution of 11kV (low) power distribution lines that were mainly concentrated in the Central business District. Use of electricity for cooking was reported to be expensive due to high power tariffs. There was good distribution of 33kV (High) power distribution lines required to power institutional, industrial and commercial centers.

Table 57: Hydroelectric power infrastructure.

Component	Infrastructure	Assessment
Distribution	✚ 1No Distribution Substation existed in Mandwa ward. ✚ There existed poor Distribution of 11kV power lines to power house holds ✚ There existed good Distribution of 33kV power lines to power commercial, industrial and institutional centers	✚ Distribution substation powering Kamuli Municipality in Mandwa ward sufficiently met power supply needs for the MC. ✚ Distribution of power for domestic consumers was limited to few areas explaining the low accessibility. ✚ availability of sufficient power to power domestic and commercial consumers.

Map 29: Hydro Electric power Distribution



3.8.18.4. Key findings/issues on Energy supply infrastructure

- Majority relied on biomass for cooking and this had depleted the environment through deforestation in unsustainable manner. Use of hydro power electricity for cooking was reported to be expensive due to high power tariffs.
- Majority (61%) were using solar as energy for lighting and only 18% accessed hydro power electricity and this was attributed to the limited/ poor distribution of 11kV (low) power distribution lines that were mainly concentrated in the Central business District.
- The Municipality had just benefited from on-going rural electrification program by Central government where small and medium scale schemes were implemented. The schemes provided adequate hydro power electricity supply infrastructure to power domestic and commercial consumers for period 2020 and beyond.
- However, connection of consumers to the grid was only 18%, this required intensive efforts to connect consumers to the new distribution lines that were spread all over the Municipality.

3.8.18.5. Objectives of energy supply infrastructure.

- Increase power connections (100%) to meet the growing energy demands to support the major economic activities (Trade, manufacturing, tourism, agriculture in Kamuli).
- Promote use of alternative renewable sources of energy for cooking such as recycling biodegradable garbage from domestic waste and markets to make briquettes and biogas from both animal and human waste.

3.8.18.6. Risks

- Unsustainable exploitation of biomass energy resource which has accelerated environmental degradation, there is indiscriminate cutting of trees and little use of more efficient technologies, such as improved cook stoves and gasification.
- High investment capital and limited financing options for energy projects.
- High power tariffs.
- There is limited technical and institutional capacity in both the public and private sector to implement and manage renewable energy investments.

3.8.18.7. Energy supply infrastructure Strategies

- Extension of urban electrification program through connections to all categories of consumers that were not yet connected to the grid.
- Promote use of alternative renewable sources of energy for cooking such as recycling biodegradable garbage from domestic waste and markets to make briquettes and biogas from both animal and human waste.

Part IV

4.0. KAMULI MUNICIPAL COUNCIL CONCEPTUAL DEVELOPMENT MODEL

Kamuli Municipal Council is a place of promising opportunity, which is reflected in its growth and ongoing demand for housing, employment, education and industries. To ensure that new growth captures the community's vision for the area, the Municipal Council embarked on the Physical Development Plan to set forth the policy guidance to improve the area's quality of life, promote a sustainable environment and economy for the future.

Kamuli Municipal Council strives to achieve a quality growth development pattern "that makes efficient use of the developable land; optimizes urban services and infrastructure. It also uses innovative mixed-use approaches; promotes a wide variety of transportation and housing options to absorb and effectively serves a significant portion of the future population growth of the Municipal Council. It protects the environmental character of the Municipal Council through compatible, high quality and environmentally sensitive development practices, and helps provide a distinct separation of urban and peri urban land uses.

The purpose of the following sections of the report is to present the Physical Vision for Kamuli Municipal Council for the next 19 years and the actions required in order to achieve this vision. The consultant addressed the Municipal Council scale, to create a comprehensive vision for the future development of the whole Kamuli Municipal Council. Accordingly, the report focuses on two components, the Physical Development Plan which is the conceptual structure of Kamuli Municipal Council and presents guidelines for large scale planning and development.

4.1. Objective:

The objective of the plan is to provide a progressive framework for coordinating development trends and growth of the Municipal Council in order to have a sustainable future.

4.2. Scope

The Conceptual Municipal Council Physical Development Plan identifies the growth strategy in more specific spatial terms. It is intended that the conceptual plan be used as an overall guide to more detailed planning to ensure that important land use priorities, transport connections, infrastructure, social service provisions and environmental corridors are considered and taken into account.

The Kamuli Municipal Council Physical Development Plan is informed by the analysis of the existing spatial situation and physical aspects of the Municipal Council. It examines possible future scenarios, roles and potentials of the Municipal Council over the planning horizon, and the defined Physical Development Vision for the Municipal Council to project the future development scenarios. The summary below indicates the processes leading to the definition of Kamuli Municipal Council Conceptual Spatial Development Model;

Step i: Analysis of the existing situation in the Municipal Council

- *Spatial/physical*
- *Social and cultural*
- *Economic*
- *Environment and natural systems*

Step ii: Examination of possible future scenarios

- *In-migration from rural areas surrounding Kamuli Municipal Council*
- *Population analysis and projection for future Kamuli Municipal Council*

Step iii: Roles and potentials of the Municipal Council over the planning horizon

- *Administrative; Municipal Council, administration and services*
- *Growth and urbanization trends, urban sprawl*

Step iv: Stakeholder Definition of Development Vision for the Municipal Council

- *Local Governments medium term strategies and development vision review*
- *Stakeholder inputs on desired direction*
- *Stakeholders' consultation input and defined Physical Development Vision for the Municipal Council.*

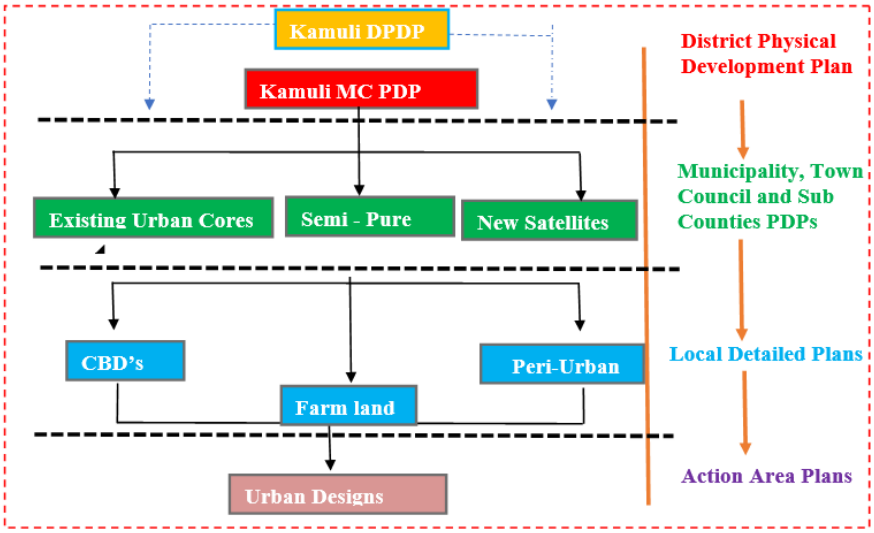
Step v: Kamuli Municipal Council Conceptual Spatial Development Model

4.3. Planning Hierarchy of Kamuli Municipal Council Planning Area

The Kamuli Municipal Council Planning Area was divided into two levels of planning: 1. Municipal Council Structure, 2. Detailed Local Development structure. Accordingly, the Kamuli Municipal Council Planning Area conceptual plan was broken down to three type of planning zones: Existing Urban Cores, New satellite towns, and Kamuli semi- rural. The following flowchart illustrates the Kamuli Municipal Council planning hierarchy.

Kamuli Physical Development Framework addresses the Municipal Council Physical Development Plan (MCPDP) and constitutes the first level of the Kamuli Municipal Council Planning Area planning hierarchy. This section deals with the conceptual structure of the Kamuli Municipal Council Planning Area. The section begins with the spatial analysis of the existing situation in Kamuli Municipal Council and examines possible future scenarios. The potentials of Kamuli Municipal Council are examined, and finally a Physical Vision (PV) is constructed for the Municipal Council.

Figure 15: Conceptual Structure of Kamuli Municipal Council Planning Area



4.4. Spatial Analysis of existing situation in Kamuli Municipal Council Planning Area

The spatial analysis of Kamuli Municipal Council Planning area in its current state is necessary in order to understand the present and future development

scenarios. The spatial analysis, as opposed to other types of analyses, focuses on the spatial and physical aspects of the existing situation. The situation in Kamuli can be summarized as follows;

i. The Challenge of In-migration from outlying urban areas

According to the National Population and Housing Census 2014 Kamuli Municipal Council currently accommodates 58,924 residents, a number which decreases further during the night as some retire in the surrounding sub counties in the district and return in the morning to work in Kamuli as one of the employment centres. As Kamuli Municipal Council continues to attract job seekers from all corners of Busoga Region, a population growth is predicted in the short and long term. Increased in-migration has different implications on the functioning of Kamuli Municipal Council such as employment, transportation and housing to mention but a few.

ii. The Existing Physical Structure and Networks

a) Incoherent and Imbalanced Physical Structure

The Municipal Council bears the significant Impact of the radial movement network from and to Kamuli center concentrating all activities of significance, or of higher order in and towards or inside the Town Centre.

Therefore, Kamuli's growth has been and remains radial sprawl along the movement routes as "fingers" or "stubs" and fills in the gaps especially areas close to the centre, amoeba-like, without meaningful structure, amenity or adequate service forming concentric, increasing inner densities and spreading out concentrically, restricted only by access constraints, significant construction and encroachment on marginal lands like wetlands in the Municipal Council.

The "finger like network" and the centers there along do not constitute functional corridors. They lack almost all complementary elements except movement, housing, basic local services (primary schools, low order clinics) and largely small local, informal commerce often located in un-gazzetted areas.

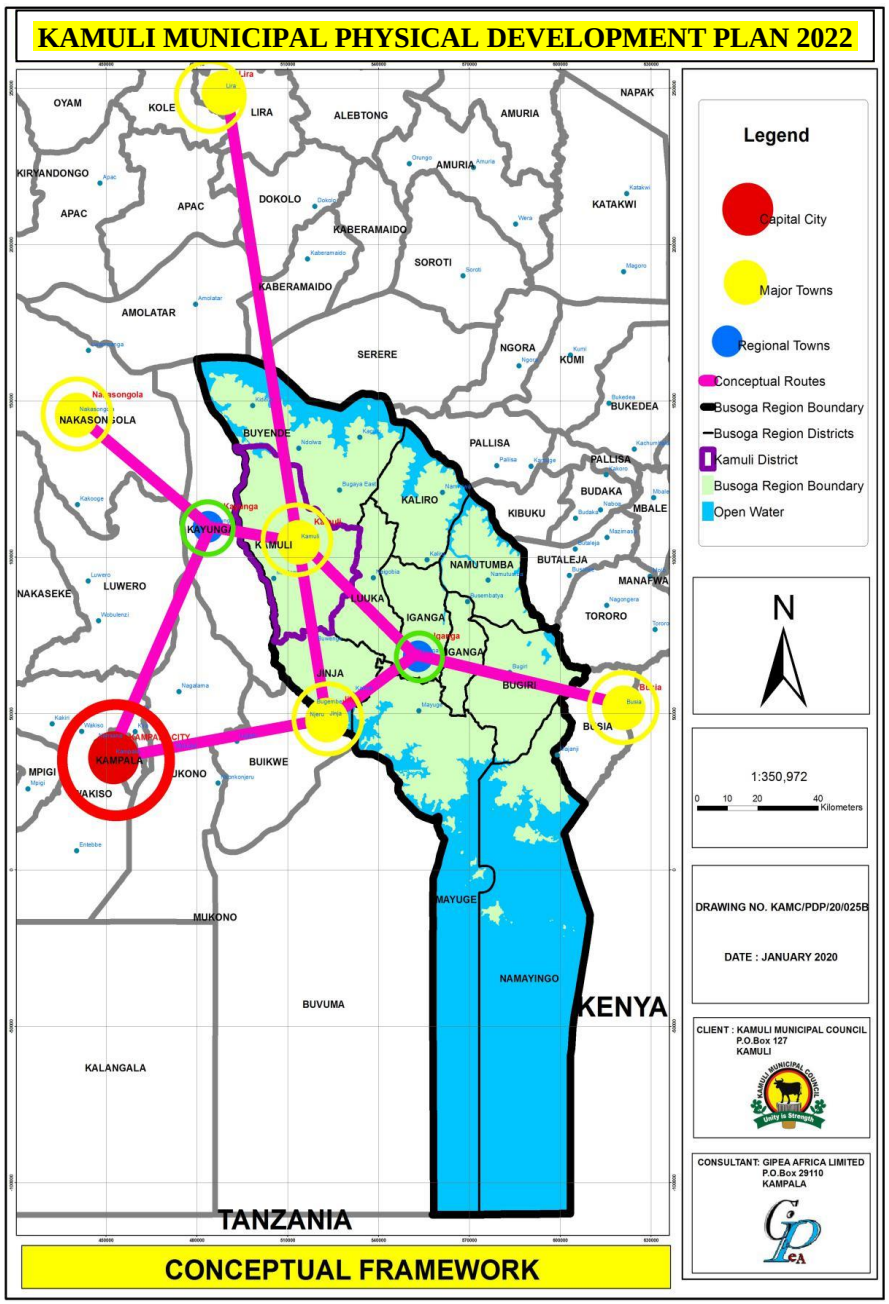
All key radiating roads like; Kaliro road, Iganga – Kitayundwa road, Buwenge road, Mbulamuti road, Namasagali road, Nabirumba road and Nawantale road, provide some signs of developing into "activity corridors". These routes to a lesser extent, display lower-order activity but are not structured to function as integrated functional Corridors. The Municipal Council generally lacks a clear hierarchy of urban structure and sub-structures, with visible functional specializations. Generally, all dealing in lower order activities strung out along the primary radial routes.

Urban structure enables, organizes and directs human activity and land use. It determines the legibility and impacts on its functioning and hence its efficiency and productivity. It attracts channels, enables or constricts movement. It sorts, orders, enables or limits levels and scale of activity (residential, commercial, recreational, *et al*). It contributes to the urban form, intuitively informing both resident and visitor as to the "natural" location of facilities and activities; or fails to do so. It balances and integrates the natural and the built elements into a cohesive whole or mixes them in a haphazard, mutually detrimental manner. It confers identity to the town and the specific neighbourhood, be it positive or negative, in as much as the individual home confers identity to its residents.

As such, Kamuli area urgently requires a coherent, legible, functionally efficient and integrated structure, to begin tackling its current severe social, economic and environmental problems and its considerable future challenges.

b) Impact of Infrastructure Networks

It is important to consider Kamuli Municipal Council in the greater context of the entire region as seen in the Map 30. The Municipal Council is based in the Central area of the Northern Busoga Sub-Region. It is traversed by major roads to and from the regional City – Jinja in the southern part. Being such, the structure of the Kamuli in relation to the regional City must be taken into consideration and as such will have implications beyond the Municipal Council boundaries. The Municipality is also seen as a future commercial hub once the development of the proposed national infrastructure is completed. These include; the extension of the railway to Namasagali through the municipality, construction of the Isimba bridge connecting Kamuli to Kayunga town council, tarmacking of strategic roads such as Iganga-Luuka – Kamuli high way and Kamuli Kayunga-Nakasongola high way. This network will become the alternative route of all trucks carrying goods from Kenya to Southern Sudan and the DRC.



Map 30: Kamuli Municipal Council in a Regional Context

c) Municipal Council Physical Form

The Municipal Council's topography, its gentle hills with U shaped valleys which have determined the Municipal Council's form and dictated the initial settlement pattern. But it could also sort out the apparent transport movement routes developed between these elements and outlying centers in the

lower valleys, generally skirting the wetlands and crossing them at narrow or strategic points. Sporadic infill and sprawl over the years has however blurred out these historic elements and is slowly transforming the Municipal Council into a single contiguous, ever growing, lacking order, clarity, legibility and identity. Nonetheless, the Municipal Council still retains significant natural values and still grants the potential to develop as a setting of quality, green, utilizing its natural potential to provide amenity for its residents.

d) The Challenge of Sprawl

Kamuli Municipal Council today is characterized by a rising urban sprawl. The urban sprawl stems from the main centre and radiates along the major roads. However, it is noted that It extends beyond the boundaries of the urban nodes in the Municipal Council into the peri-urban and rural rich agricultural areas spreading even beyond the Municipal Council boundaries. Five additional urban centers exist within the confines of Kamuli Municipal Council: Nakiwulo, Nakulyaku, Busota, Bugulete, Buwuda. Though these centers are scattered within the Municipal Council, they are linked and dependent on the whole Municipal Council and its neighbors for services, employment, etc. The areas between these centres are littered with disorganized settlements along the roads, especially in the southwestern part of the Municipal Council which form the urban sprawl. In areas outside the core urban centre, it is characterized by disjointed instrumentalism with compact settlement which are devoid of requisite infrastructure. The density in these areas is equally growing in comparison to Kamuli cores.

These settlements burden the existing infrastructure and services of the Municipal Council as many people come to the Municipality daily in search of employment and services. Also, the continued unplanned sprawling growth holds several dangers to the future of the Municipality:

- Burdening existing infrastructure
- Poor functioning of the Municipal Council and the intermediate systems,
- The decreasing quality of life and living conditions,
- Stunted urban economy,
- Damage to the ecological system,
- Blocking modern development.

The implications of the unbalanced growth and unplanned urban development pose a serious threat to the Municipal Council and must be avoided.

The only course of action which can eliminate the above threats of the continued unplanned and disorganized growth is to form a Planning Strategy (PS) capable of addressing the sources of the above threats. Based on the analysis of the existing situation, the Municipal Council roles and potentials over the planning horizon, future scenarios and threats the consultant conceptualized a Planning Strategy to guide the preparation of Kamuli Municipal Council Physical Development Plan:

- The defined new Physical Vision for Kamuli will guide the development of the Municipal Council in a planned and organized manner.
- Determining urban limits and proper planning of existing and new urban centers within the Municipal Council will ease the pressure on the Municipal Council infrastructure and services, allowing future development.

- A planned Municipal Council structure will control sprawl and encourages guided settlements with defined limits.
- Sustainable development which protects the most important existing Municipal Council environment and natural resources will ensure a modern and quality Municipal Council for future generations.

4.5. Kamuli Municipal Council Conceptual Spatial Development Model

The Municipal Council is a conduit for a large proportion of goods and people moving in and out of the sub region, and a significant proportion of internal trade. Such a structure and the relationship with Jinja, Kayunga and Iganga have implications within Kamuli and beyond the Municipal Council boundaries.

In the analysis of the current situation and potentials the consultant examined several planning models for the future development of the Municipal Council. The examined models are based on our analysis and findings on the current situation and potentials in Kamuli Municipal Council, consideration of the National PDP requirements. These models constitute potential Conceptual Topological Schemes for the long-term development of the Kamuli Municipal Council Planning Area.

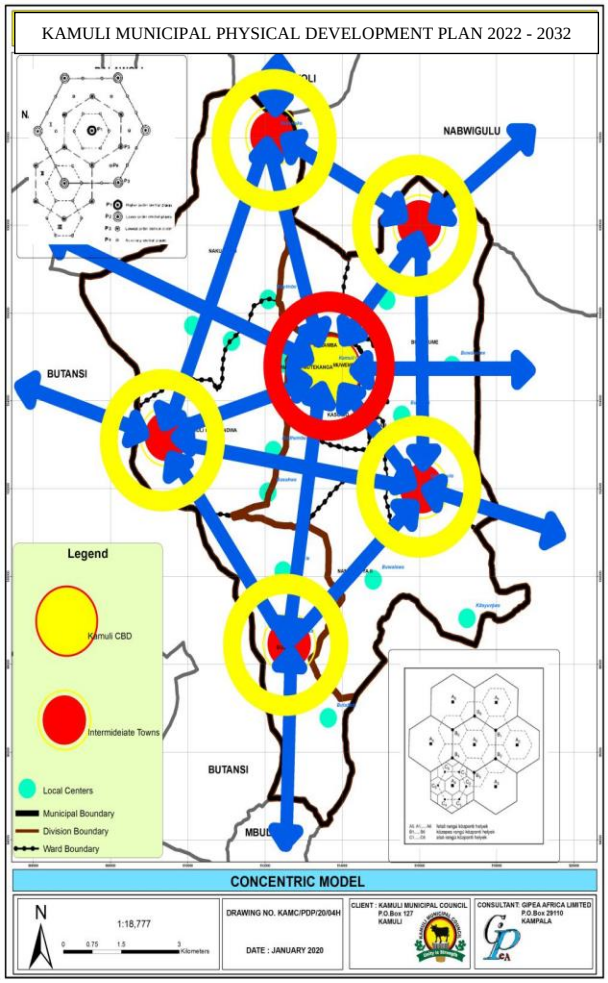
A total of two models were examined by the consultant for this purpose namely:

- The "Independent Concentric Towns" Model **(ICTM)**
- The "Transport corridor/wedge" model (**TCM**)
- The "Integrated Concentric Towns and Transportation Model (**ICT&TM**)

Each model has its strengths and weaknesses, and offers different potentials. The summary below provides the suitability analysis of each model that guided the choosing of the most suitable spatial model for the Kamuli Municipal Council Spatial Development Plan.

4.6. The "Independent Concentric Town" Model:

The Municipal Council is the seat of Municipal Council administration, control and service delivery throughout the Councils. The Municipality will be divided into three hierarchical centres which will include; one CBD (covering the old Kamuli town Council), five intermediate centres which are considered the core planning and service centres. The identified include; Nakiwulo, Nakulyaku, Busota, Bugulete, Buwuda and five other local centres which will facilitate the linkage between the core intermediate centres. They include; Kananage, Buwanume, Namalemba, Buwaiswa, Busakwa/Bukwenge (Map 31). The "Independent Concentric Towns" Model builds on organizing and protecting the existing situation in the Municipal Council. These centres in this model are the proposed focal points within the Municipal Council where to concentrate development. The centres would be planned as independent and self-sustaining basing on the locations comparative advantage or economic specialization giving each centre a unique identity and economic specialization. The concentric towns will be connected to each other through a system of roads, both existing and new. The core areas will be highly concentrated with developments and the level of concentration will diminish as you move away into the periphery referred to as the commuter zone. These centres will eventually meet and overlap each other creating nucleated centres serving peripheral areas. The idea is to make sure that the strategic location of each centre will ensure adequate service provision of all



areas in the municipality. The model tempts as the most suitable given that there would be no need for drastic alterations or significant externalities.

Map 31: Independent Concentric Model

a) Benefits of Independent Concentric Towns Model

The benefits of this model include the following;

i. It respects and matches with the current built up in the Municipal Council

ii. The nodes are the growth poles with defined extent to which certain typology of developments are permissible hence reducing pressure on land and regulating sprawl from extending beyond the defined urban limits. This in essence would ensure sustainable use of resources.

iii. Environmental degradation will be contained. With provision of buffers, the wetlands can be expected to thrive and perform their natural functions of filtering the impacts of the built environment. The danger of encroachment into or even depleting the wetlands resources will be eliminated.

iv. Within each centre, there is a high possibility of optimum use of land and saving land for other uses

v. It reduces the cost of infrastructure and service provision. The pressure on the Municipal Council infrastructure and services will be minimized and it will offer developers with alternatives.

vi. The model has the advantage of triggering and creating a balance in spatial development in the entire Municipal Council. It eliminates the amorphous 'brown agenda' structure by dispersing unplanned development into land that would have been used for other purposes and/or environmental protection.

vii. Within the individual centres, it allows a sustainable mix of forms and functions, and creates a balance in spatial development. Hence it facilitates balanced growth and economic opportunity in both the centre and the periphery but also preserves sustainable use of the environment and natural resources.

b) Challenges with Independent Concentric Towns Model

Despite the above-mentioned benefit, this model has some short comings such as;

i. Given the weak economic base of the Municipal Council, improved infrastructure will be expected to be funded primarily, if not exclusively, by the centre.
ii. The urban centres in the Municipal Council had grown organically starting as local shopping centres majorly to serve the neighbourhood dormitory residential areas. The economic specialization and identity of these centres is none existent. The direction dictated in the model indicates that this may tend to aggravate the amorphous nature of development, further adding to the emerging incongruous mixed forms and functions. Thus, creating a further imbalance in spatial development within the centre, with undefined and limited economic opportunity. The model therefore demands clear identification of the center's economic potentials and comparative advantage in relation to others in the Municipal Council as a whole so as to guide planning around the strengths of the local economy. This would guarantee economic sustainability and competition.
iii. The model creates multiple core and power centres as indicated in Map 30.
iv. The wealthy and generally well-to-do middle classes will be limited in size, proportion and concentrated around the core. This contradicts the concentric theory where such category of people prefers to live in the commuter zones which this model tends to discourage. However, given the widening gaps and their social impacts, their personal safety and security will be threatened by those in need at the periphery. As a result, gated, fenced and patrolled housing compounds will spring up and become the norm for both the wealthy and the middle classes which aesthetically is not appearing.
v. The challenge of sprawl will remain given the relaxed controls in land use and standards emanating from the lack of planning and guided mechanism.

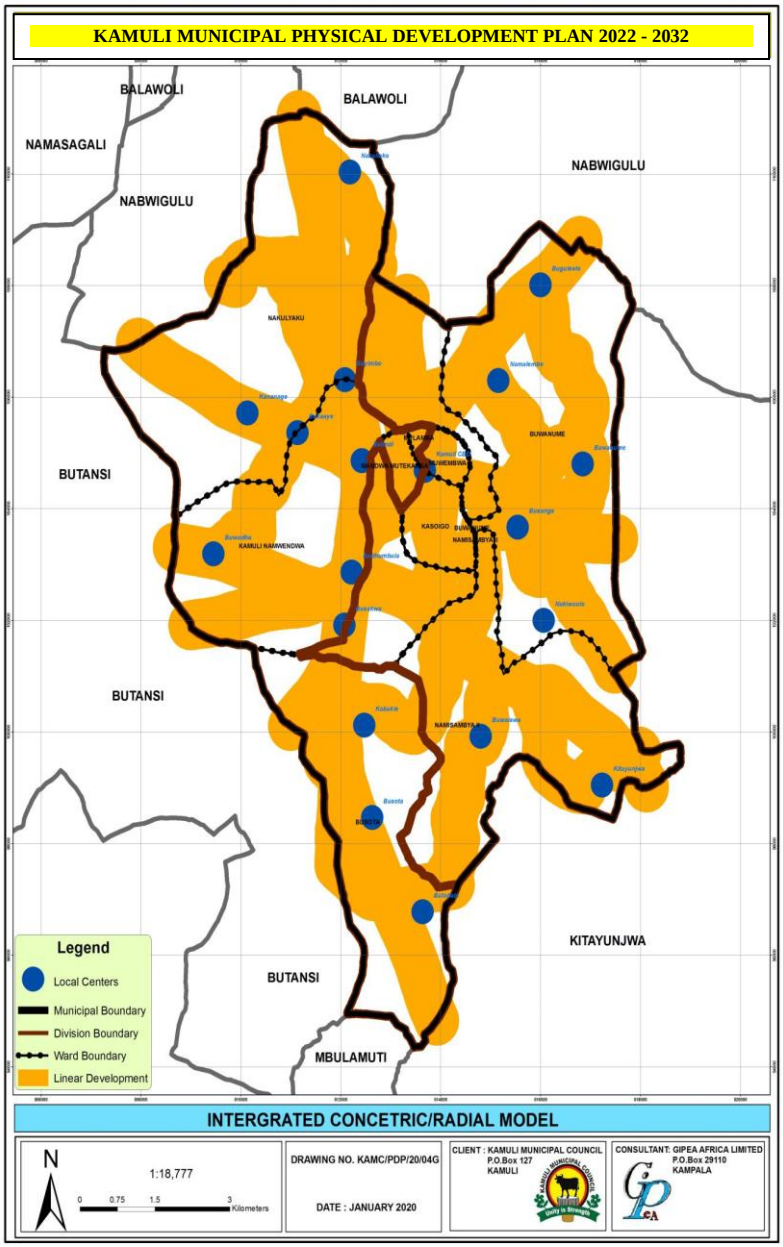
4.7. The "Transport Corridor / Radial" model

The model upholds the Municipal Council urban centres connected to the CBD through existing major transportation corridors and allows linkages between the centres themselves. The benefits of this model are that it allows connectivity between the existing centres.

Urban sprawl in the Municipal Council is majorly evident along the major radial routes from the centre. The wedge is employed as a buffer zone along these roads interrupting and checking development from outside Kamuli Municipal Council in the direction of Iganga, kaliro, Buwenge, Mbulamuti, Namasagali, Buyende and Bugungu in effect terminating sprawl. In this model, sprawl from the individual existing urban centres will also be addressed using the same principle. The land in between could be used for supporting agriculture.

The Municipal Council topography, the natural systems such as rivers, wetlands and forests provide the required features that can be emphasized with adequate reserves to provide the required wedge and buffers between the Kamuli and other urban areas and between the individual centres within the Municipal Council. The wedge reserve would provide protection from encroachment into or even prevent the depleting the wetlands and forests resources and provide large tracts of land for other uses. This in effect will lead to conservation of the Municipal Council ecological system. Confining the urban limit will lead to densification and ease on infrastructure and service provision at the local and at the Municipal Council level.

The major challenge is that controlling urban sprawl will be very difficult as development will continue to follow the major roads. Service provision will equally become very expensive because of the distances involved and worse still the ribbon kind of development that will result is not sustainable. There is a possibility that in the future what is reserved as agricultural corridors will eventually be filled up and it will result into an amorphous brown agenda which may be very difficult to service.



Map 32: Transport Corridor / Radial" model

4.8. The Integrated Concentric Town and Radial Model

This Model is an integration of the "Independent Satellite Towns" Model and the "Transport Corridor" Model. The model upholds the Municipal Council urban centres which are interconnected and also linked to other urban centres through existing major radial transportation corridors. The model also integrates the wedge as a buffer zone along the existing infrastructure hence interrupting and checking development from within and from outside Kamuli Municipal Council in the direction of Jinja, Kayunga, Iganga and Kyoga there by terminating urban sprawl. In this model, urban centres along the radial routes will be planned and integrated but their growth and expansion will have a defined urban limit and also defined by a buffered wedge along the existing major radial transportation corridors using natural barriers and roads to control.

The benefits of this model are that it takes into account the existing situation of the Town and the hinterland whereby urbanization stretches out along the roads from the Town Centre, through the Municipal Council with emphasis on the key transport corridors. The un-built areas could then be used for other purposes.

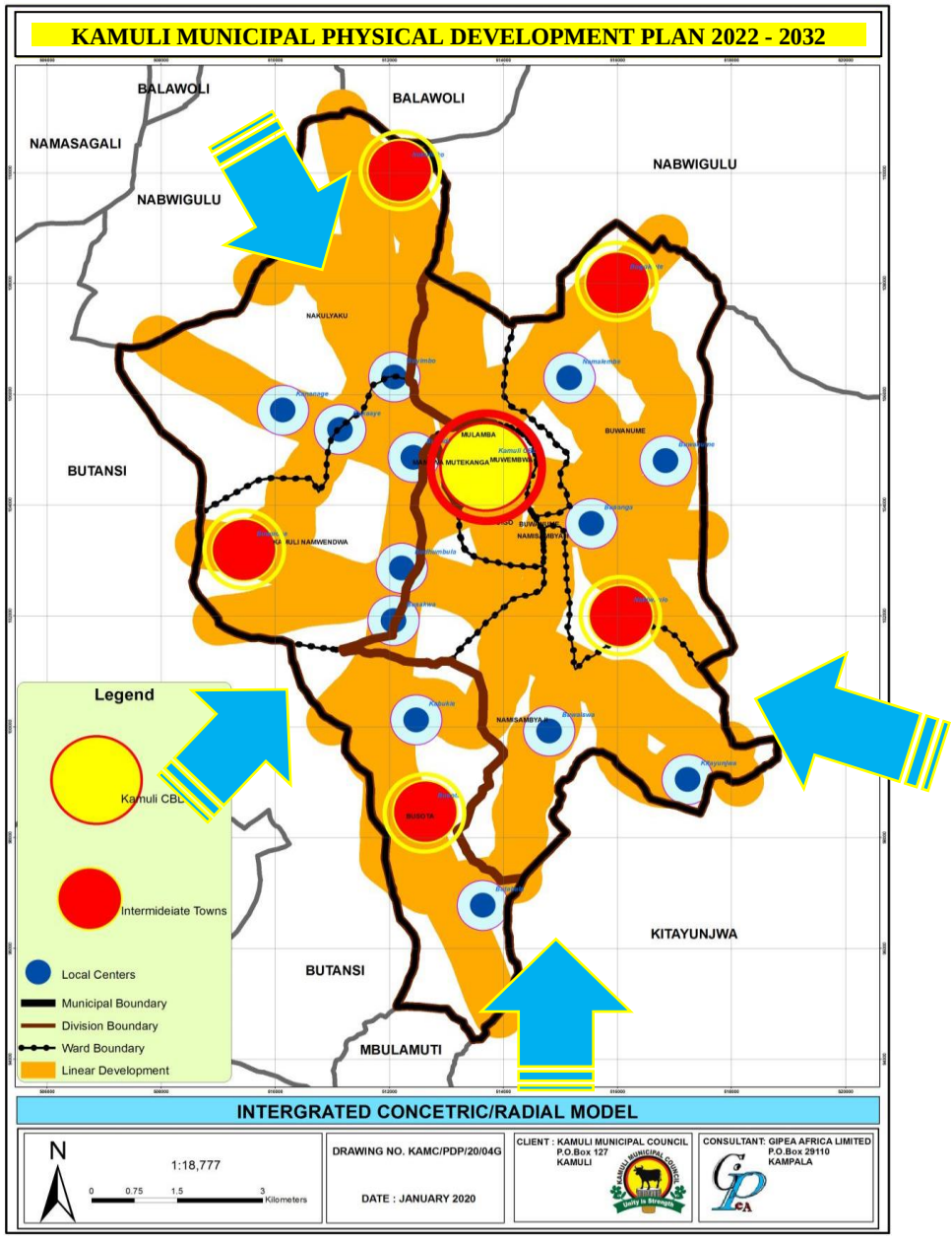
The model will also check sprawl between the hinterland and the Municipal Council and between the urban centers within the Municipal Council. Its emphases relatively larger urban centres

Intermediate towns in the periphery to act as barriers to further urban sprawl. The model would provide protection from encroachment of the wetlands. This in effect will lead to conservation of the Municipal Council ecological system and the marginal lands. Confining the urban limit will lead to densification, optimum use of land and ease on infrastructure and service provision at the local levels and at the Municipal Council level.

4.9. Key issues considered when selecting the preferred conceptual model

- The current administrative set up of Kamuli Municipal Council encourages proliferation of urban centres. Areas which have been purely agricultural have been urbanized e.g., Nakiwolo, Nakulyaku, Busota, and Buwuda. This in a way will make the regulation of urban sprawl very difficult.

- The real estate industry is just beginning especially in the original town council areas and it is largely absent in the rural areas. But we expect the industry to become active in the near future.



Map 33: The Integrated Concentric Town/Radial Model

The model depicts enhancement of the urban cores but with defined limits. there are three hierarchical centres which includes; the CBD covering one major centres of Kamuli with yellow circles, five intermediate centres which includes; Nakiwulo, Nakulyaku, Busota, Bugulete and

Buwuda with red circles. Then local centres which includes; Kananage, Buwanume, Namalemba, Buwaiswa, Busakwa/Bukwenge with small blue circles (Map 33). It also developed wedge patterns which indicates the likely expansion into the hinterland following the transportation corridors.

The model shows deliberate control of urban sprawl creating green areas to first of all break the built-up monotony but also to protect the ecological system. This will further create space for urban agriculture which can eventually be converted into other uses in future. This therefore emphasizes the concept of sustainable use of the scarce resources like land in the urban setting.

The model further points out the already existing pressures which emanates from neighouring towns. This pressure comes in form of employment opportunities and land for housing and industrialization. This means that the PDP must put focus on the identified urban cores in Kamuli with a strategic planning approach to take care of the future needs of the area which is projected to increase by 2040.

4.10. Spatial Suitability Analysis

The evaluation of town planning models was conducted through a Location Analysis and Spatial Suitability Analysis process. The process entailed examining and mapping a number of Municipal Council spatial aspects;

- The Municipal Council topography, natural features and assets
- Existing ecological zones,
- The Municipal Council growth centres and settlement patterns
- Existing and emerging industrial sites, public services and business cores
- The national, regional and Municipal Council infrastructure, traffic and transport modes)

The aim of this analysis was to scan the areas of the Municipal Council and adjoining area to identify potentials and suitability for development based on future growth forecasts. The output of the Spatial Suitability Analysis was a Spatial Suitability Map which integrated the different aspects in the Planning Area. The Suitability Map was integrated with the Topological Schemes of the possible Municipal Council planning models to create a Physical Vision for the Municipal Council's long-term spatial form.

The Suitability Analysis identified sites having greater potential, functions and development areas, land uses, restricted areas and open areas for potential development. An analysis of topography and a slope analysis were also conducted in order to identify area suitable for development.

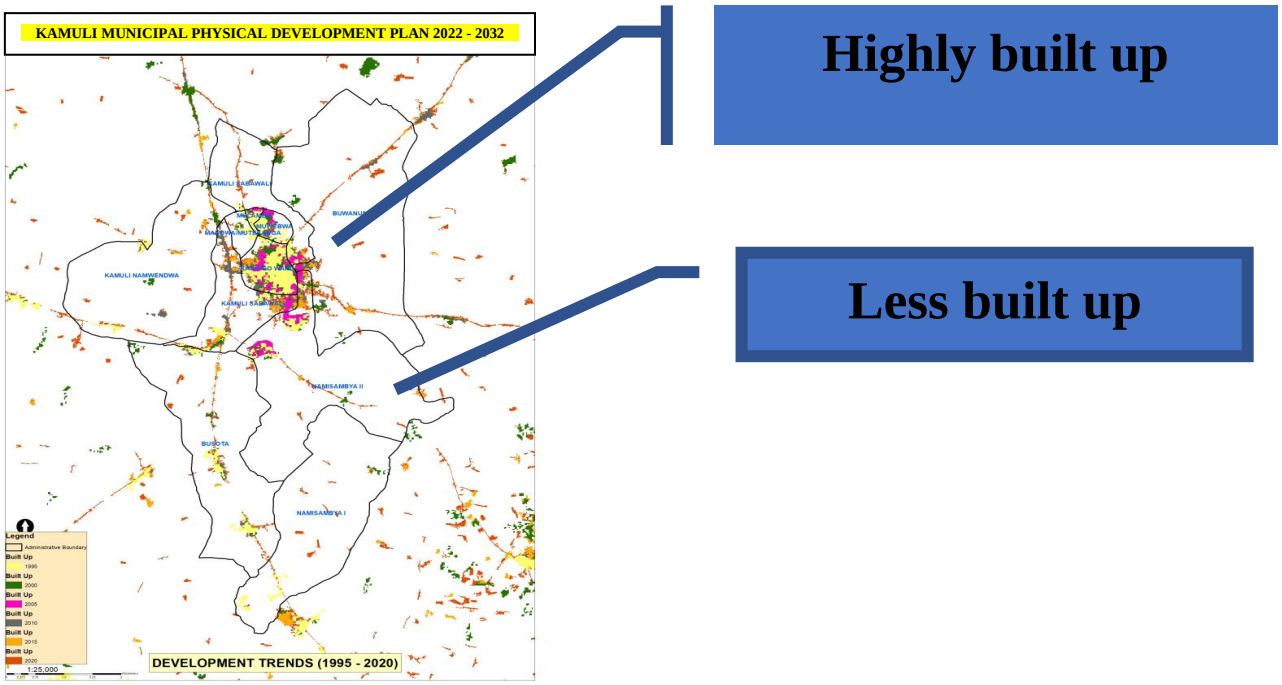
4.11. Suitability Analysis Layers

The Spatial Suitability Analysis identified the existing potentials. This was facilitated by analysis of the following layers:

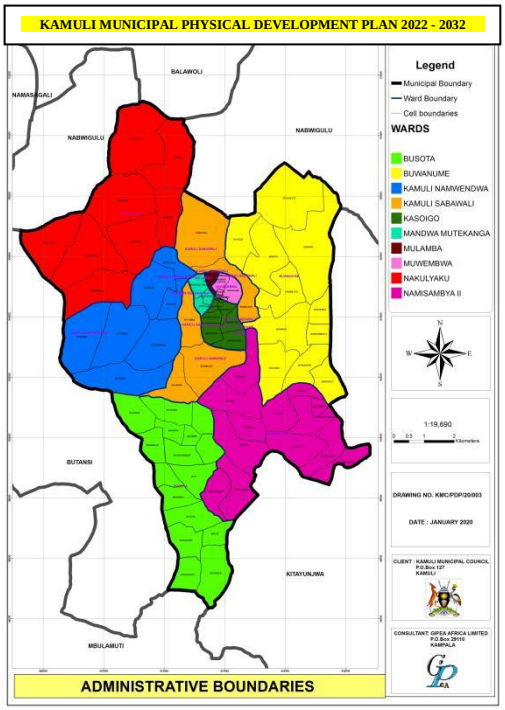
- Town Satellite Image
- Development trends
- Administrative layout
- Population Density
- Existing Land use
- Ecological and natural systems

- Slope analysis
- Soils
- Land tenure system
- Land values

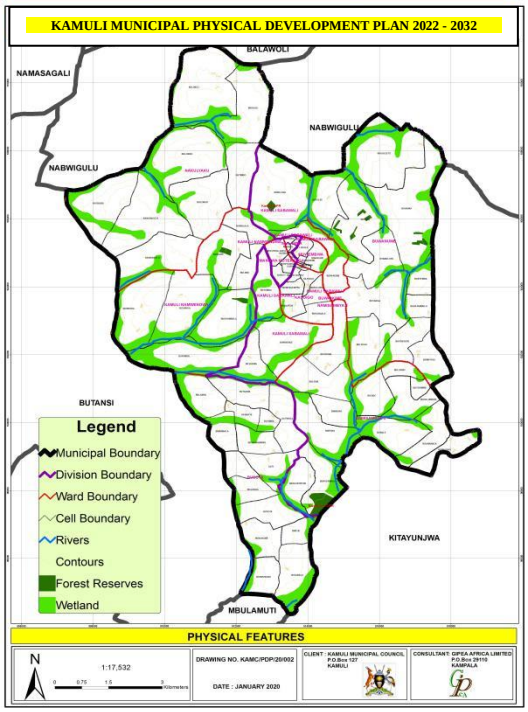
The layers are captured in the situation analysis but are also presented here;



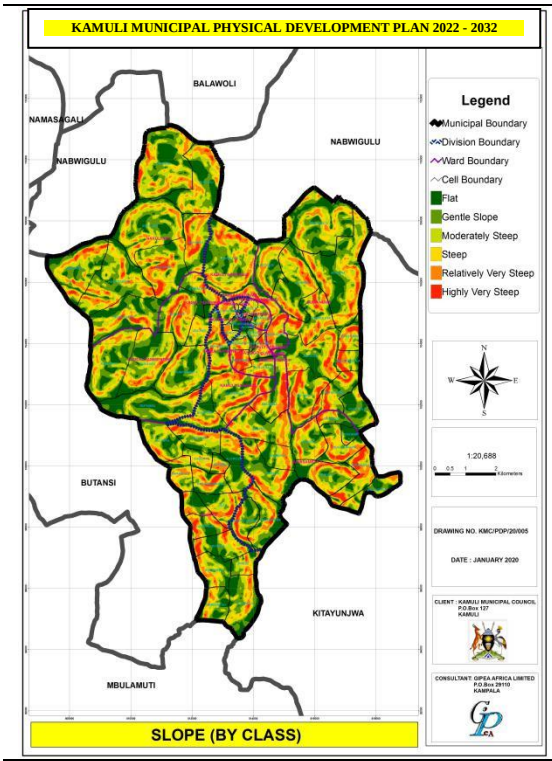
Map 34: Development trends in Kamuli Municipal Council



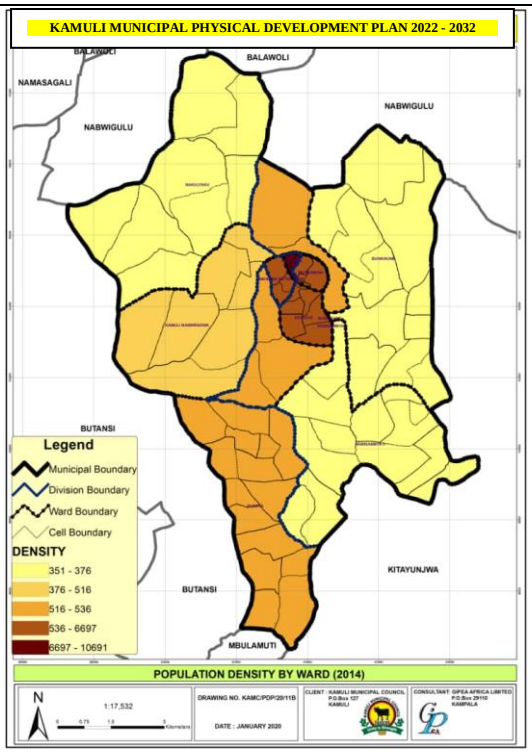
Map 35: Kamuli Municipal Council administrative set up



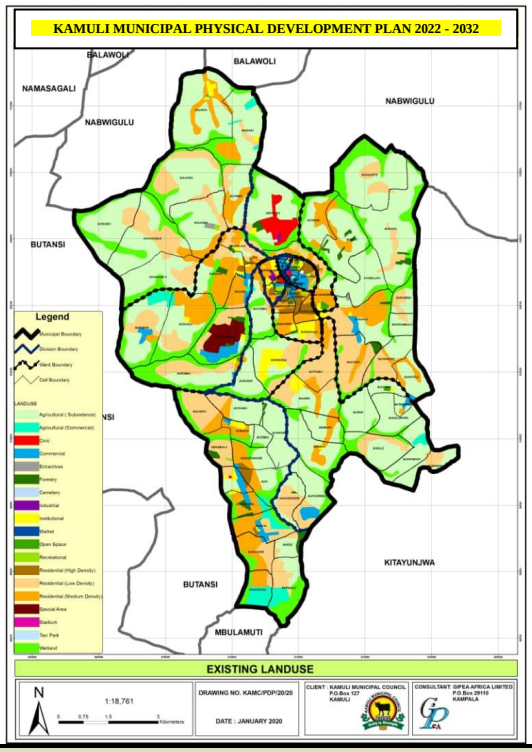
Map 36: Kamuli Municipal Council physical features



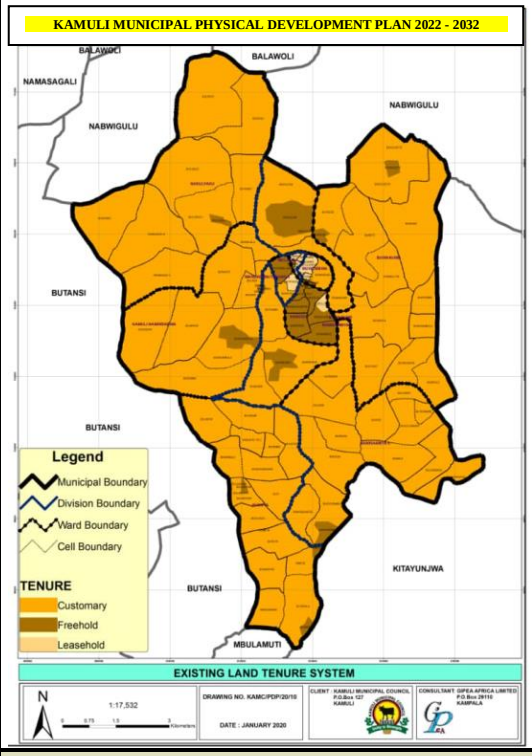
Map 37: Slope analysis



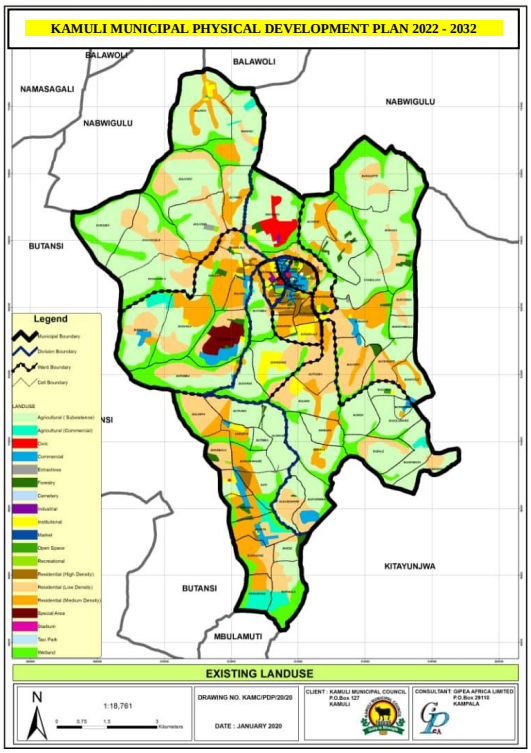
Map 38: population density



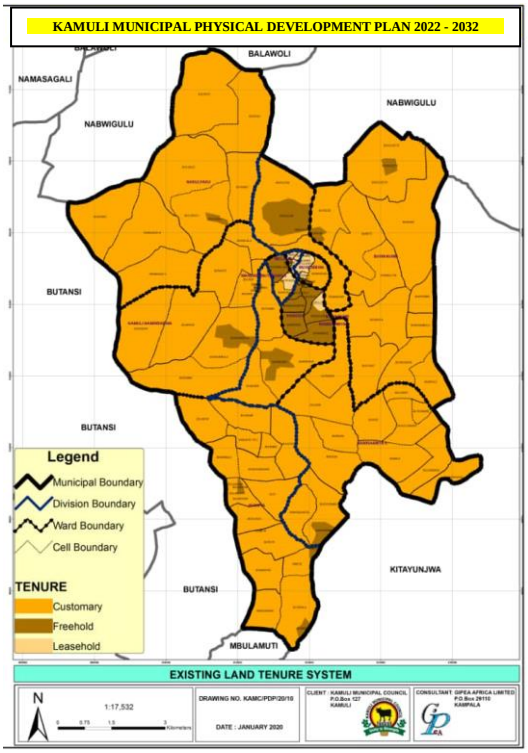
Map 39: Kamuli Municipal Council land use (2018)



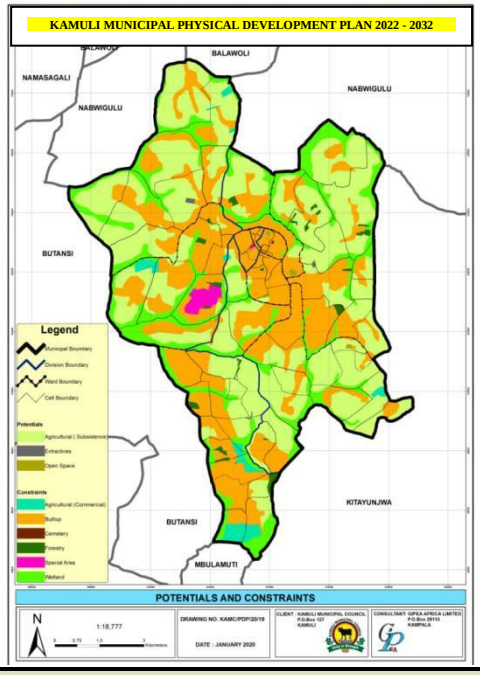
Map 40: Kamuli Municipal Council Land Tenure System



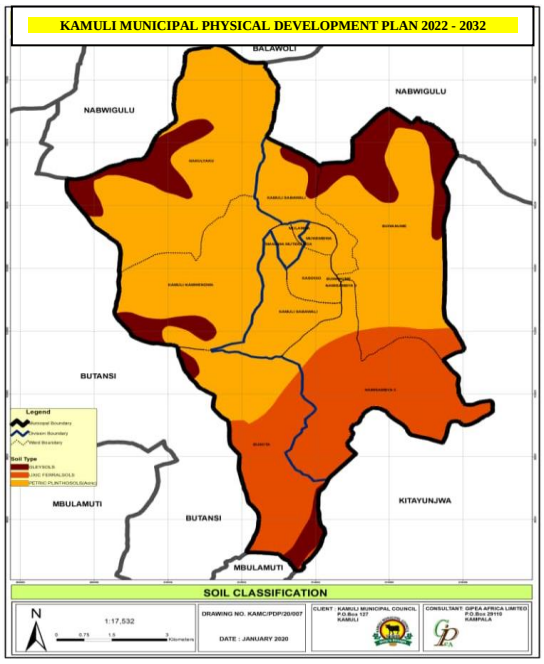
Map 41: Kamuli Municipal Council Slope Analysis



Map 42: Kamuli Municipal Council population density (2018)



Map 43: Kamuli Municipal Council Potential and Constraints



Map 44: Kamuli Municipal Council Soil Classification

Suitability Analysis pointed to the 5-existing urban centres including the CBD but with potential for development. The centres are already having dense development but with potential to accommodate more development. Each area was examined according to ranking criteria which included its suitability for development according to the following;

- Permitting terrain,
- Connection to existing urban structure in the Municipal Council
- Connection to the main radial roads through the Municipal Council
- Vacant land still existing
- Key features to utilise for controlling sprawl

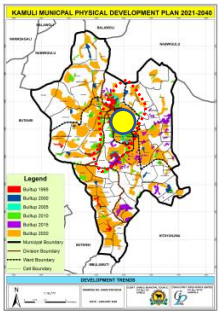
The identified areas included the following:

- Kamuli, CBD,
- Nakiwulo
- Nakulyaku
- Busota
- Bugulete
- Buwuda

The detailed Spatial Suitability was purposely to determine the areas with highest potential for new development and for strengthening of existing core.

- **Kamuli CBD**

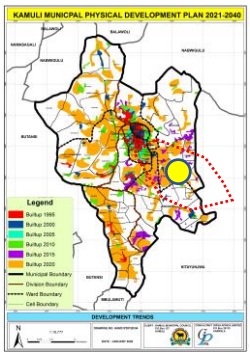
The Kamuli CBD area was examined and found to have permitted terrain. The area already has high urbanism tendency and very well connected to other regional centres. The area is highly built up and future development will require regeneration for optimum use. This area was found to be more suitable for strengthening of the existing core. This area will be



Map 45: Kamuli CBD

multi-purpose but with focus on high order goods. It is considered the business hub of Kamuli municipality.

i. Nakiwolo centre

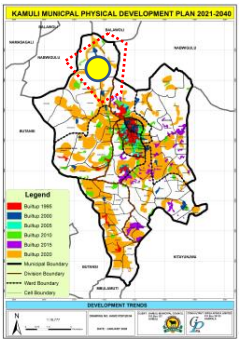


The area has permitting terrain and lies between Kamuli and Iganga roads hence is very well connected to the existing urban structure. However, the area was also found to be low density and with a lot of open land available suitable for large scale new development. This area was found to be more suitable for strengthening of the existing core which already includes an active centre. It is likely to attracts human activities which may require a defined urban limit to be able to sustainably use the land. Nakiwolo being a food basket, the conceptualized area of specialization is processing industries.

Map 46: Nakiwolo urban centre

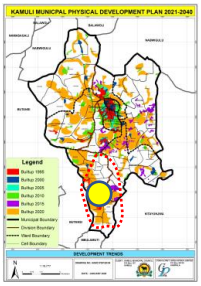
iii Nakulyaku

The Nakulyaku area was examined and found to have permitting terrain. It is located along Kamuli-Bukungu road hence is very well connected to the hinterland and the existing urban structure. Furthermore, the area was found to be growing very fast with the surrounding emerging into medium density but still with available and vacant lands in abundance. From Nakulyaku, the area also connects to Lira through Lake Kyoga. This connection could be explaining the rapid growth of the area especially due to fishing activities. Nakulyaku was conceptualized as a large-scale Industrial zone.



Map 47: Nabwigulu road urban centre

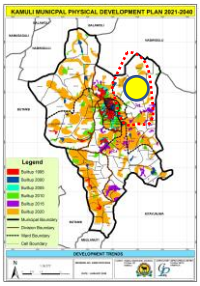
iv Busota Urban centre



The sites were examined and found to have permitting terrain. It is located along Kamuli – Jinja highway. Hence, it is very well connected to the existing urban structure. Furthermore, apart, Busota was found to be moderately and spatially developed with available and vacant lands still in existence. The terrain was conducive and it is one of the remaining area in the Municipal Council where tangible developments can be proposed with very minimal costs. Busota like Nakulyaku was also conceptualized as a large-scale Industrial zone

Map 48: Jinja road urban centre

V Bugulete Urban centre

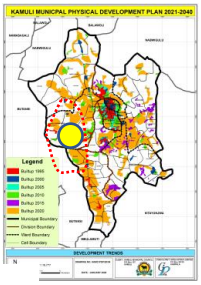


The sites were examined and found to have permitting terrain. It is located along Bugaya road. Hence, it is very well connected to the existing urban structure. Furthermore, apart, Bugulete the area was found to be moderately and spatially developed with available and vacant lands still in existence. The terrain was conducive and it is one of the areas in the Municipal Council where tangible developments can be proposed with very minimal costs. The specialized conceptual model for this area was considered to be educational zone.

Map 49: Bugaya road urban centre

VI Buwuda Urban centre

The sites were examined and found to have permitting terrain. It is located along Butansi road. Hence, it is very well connected to the existing urban structure. Furthermore, apart, Buwuda, the area was found to be spatially developed with available and vacant lands still in existence. The terrain was conducive and it is one of the areas in the Municipal Council where tangible developments can be proposed with very minimal costs. Like Bugulete, Buwuda is also considered to be an educational centre.



Map 50: Butansi road urban centre

4.12. Suitability Analysis Integration

Cross referencing of the Municipal Council Suitability Map with the above Conceptual Schemes revealed that the most suitable model is Integrated Model ("Satellite Towns and Transport Corridor") as dictated by the existing situation. The combination of the two creates a hybrid model which best represents the best approach to tackle the physical development challenges of the Municipal Council. The Model ("Satellite towns with defined urban limits and Transport Corridor") development strategy will integrate the spatial elements of the Municipal Council as follows;

i. Clear identification of the key centres in Kamuli Municipal Council requiring immediate attention through extensive physical planning, identification and strengthening of their local economy, creation of employment, education, health and services, as well as organized residential areas. The new towns will be planned and developed according to modern standards, creating organized, specialized and sustainable satellite towns capable of accommodating a large number of inhabitants in a livable environment. They will have a deliberately defined urban limit to control sprawl and protection of the ecological zones.
ii. Identification of the key transportation corridors that must be upgraded for better connectivity and provide linkage between the urban centers within the Municipal Council and other neighboring centres outside the Municipal Council. These corridors will encourage infill of the areas between the already existing built corridors.
iii. Clear demarcation of the key wedge belts including natural systems and environmental areas to be emphasized in the plan to address the existing development challenges. These will provide barriers to stop sprawl between built up and areas reserved for future development.
iv. Identification of clear and precise development strategies to address the identified physical development challenges.
v. Recommend priority actions to ensure achieving the planned development strategy.

4.13. Proposed Conceptual Structure Scheme

Following the analysis presented in previous sections here are the consultant's recommendations for the Kamuli Municipal Council Physical Structure:

- Adaption of the Integrated Model ("Satellite Cities and Transport Corridor Wedge") as the structural model for Kamuli Municipal Council with a defined urban limit.
- The Municipal Council to have one major (CBD), five intermediate and five local centers.
- Planning, management and strengthening the existing urban cores of the five intermediate centres.
- Provide linkage between the major urban centre, intermediate and other outlying local Urban Centres with modern infrastructure.
- Identification and instituting a buffer (wedge) area between the urban areas in the Municipal Council to control sprawl.

- Putting to optimum use the undeveloped land in the Municipal Council siting permissible urban uses.

The above recommendations act as guidelines for the Physical Vision and Policy of Kamuli Municipal Council and a basis for the operationalization of the Municipal Council Physical Development plan.

4.14. Kamuli Municipal Council Physical Vision and Policy

The integration of the Conceptual (Topological) schemes and Suitability map led to the crystallization of a Physical Vision and Development Policy for the Kamuli Municipal Council Planning Area. The Development Policy is aimed at implementing the Physical Vision of Kamuli Municipal Council to create a well-organized and modern urban system.

The Development Policy is composed of three planning operations:

- Planning, management and strengthening the functioning of the existing urban centres
- Construction of modern road network to provide linkage between the above urban Centres and the outlying urban areas.
- Creation of buffer area between the built-up area and the ecological zone to control sprawl, allow densification and optimum use of land resources.

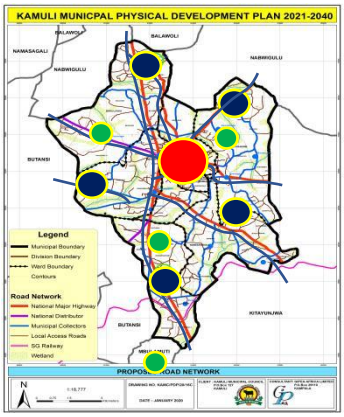
i. Planning, management and strengthening the functioning of the existing urban centres

The selected areas for widening and strengthening of existing cores are;

- Nakiwulo,
- Nakulyaku
- Busota
- Bugulete and
- Buwudha

The sorting out of the Municipal Council Physical Structure will require putting in place individual urban center's Detailed Plans. This will help to sort out the incoherent and imbalanced Physical Structure and to address the current social, economic and environmental problems and other considerable development challenges. The interventions will require widening and strengthening of the town's physical, social and economic set-up in terms of employment, environment, natural set-up and services, as well as organized residential areas.

These centers must be planned and developed according to modern standards, creating organized and sustainable urban centres capable of accommodating a large number of inhabitants. The new centres will become perfect substitutes offering quality housing, employment and other services outside the CBD. This will allow the sustainable development and growth of the Municipal Council.

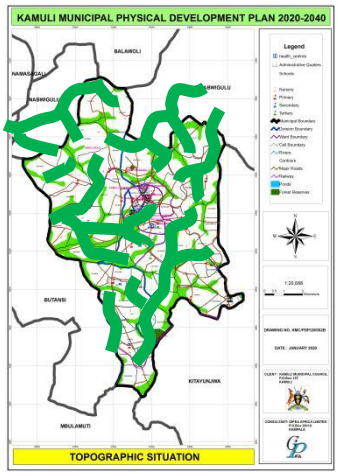


Map 51: Connected Centres in Kamuli by linear-circular roads

a) Construction of modern road network to link the urban and centres;

The functioning of the identified urban road system will require a good and modern road network system to serve and connect them and also connect these centres to the rural hinterland. The road system will be

an improved radial system based partially on the existing system but expanding it for better connectivity within the Municipal Council and beyond. The main components of the road system will be provided in the PDP for the Municipal Council.



b) iii Creation of a buffer to Control Ecological Zones

The Municipal Council PDP must sort out the incoherent and imbalanced physical development structure to address the current severe environmental problems in the above Municipal Council. To achieve this plan must create a buffer with stringent conditions within the Municipal Council. The green belts will help to break the brown agenda and also increase of the functionality of these ecological zones.

Map 52: Buffer and wedges in Kamuli

Conclusion

The analysis of the physical structure of Kamuli Municipal Council is based on a number of spatial models which if critically looked at will show that not one specific model can be used to solve the current and likely future development challenges of Kamuli Municipal Council. The consultant has however put forward the different scenarios for the client to consider and select one that is best understood to deal with the many identified challenges in Kamuli. The decision of the client will then inform the consultant on the next course of action.

Part V

5.0. PHYSICAL DEVELOPMENT PLAN PROPOSALS

5.1. Introduction

Based on the preceding analysis, this part of the report presents the proposed plan, the methodology for formulating the plan and the suggested implementation procedure. This part presents the planning vision, objectives and a background to the proposed land use Zoning Plan, which comprises of the plan and the implementation schedules. This part further presents a detailed description of the major components of the plan including; land use, urban form and densities. The plan is described as "proposed" because it has to through approval process.

5.2. The planning vision and objectives

The proposed vision considers the National policy and Vision as defined in the National Development Plan, the Kamuli Municipality vision and mission statement, the opportunities and constraints for future development as identified in the situation analysis. The National Development Plan (NDP) defines the national long-term vision as 'a transformed Ugandan Society from a peasantry to a modernised and prosperous country within 30 years', with a theme 'Growth Employment and Socio-economic transformation for prosperity. This plan was adapted and approved by the Government of Uganda and serves to guide the definition of planning and developmental vision for Kamuli Municipality. The Kamuli Municipality adopted Vision is stated as below;

Vision Statement*: *"A Well Planned, Serviced and Prosperous Municipality by 2032".

With due consideration of the above vision and the current and projected development needs of Kamuli, the proposed vision is that of 'ensuring Kamuli's future as economically vibrant, industrious, attractive and a transformed modern city. Therefore, the adopted planning concept is '*a Smart growth City'* which is built on the following pillars; Economic vibrancy, Sustainable Mobility, Environmental sustainability, Human capital development and good governance. This means that for Kamuli Municipality to attain the desired future, focus must be put on how to utilize a networked infrastructure to improve economic and political efficiency to ensure cultural, socio-economic and sustainable urban development. Therefore, there is need for creativity in infrastructure development; competitiveness to increase local prosperity through business led urban development. Hence the concept of "*smaller cities delivering smarter services"* and inclusiveness in decision making (collective community participation).

5.2.1. Proposed draft strategic objectives for the PDP

- To promote spatially orderly and sustainable development in KMC by 2032;
- To promote compact city development with clearly defined urban limits by 2032;
- To develop and sustain a strong and sustainable industrial and value-added production manufacturing sectors in KMC by 2032;
- To develop and promote tourism, hospitality and cultural heritage sectors in KMC by 2032;
- To provide efficient, sustainable and quality urban infrastructure and services in KMC by 2032;

- To develop and enhance competitive Local Economic Development (LED) and entrepreneurship sector in KMC by 2032;
- To protect, conserve and promote a sound and resilient urban environment in KMC by 2032;
- To improve on urban security and safety in KMC by 2032;
- To promote good governance, management and strengthen existing governance; mechanisms and structures in KMC by 2032.

5.2.2. Planning Objectives

The following proposed planning objectives were derived from the above vision and the preceding sectorial investigations analyses, conclusions and recommendations as summarized in Volume I of this report. The objectives have guided both the preparation and evaluation of the plan. They are also intended to establish a framework for the preparation of more-detailed planning schemes and strategic action programmes and/ or interventions.

5.2.3. General Objectives

The general objective of the physical development plan is to provide a framework and guidelines for the future orderly and coordinated sustainable development of Kamuli Municipal Council for the period 2021-2032, which: -

- Is practical, achievable and sustainable,
- Encourages increased economic productivity in the private sector, creation of employment opportunities and foster economic growth,
- Provides increased access to serviced land, improved and affordable housing and most importantly social services in order to improve the living condition and alleviate poverty for low-income groups,
- Promotes environmentally sustainable development with conservation of the environment of the area,
- Promotes the plight of the vulnerable and disadvantaged groups such as children, women, disabled, the youth and the displaced.

5.2.4. Sector Objectives

5.2.4.1. Financial Objectives

1 To improve Kamuli Municipal Council financial management capacity by strengthening revenue base and promoting sound urban cost recovery programs.
2 Identify planning and strategic action revenue management programmes which can be implemented and monitored by the Municipality.

5.2.4.2. Infrastructure Objectives

1 Upgrade and improve the existing physical infrastructure in the outlying areas in order to accommodate a full range of users and also support the potential future growth in the intermediate centres.
2 To explore the potential for community participation in the planning, provision and maintenance of urban infrastructures in the Municipality and to make efficient use of them.

5.2.4.3. Environmental Objectives

1 To protect the natural environment of the Municipality from all forms of degradation for purposes of promoting sustainable urban development.
2 To pursue energy and water conservation programs and waste reduction, reuse and recycling within the Municipality.

5.2.4.4. Social Objectives

1 To provide and ensure equity to access of appropriate social facilities in relation to their range and threshold.
2 To provide a range of social facilities that meets the needs of the population in Kamuli Municipal Council.
3 To ensure that planning proposals and programs address the full-range of socio-economic groups resident in the Municipality.
4 To ensure that affordable land for housing and services is provided in proportion to the actual needs of the people of Kamuli Municipal Council.
5 To enable economic growth by increasing employment opportunities and encouraging investors in Kamuli Municipal Council.

5.2.4.5. Urban Development Objectives

a) To encourage consolidated urban growth, this makes full use of existing resources, and infrastructure as opposed to dispersed and ribbon but expensive urban sprawl.
b) Encourage and plan for densification of existing medium-density areas in order to preserve the undeveloped areas for food production in Kamuli Municipal Council while reserving the rest of the land for future use.
c) Encourage a full range of well thought through mixed land use zones in order to promote live-work relationship and self-containment land use zones.
d) To provide land use regulations, that would encourage appropriate orderly developments, which are inclusive and easily understood by residents and the local the authorities.
e) Develop a systematic, appropriate and orderly procedure for land sub divisions, which will ensure access to existing and future road network but also well organised neighbourhoods.
f) To provide, update-planning guidelines and standards based on reviewed growth trends and existing situation and to put right the mistakes brought about by lack of proper planning in the past.

5.3. Description of the Proposed Physical Development Plan (2022-2032)

5.3.1. Introduction

The plan presents a proposed framework for development of urban component relevant to the municipality under the two broad categories. The land use proposals and the future detailed planning. In each of these categories planning standards and development control mechanisms are suggested.

5.3.2. Suitability analysis

Urban planning is necessary to be carried out by utilizing methods that as much as possible take advantage of spatial analysis of development requirements. Suitability analysis for development of the different uses was conducted and modelled for provision of layers used in the land use proposals. A brief description of the suitability analysis is given below.

5.3.2.1. Criteria for land suitability analysis

In order to analyse land suitability for various land uses, the consultant developed a criterion based on mappable indicators as illustrated in (Table 58).

Table 58: Criteria for suitability analysis

Criterion	Mappable Indicators	Remarks
Convertible vacant land	▪ Subsistence agriculture ▪ Planted Forests ▪ Grazing land	Land cover that can be converted to physical development
Wetlands	▪ Swamp wetland ▪ Forested wetland	Land cover not suitable for future physical development
Forests	▪ Natural	Gazetted forests to be protected at all costs
Slopes	▪ 0% Flat ▪ 1% - 5% Gentle slope ▪ 5.1% - 9% steep ▪ 9.1%-14% relatively steep ▪ 14.1% - 20% very steep	Steep slopes present development problems and increase costs. The plan considers relatively very steep and very steep slopes not developable
Rocky outcrops	▪ Extensive extractive areas especially the stone quarries	Areas that would not be available for development due to their hindrance
Drainage	▪ 0 - 30 m	Distances from the natural drainage features for their protection
Built up areas	▪ Intensively built up ▪ Hard areas	Hard areas include land under religious sites, special areas, high density residential and institutional.
Commercial servicing areas	▪ CBD ▪ Intermediate Centres ▪ Local servicing areas	Classified map of commercial servicing areas basing on existing trading centres and population catchment served
Services demand based on population	▪ Mainly the range of services ▪ The threshold of services	It's both social services (health, education, community centres, police, recreational, vocational centres) and infrastructure (sewerage, water, garbage) etc
Connectivity	▪ road density ▪ Land use ▪ inter-connectivity	To determine the circulation within the area
Water resources	▪ 0 - 30 m	For their protection
Wetlands	▪ 30 m	For their protection
Forests	▪ Natural forests	For their protection
Topography	▪ Hill tops	For protection
Infrastructure Service levels	▪ Hierarchy ▪ Well serviced ▪ Moderately serviced ▪ Poorly serviced ▪ Un serviced	Water Sewerage/waste disposal method Garbage Energy etc
Land values	▪ Costs per acre	Determine areas for different social classes though mix use is encouraged

Source: Field Survey

5.3.3. Principles of selected physical plan proposal

1. A plan with an urban form of clustered and densification which encourages mixed use development taking advantage of the current development trends.
2. A plan that is cost effective by taking into account the existing situation.
3. A plan that promotes and encourages hierarchy of circulation network and commercial centres for easy access to goods and services.
4. Maximization of the general circulation in the Planning Area.
5. A plan that encourages mixed uses for activities that are fairly compatible.
6. Protects the environment for sustainable development.
7. A plan that promotes and encourages the development of affordable social services and infrastructure for sustainability.
8. A plan that is cost effective by re-organizing and relocation of certain land use activities to promote aesthetic, economic sense and orderly development.

Part VI

6.0. REPORTS ON LAND USE PROPOSALS

This section of the report focuses on different reports on land use proposals for the proposed alternative, which has been developed from the analyses and the principles of design of the Physical Development Plan.

6.1. Residential Land Use

The total land proposed for residential use is 5,052.3 hectares which is 52.9%. Three types of densities are therefore proposed for residential land use namely: -

6.1.1. High density

High density residential comprises of compact development with plots of not less than (12m x 25m) or (39.4ft x 82.05ft) to 15.24m x 30.5m) or (50ft x100ft) and covers a total land area of 386.4 hectares (4.05%). It was proposed to accommodate all classes of different income levels who are expected to live and work in and out of the municipal boundary. It is recommended in this plan that this land use should be near places of work in order to allow easy movement and minimize the cost of transport for the low- and medium-income earners. The proposed areas for high density residential include; Bunangwe, Bukolobe, Bukapere, Buyomba and Buwalala because of their proximity to the CBD.

6.1.2. Medium density

The proposed medium density residential comprises of medium plots ranging between 20m x 30m (65.6ft x 98.42ft) and 25m x35m or (82.02 x 114.82) as provided for in the National Physical planning Standards and guidelines of 2011. It is meant to accommodate all classes of different income earners who will be living and working in Kamuli Municipality. Medium density residential covers 2,836.7 hectares of land (29.74%). It was also recommended to accommodate all classes of income levels. It is proposed in areas of Busota, Bulangira, Bwebya, Bwibuka, Bulema, Bulyoko, Bukwenge, Busakwa, Buwudha and Busanga. Map 52 and Table 57 illustrates the location of the proposed land uses and their coverage in hectares respectively.

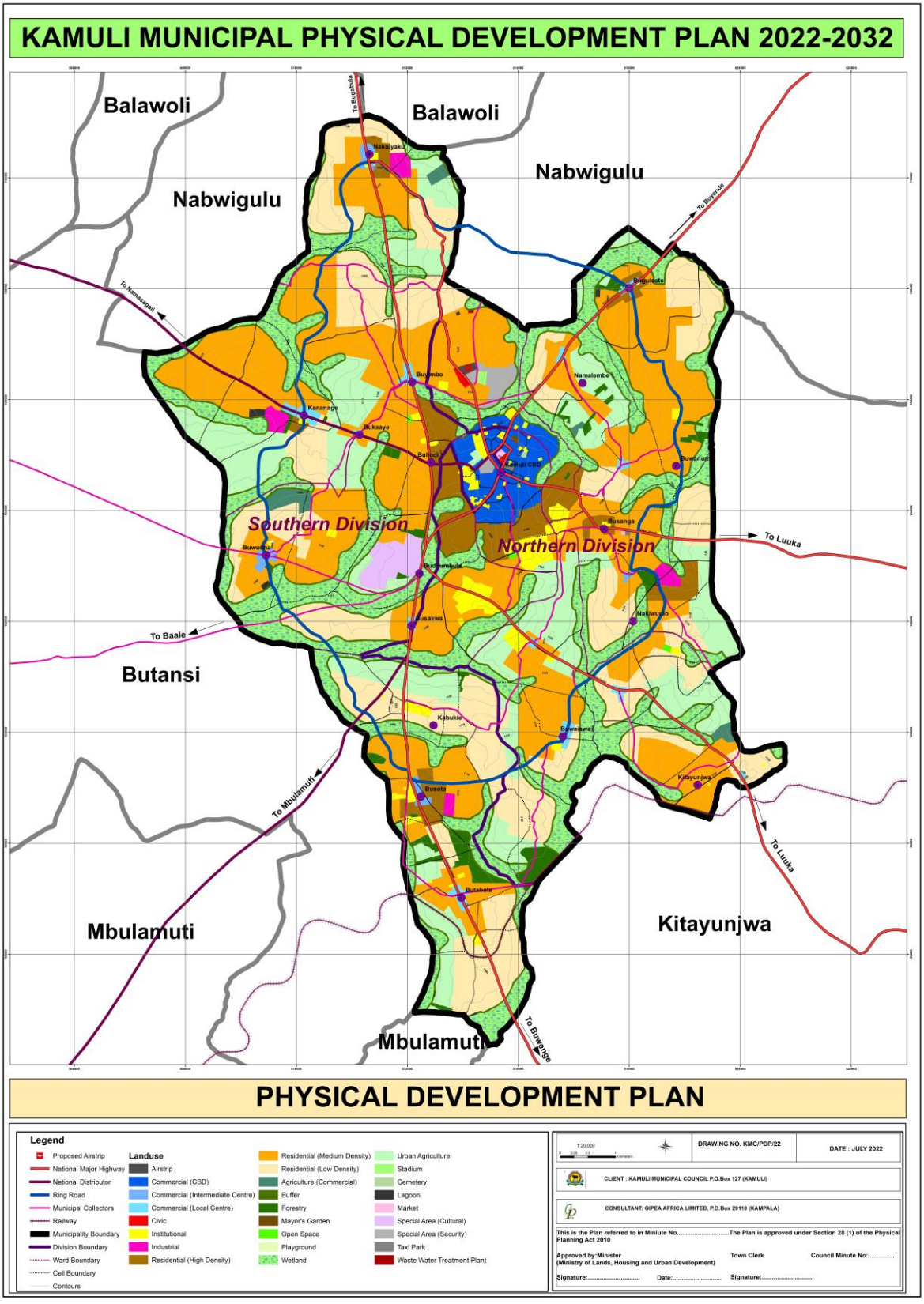
6.1.3. Low density

The proposed low density residential comprises of large plots ranging between half an acre and one acre as provided for in the National Physical planning Standards and guidelines of 2011. It is meant to accommodate all classes of different income earners who will be living and working in the commuter zone of Kamuli Municipality. Low density residential covers 1,829.3hectares of land (19.18%). It was also recommended to accommodate all classes of income levels. It is proposed in areas of Kananage, Bulondo, Bukaaye, Bulindi, Kyamuluya, BUkyemba, Buterimire, Bubale, Alowoza, Bukyelimba, Butabala, Kabukye and Bulamya. Map 53 and Table 59 illustrates the location of the proposed land uses and their coverage in hectares respectively.

Table 59: Land use classification and distribution

Land use	Hectare	%
Agriculture (Commercial)	1,913.63	20.06
Airstrip	462.68	4.85
Buffer Zone	1,225.03	12.84
Cemetery	196.24	2.06
Civic	47.69	0.50
Commercial (CBD)	130.86	1.37
Commercial (Intermediate Centre)	70.59	0.74
Commercial (Local Centre)	32.52	0.34
Forestry	70.74	0.74
Industrial	40.92	0.43
Institutional	0.84	0.01
Lagoon	3.66	0.04
Market	5.76	0.06
Mayor's Garden	4.18	0.04
Open Space	386.41	4.05
Playground	4.08	0.04
Residential (High Density)	1,829.26	19.18
Residential (Low Density)	2,836.67	29.74
Residential (Medium Density)	51.17	0.54
Special Area (Cultural)	7.23	0.08
Special Area (Security)	0.49	0.01
Stadium	1.43	0.01
Taxi Park	4.55	0.05
Urban Agriculture	0.77	0.01
Waste Water Treatment Plant	206.16	2.16
Wetland	5.03	0.05
Total	**9,538.57**	**100.00**

Map 53: Kamuli Municipal Physical Development Plan



6.1.4. Building Standards for Residential Development

Standards for building lines (Table 60) and Plot coverage (Table 61) were also formulated for future guidance of urban development in the Municipality as provided for in the National Physical Planning Standards and Guidelines 2011. A Building line is the distance from a road reserve to where a building can be erected and, in this case, emphasis was put on residential development. It eases future road expansion in case need arise with minimal demolition. A building line also protects the road from encroachment and at the same time it allows easy provision of the infrastructure services in a given area. The Consultant recommends that Kamuli Municipal Council; specifically, the Municipal Senior Physical Planner communicates to property owners about these standards. Violating the set building line within the planned residential zones will not be permitted. This will also be easy to enforce if the municipality develops detailed plans for where the different residential and other land use zones are proposed. It should be noted that this can be revised upwards by the council depending on the size of a given road and its use.

Table 60: Standards for Building line for residential Areas

Density	**Standard range (metres)**
High	*2 – 4m*
Medium	*3 – 5m*
Low	*5 -10m*

Plot coverage refers to the area of a plot that is built as opposed to the un built. It is recommended in this plan that all buildings should follow prescribed coverage to allow aesthetics (beauty) and greenery in their lawns and gardens (Table 61). It is recommended that the developer can be advised on how best to utilise the un-built area by the professionals such as planners and landscape architects.

Table 61: Standards for Plot Coverage in Residential Areas

Density	**Percentage coverage**
High Density Residential	60%
Medium Density Residential	30%
Low Density Residential	10%

6.2. Commercial Land use

Commercial areas are structured in a hierarchical manner. High order goods will be provided in the high order centres for example CBD. Low order goods such as goods needed on day- to- day basis will be provided in the intermediate and local commercial centres in order to improve on uniform growth and encourage sustainable neighbourhood development. However, it should be noted that in the CBD all categories of services provided in the intermediate centres will be provided and must be well planned for. Commercial land use in this proposal covers a total land area of 309.3 hectares (3.24%). The proposed minimum plot size is 15mx30m (49.21ft x 98.42ft) and the recommended plot coverage is between 80% and 95%. The uniqueness of Kamuli Municipality especially in terms of geographical shape necessitates the provision of one expanded CBD i.e., covering the old Town Council boundary and both five intermediate local centres spread in the peripheral areas of the municipality to stimulate growth.

The Central Business District in total covers 206.2 hectares (2.16%). The Intermediate Centers located in Kamuli, Busota, Buwudha, Nakiwolo, Bugulete and Nakulyaku which covers an area of 32.5 hectares (0.34%). Local commercial centres located in Buwanume, Namalemba, Buwaiswa and Kananage covering 70.6 hectares (0.74%) of the commercial land use. It will help in extending services nearer to the people within their locality. This hierarchy will also promote equitable and smart growth of satellite towns which encourages compact development but at the same time ensures urban rural inter linkages to support economic growth.
It is proposed that Kamuli Municipal Council through the Town Clerk's office should be responsible for both planning and management of all the proposed commercial centres.

For purposes of densification to ensure optimum land utilisation, the plan recommends the use of vertical (high-rise) developments of not more than five (5) floors in Mutibwa, Gabula, Buwebwa and Kitimbo cells. Also, high rise developments of not more than three (3) floors are proposed among major routes in Mukasa, Mulamba, Nabikamba, Industrial area, Mutekanga, Kasoigo, Buwengempya, Soroti Water Supply, Bukapere, Bukabaale and Denning cells.

6.3. Industrial development

Industrial use was proposed in each of the intermediate centres covering a total land area of 51.2 hectares (0.54%). This will cover industrial heavy, Artisan Park and warehousing. The recommended plot coverage will vary according to the hierarchy and level of industrial development. The industrial parks were proposed in Busota, Nakiwolo, Buwudha, Bugulete, and Nakulyaku.

However, it's recommended that the green belt of different canopies should be enhanced around the industrial area and proper landscaping during detailed planning in order to reduce on pollution from industries. The plan proposes woodlots separating industrial from other uses. The plot sizes will be determined at detailed plan level because it is quite difficult at this stage to anticipate the kind of industrial development that will be attracted to the area.

6.4. Agricultural use

This land use category is divided into two sub categories namely; urban agriculture which is basically subsistence and commercial large-scale agriculture. Urban agriculture is proposed in order to tap the potential of food production in the Municipality. This was because a lot of land was identified to be un developed during the land use inventory and also after the projections of future land requirements for other key land uses. As a way of promoting food security, urban agriculture was maintained near the residential areas covering a total of about 1,225.0 hectares (12.84%) while commercial agriculture will cover 47.7 hectares (0.50%).

This form of agriculture will make the Municipality to be self – reliant in food supply but also support agricultural processing industries which may develop in the future. However, the land for agriculture can be converted into other uses in future if need arises but with approval from the National Physical Planning Board. The consultant is aware of the future national infrastructure plans which are likely to make Kamuli municipality a transit town to Northern Uganda, the DRC and Southern Sudan. This means that the people of Kamuli should start strategizing in producing fruits as is the case for Kayunga to attract especially the Kenyan market. This will put the total agricultural land of 1,272.7 hectares (13.34%) to better economic use.

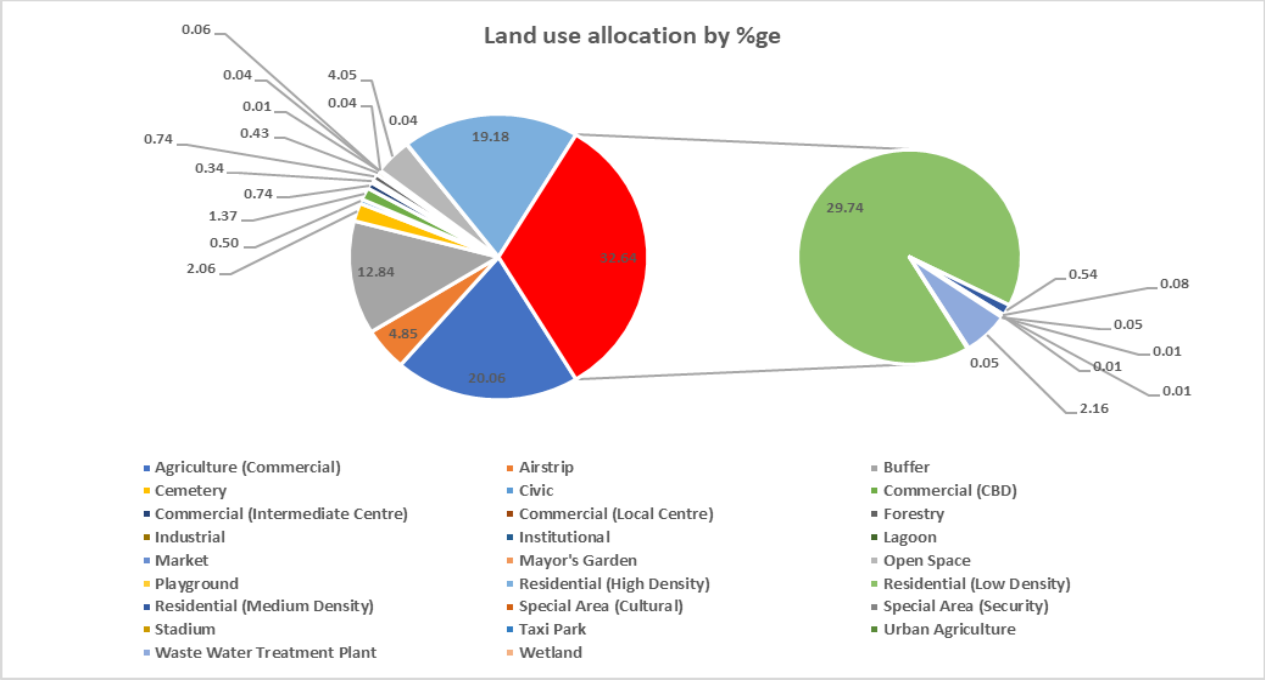
6.5. Civic use

Civic services include; administration such as the Municipal and Division headquarters and the courts. The plan proposes office space for all administrative units and also the existing civic services were maintained as it was discovered that their distribution is sufficient to service the Municipality. Civic covers a total land area of 5.8 hectares (0.06%). The municipality should invest in establishing offices at all functional administrative levels.

6.6. Institutional use

Institutional land use includes; educational, health and religious facilities. Existing Institutional was maintained because it was discovered that; what was existing was sufficient to service the Municipality in the next 19 years. The total land area covered by institutional land use is 196.2 hectares (2.06%). Figure 16 illustrates the distribution of the proposed land uses by percentage.

Figure 16 land use allocation by percentage



6.7. Environmental

Under environment all-natural resources are covered these include land occupied by natural forests and wetlands. It also covers areas for sanitation like landfills and sewer lagoons, waste water treatment plant and buffer zones. In this plan environmental land use covers an area of 2,514.9 hectares (26.37%) of which 1,913.6 hectares (20.06%) was under wetlands. In order to conserve the ecologically sensitive areas, it is recommended that;

- The wetlands and railway reserve should be buffered to a distance of 30 meters in order to prevent encroachment by the residents. The buffer covers an area of 462.7hectares (4.85%). By doing so, illegal activities such as settlement, unregulated sand/ stone mining and brick making

is controlled in such areas. The wetlands are to work as green belts to break up the built monotony.

- The wastes should also be properly managed. The responsible authorities should provide garbage containers in the very busy areas of the Municipality such as markets, and also provide a mechanism of transporting the collected wastes to the nearby waste collection ground. Considering the remining area within the municipality, there is no space adequate for provision of a landfill for the municipality. The consultant is however aware that the municipality acquired land outside the municipal boundary in Bunakabokho 13 km from the CBD for construction of a landfill. The plan upholds the same arrangement. However, the area must be planned and managed as a proper landfill to avoid creation of environmental degradation in the surrounding areas.
- The plan also proposes the conservation of existing forest cover in the municipality. It further proposes provision of woodlots near industrial zones to screen off the environmental hazards in those areas. This category of land use covers an area of 130.9 hectares which is 1.37% of the total planning area.
- There are two existing lagoons at Kamuli hospital and IOWA university. These seen to be serving independent facilities which means they cannot be accessed by the community. The plan therefore proposes lagoons at all intermediate centers to serve the proposed land uses at that level. They cover 7.2 hectares which is 0.08% of the total area. Another waste water treatment plan is also proposed to support especially the CBD covering an area of 0.5 hectares which is 0.01 %.

6.8. Recreation facilities

In order to involve the community in active leisure and good health, the community especially the young people need such Open Spaces like; stadium, Mayors Garden, play grounds and parks to exercise their bodies. The plan therefore proposes land for this purpose covering an area of 10.4 hectares (0.11%) of the total Municipal land. The facilities are proposed in each of the CBD and in each of the intermediate centres.

6.9. Social Services

In order to project the future demand for social facilities the consultant developed a matrix for standards. This matrix puts into consideration the catchment area, the range, the land requirement and the distribution as illustrated in table 62. These standards were used to determine deficiency and guiding future planning needs at lower levels.

Table 62: Proposed Standards for Social Services in Kamuli Municipality

Facility	**Standards**				
Category	**Catchments**	**Walking distance**	**Land requirement (Ha)**	**Location**	**Distribution**
Nursery Sch.	2,500	300-500m	0.1-0.25	Zone	1 per zone
Primary Sch.	4,000-5,000	1-1.5km	1-3	Ward	1-2 per Ward
Secondary Sch.	8,000-1,0000	1-3km	4-6	Ward	1-2 per Ward
Vocational Inst.	50,000 – 100,000	n/a	4 -10	Division	Per Division
Health centre	30,000-40,000	2-2.5km	1-1.6	Ward	1-2 per Ward
Cemetery	50,000-750,000	n/a	1-2	Division	3-5 per Division
Religious	3,000Approx.	n/a	0.25-1	Ward	3-5 per Ward
Community centre	10,000-15,000	n/a	0.25-0.5	Ward	I per Ward
Police post	20,000	n/a	0.1-0.25	Ward	1-2 per Ward
Play ground	Variable	n/a	1	Ward	1 per Ward
Market	>2000	2.5 km	0.2	Ward	Neighbourhood
Fire station	400,000	n/a	0.1- 0.5	Municipal	

6.9.1. Education Facilities

Basing on the analysis done on the existing education facilities, it's recommended that the existing primary, secondary and tertiary institutions should be maintained because their distribution is adequate (See key sector analysis section for education**)** to service the Municipal and the surrounding areas for the next 19 years. However, there is need to improve on the quality of some of the existing education facilities by the authorities concerned or even new ones constructed if need arises in order to ensure quality and to cater for the future demand for these facilities. It is also recommended that; each primary school develop a nursery section to cater for young ones who need this service.

6.9.2. Health facilities

Basing on the analysis in map 52, it is recommended that the existing facilities were adequate to serve the future population. They cover a total area of 14.7 which is 0.15%.

6.10. Other services

The following facilities are also recommended at the parishes: -

6.10.1. Market

There are a number of markets in the Municipality. However, analysis carried out indicates deficiency in the distribution of these markets as other areas are not served. It is recommended that, there is need for more markets to serve the people, without moving very long distance. The existing markets should also be upgraded to meet the future demand. The plan proposes land for a central market to occupy the old stadium and intermediate markets covering 4.1hectares (0.04%).

6.10.2. Cemetery

This plan proposes a cemetery at Busota covering an area of 0.8 hectares (0.01%). The consultant envisages a situation where new inhabitants will come to the municipality and as such, they will need a special area in case someone dies they don't know his or her origin. The plan considers land values as the basis for location of this facility.

6.10.3. Transportation terminals

In order to curb down on the commuter taxis parking in un gazzetted areas, a transportation terminal is located on land area totaling 4.2 hectares (0.05%). The terminal's location is meant to link the CBD and the intermediate centers in order to ease flow of traffic from all direction of the Municipality. The plan also proposes for a Lorry / Taxi Park at to be maintained in the current location. It also proposes an airstrip to support transport covering an area of 462.68 Ha (4.85%) of the planning area in Kiwolera.

6.10.4. Special areas

In Kamuli municipality, there are two types of existing land uses which includes; cultural and security areas. Under cultural we have the Kings Palace located at Budhumbula covering an area of 70.7 hectares while the security area includes police barrack located in Mandwa Ward and covering 40.0 hectares. The total area covers 110.7 hectares which is 5.54%. these areas have been preserved as they exist in the planning area.

Part VII

7.0. WRITTEN PROVISIONS

7.1. Planning Hierarchy

Planning in Kamuli Municipality will take place according to the proposed hierarchy below.

1. Kamuli Municipal Physical Development Plan (KMPDP)
2. Division Physical Development Plan (DPDP)
3. Precinct /Neighbourhood Physical Development Plan (PPDP)
4. Site Development Plan (SDP)

7.2. Municipal Physical Development Plan (MPDP)

This plan will give a framework for future land use development in the Municipality. It will guide the major land use zoning, the physical infrastructure and social services. It will also indicate the boarder planning standards and guidelines which will guide the three other lower planning levels.

7.3. Division Physical Development Plan (DPDP)

Because of the unique nature of each of the four divisions of the municipality, the plan finds it necessary to develop a Division Physical Development Plan. It will ensure convenience, efficiency and equity of service provision to all categories of residents in the area. This plan will be aligned to the municipal and district plans but bringing out more details peculiar to a given locality. It will be planned at a scale 1:5,000 with reference to the context of the municipal plan. It will include;

1. Zoning land use plan (scale 1:5,000)
2. Integrated Infrastructure plan (scale 1:5,000)
3. Detailed physical development standards and guidelines
4. Written provisions

7.4. Precinct/Neighbourhood Physical Development Plans (PPDP)

Every precinct/Neighbourhood shall have a Physical Development Plan. The Precinct Neighbourhood Development Plan (PPDP) is to be planned at a scale of 1:2,500 with planning reference to the context of its respective division. This plan can also be referred to as a detailed layout/scheme which brings out the details of standards and regulations pertaining to a given neighbourhood.

The PPDP is to allow orderly, coordinated, harmonious, progressive and sustainable development of the area to which it relates in order to promote health, safety, order, amenity, functionality, accessibility, general welfare and economy to all its inhabitants and efficiency in the process of development.

The PPDP will include the following components:

1. Land use plan (scale 1:2,500)
2. 3D Urban Design and images
3. Written provisions
4. Statement of compatibility with and/or divergence from the DPDP and compatibility with the Physical Planning Act 2010. In the event the PPDP is prepared by a body other than the KMC

or the MLHUD, this statement will be a sworn statement signed by both the representative of the body proposing the plan and by the lead planner.

The PPDP will address the following provision

a. Physical elements

- The area to which the PDP is to apply, detailing and in accordance with Boundaries and Division Map. Boundary changes of not more than one hundred (100) meters will not be considered changes to the PPDP. PPDP boundaries must be adjacent with no overlaps or gaps.
- Detailing, adjusting and altering the boundaries, area, shapes, and positions of any land use including roads, streets, pedestrian and cycle paths and rights-of-way;
- Classification and subdivisions of the plan area for residential, commercial development, institutional and service facilities, business and industrial development, infrastructure, environmental protection and natural resource management, public and private open space and tourism, or a combination of any of the above. No land or structure within the plan area will be developed or used for any purpose other than what is stated in this plan.
- Determining the type and density of development generally or in any particular locality, for all or specific uses and functions consistent with the average density targets.
- Assessing the balance in the supply of and demand for local public services, facilities and amenities for the projected population, identifying any gaps and in the event of a projected shortfall defining requisite amelioration solutions to ensure appropriate service provision.
- Determining the location of public service facilities including major public institutions, education (primary school upward), health (HC III upward), community facilities, sports facilities, major ecclesiastical facilities for all denominations, playground, etc.
- Conservation and enhancement of historic buildings and objects of architectural, archeological, historical or scientific value.
- Feasible routes for existing, upgraded, and new roads, streets, cycle routes, pedestrian routes, rights –of- way, railways and canals, probable sites for bridges, docks, harbors, piers, power-lines, telecommunications, water drainage and sewerage or any other work or undertaking of public utility.
- Determining the appropriate location for major infrastructural facilities including water storage and distribution; collection, transfer, treatment and disposal sites for solid, liquid and hazardous waste; power transformation facilities; communication masts with appropriate exclusion areas; etc.
- The 3D urban form and architectural principles of the urban fabric
- Traffic analysis of the proposed plan and comprehensive transportation plan for the entire precinct/Neighbourhood.
- Mapping and assessment of environmental values and defining mechanisms for their appropriate use, protection, rehabilitation and/or preservation.
- Mapping and assessment of sources of pollution and defining mechanisms for their resolution or mitigation;
- Mapping and assessment of all historic buildings and landmarks and defining mechanisms for their appropriate use, protection, rehabilitation, and /or preservation.
- Assessing access needs and ensuring access to services, opportunities and public transport for all residents with special emphasis on pedestrians and on the disabled.

- Assessing needs and defining mechanisms ensuring all plots in the precinct can be connected to power supply, on-plot water supply and water borne sewage systems.
- Undertaking appropriate participatory and consultative processes, identifying, assessing, balancing, and addressing, as best possible, relevant stakeholder and public (civil society) interests, needs, desires and preferences.

b. Adherence / compliance to the proposals in the PDP

- Regular and systematic inspection of developments on ground by the Physical Planning Committee to ensure consistency of approved plans and actual developments on the ground.
- Popularizing the plan to lower-level councils and all other stakeholders through the IEC strategy.
- Align the five-year development plan workplans and annual budget with the PDP proposals and ensure that development proposals are implemented.
- Establish a well-equipped and function enforcement unit to operationalize the recommendations / decisions of PPC on development.
- Develop capacity in the municipality to write development proposals/concepts and lobby both local and international partners for funding.

c. Redistribution of land ownership (when necessary)

- Facilitating easy accessibility to land ownership within the plan area by carrying out land adjustment to facilitate easy and efficient use of the land.
- Effective exchanges of or cancellation of existing land sub division as may be necessary or convenient for giving effect to the PPDP.
- Adjusting property rights between owners of land.
- Acquisition of land for public use by the KMC.

d. Implementation.

- Defining implementation stages, prerequisites and conditions for PPDP implementation
- Action plans for implementation
- Directing Construction Licensing and Enforcement
- Any matter necessary or incidental to the implementation of the PPDP.

e. PPDP Approval

Subject to requirements of the Physical Planning Act 2010 and consistency with higher order plans, all proposed PPDPs will be assessed, rejected or approved in part or in full or subject to changes by the KMC. All deviations from KMPDP are subject to National Planning Board approval. All PPDPs will be initiated by the KMC or prepared by other parties subject to prior KMC approval which will include prior definition of plan boundaries and mechanisms and benchmarks for reporting and consulting.

KMC approval of each PPDP will include:

a) All requirements and processes defined in the Physical Planning Act 2010 for local Urban Physical plans.
b) Preparation of the plan under the direction of a Physical Planning Committee (PPC) chaired by the KMC Town Clerk.

c) Preparation of plan on the basis of extensive stakeholder and public (civil society) participation and consultation.
d) Presentation of the proposed plan in an open, structured consultative forum for public feedback to be held in the precinct or within easy access thereto;
e) Assessment and recommendation of the plan by the KMC Planning Department.
f) Presentation of the proposed plan to the KMC Council.

7.5. Site Development Plan (SDP)

All plots larger the one-hectare (1.0Ha) for development and construction and all plots including any construction to a height exceeding ten (10) meters and/ or planned to house twenty (20) or more residential units and/or including any structure exceeding five hundred (500) square meters and/or including any structure where in over fifty (50) persons may congregate and all proposed development requiring changes to KMPDP or PPDPs shall have a Site Development Plan (SDP). Variation of up to fifty (100) meters from NPDP and variation up to twenty (50) meters from PPDPs is not considered a change requiring an SDP unless such a change impacts the alignment of roads, rail infrastructural networks, in which case any variation requires an SDP.

A site plan Development operationalizes the provision of a precinct/ neighbourhood or urban system physical development plan. The SDP defies land use arrangement and boundaries and buildings location in a scale of 1:1,250-1:500. The SDP will be the prerequisite for Development permission for development of a structure on the site.

The SDP will include the following components:

1. Land use plans (scale 1:1,250 -1:500).
2. 3D Simulations, images and Layouts.
3. Written provisions
4. Statement of compatibility with and/or divergence from and/or absence of relevant higher order plans and compatibility with the Physical Planning Act 2010. In the event the SDP is prepared by a body other than the KMC or the MLHUD, this statement will be a sworn statement signed by both the representative of the body proposing the plan by the lead planner.
5. Statement of approval from the Uganda Police Emergency Services with regard to fire protection, emergency, exit provisions, emergency water supply and access for emergency service vehicles.
6. Statements of approval from the relevant Water, Sewage, Power and Waste disposal service providers regarding compatibility with their existing and/or planned systems and approval of interim solutions proposed if so, incorporated in the proposed plan.
7. Statement of approval from NEMA for all plans incorporating commercial, industrial and/ or health service facilities (HCIII upwards)

The SDP will address the following provisions:

1. The area to which the SDP is to apply.
2. 3D urban design characteristics of the public and private domains, location and general form of buildings and ensembles of buildings, layout of roads and streets, pedestrian and cycle paths, location of infrastructure networks and facilities, layout of open spaces, and integrating all the components in a whole fabric.

3. Architectural design parameters of buildings and complexes of buildings.
4. Detailed layouts and sections of all land uses in the site, either for residential, commercial, industrial, public and private services, tourism or combination of both.
5. Infrastructure plans, environmental protection, and natural resource management principles, including on-site power and water supply linkages as well as acceptable solid waste disposal solutions and linkage to water- borne sewage system or in its absence provision for future linkage and provision of acceptable on-site interim solutions for sanitation.
6. Traffic, transportation and parking impacts and solutions including adequate on -site parking provision.
7. Local public service and facility needs and their provisions, either on-site or alternative identified solutions within easy access.
8. Provision for fire prevention and emergency services, including access and water supply.
9. Implementation plan, development stages and time table, cost and financing of infrastructure, service facilities and public open space.
10. Detailed subdivision of planned areas into lots for construction.

SDP Approval

All proposed SDPs are to be submitted to KMC. KMC is to examine each SDP and submit its comments and recommendations regarding the plan. Subject to requirement of Physical Planning Act 2010 and full consistency with the higher order plans, all proposed SDPs will be assessed, deferred, rejected or approved in part or in full or subject to changes by the KMC Physical Planning Committee as provided by the Physical Planning Act 2010.

All SDPs be initiated by KMC or prepared by other parties subject to prior KMC approval which include prior definition of plan boundaries and mechanisms and benchmarks for reporting and consulting.

KMC approval of each PSDP will include:

a) All requirements and processes defined in the Physical Planning act 2010 and Public Health Act for local Urban Physical Plans;
b) Preparation of the plan under the direction of a Steering committee chaired by a representative of the KMC Physical Planning Committee.
c) Presentation of the proposed plan in an open, structured consultative forum for public feedback to be held within easy access to the neighbourhood of the site being planned;
d) Assessment and recommendation of the Division planner for Physical Planning Committee
e) Presentation of the proposed plan to the KMC Physical Planning Committee.

Part VIII

8.0. STRATEGIC INTERVENTIONS AND RECOMMENDATIONS

8.1. Approach

The long-term vision for Kamuli as indicated above, presents challenges of generational scale. The preconditions for such development have to be set in place before Kamuli Municipality can begin to develop into an organised urban area as decision makers and residents' desire. These preconditions need to be met largely over the coming decades under the proposed strategic interventions.

Kamuli Municipal Council is the enforcer of by-laws and/or ordinances set out by her. It has been recognized that Kamuli Municipality is an urbanizing area with the necessary human resource but lacking finances to implement these laws by itself. Therefore, the Physical Development Plan proposes for further funding from the central government, international organizations, NGOs, the private sector and other local institutions for effective implementation of the proposed strategic intervention as illustrated in Table 63 below.

Table 63: Strategic interventions

Development issue	Strategic intervention	Time frame	Actor
Land use planning and management	Embank on the development of Division and Neighbourdood Detailed Plans in each division to control the haphazard physical development with emphasis on Northern and Southern Divisions.	5 years	Kamuli Municipal Council. MLHUD MoLG Development partners. Private sector
	Survey and gazette all public open spaces, reserves for primary and secondary roads, ecologically sensitive areas and other physical infrastructures to protect them from future encroachment.	5-10 years	
	Preparation and implementation of detailed plans for all intermediate Commercial Centers and Industrial areas with emphasis on Busota, Nakiwulo and Nakulyaku Artisan Industrial and Business Park in Kamuli in order to create employment and to attract balanced growth in the entire municipality	5 years	
	Popularize the plan to all stakeholders especially the lower administrative levels, business community and land owners so that they appreciate the plan and endeavor to follow it	1 year	
Population pressure	There is need to redistribute possible employment opportunities across the Municipality. The CBD inevitably remains a focal centre for the local economy. This should be complemented and balanced by significant employment centers in the Municipality such as industrial areas, intermediate and local commercial centres. Research and capacity building activities should be implemented in the Municipality through organizing workshops, seminars and consultation where major decisions on emerging population issues are discussed. There is need to carrying out studies to understand the complex interrelationship between population, environment and development. The result of which will assist to fill the gap in information thereby easing access to adequate services.	10 years	Kamuli MC Central Government International Agencies Uganda Investment Authority

Development issue	Strategic intervention	Time frame	Actor
Housing development	✓ The Municipality should target land in all the intermediate centers, plan and service it and encourage investors in providing low-cost housing for purposes of addressing future housing demand in the municipality. ✓ The Municipality should develop prototype development plans to encourage the poor who can't afford architectural services in order to put up planned structures with approval and assistance from the Municipality. ✓ Central government must revisit the policy on construction material such as cement and iron sheets to make them affordable. The issue of taxing building materials could also be reviewed to avoid escalating the cost of putting up a house which the poor can't afford.	10years 2 -3 years	✓ Kamuli Municipality ✓ Non-Governmental Organization ✓ MLHUD ✓ Private sector
Economic development	✓ Revenue enhancement for the Municipality is very critical. There is need to identify other revenue sources which are not yet tapped and also maximize the collection of property rates. There is need to develop a computerized register and use of technology to support tax collection. The use of E-taxation is highly recommended. ✓ Develop major markets in at least each division of the municipality and the CBD to enhance job creation and improved livelihood of the population and particularly the youth. ✓ There is need to regularize the informal sector and put mechanisms in place to allow them contribute to the local revenue of the Municipality. The municipality should also plan for their existence as a measure of promoting local economic development.	3-5 years 5 -10 years 2 -5 years	✓ Kamuli Municipal Council ✓ MLHUD ✓ MoLG ✓ MoT&A ✓ Development partners. ✓ Private sector ✓ MoT&T
Infrastructure development	✓ There is need to strengthen the Municipality's' financial capacity to improve self-financing capacities and their creditworthiness with respect to investments in urban infrastructure systems. An essential criterion of success is the involvement of all levels of government responsible for the various sectors and their financing including the private sector. ✓ There is need to improve infrastructure based on concrete plans of the Municipality, for example the development of integrated public transport systems, the systematic tarmacking of roads linking the CBD and all other intermediate centres, street lighting, development of solid waste treatment plant, and construction of major markets ✓ The drainage system needs immediate attention to avoid road damages and continuous flooding whenever it rains especially in Nakulyaku. ✓ Improvement on water, electricity and sewerage network coverage is critical for purposes of attracting external investments in the Municipality. Focus should be on all the intermediate centres	5-10 years	✓ MoW&T ✓ Kamuli Municipal Council ✓ Private sector ✓ NGOs ✓ MLHUD ✓ UNRA ✓ NW&SC ✓ MoFP&ED

Development issue	Strategic intervention	Time frame	Actor
Staff development	✚ There is urgent need to build capacities of both technical staff who will implement this plan and the youth in skills development so that there is preparedness for the jobs created ✚ The Municipality needs to pattern with other institutions like universities, religious institutions and the private sector to provide backer stopping and promote community outreach.	5 years	✚ Non-Governmental Organization ✚ Kamuli Municipal Council ✚ International Agencies
Environmental health	✚ The Municipality should encourage collective responsibility by promoting "The Keep Kamuli Clean Campaigns" through awareness creation, competitions at Ward level and where necessary enactment of Municipal bylaws especially in areas of solid waste management to ensure community participation so as to reduce on open dumping of waste especially in the CBD. ✚ Environmental education/capacity building; to encourage and promote onsite environmental management, conservation and monitoring by the Lower Local Council and public. ✚ Wetland management programme; to ensure demarcation of valued wetlands as habitats, flora and fauna in them and other cultural values, ✚ Refuse disposal management; for extensive research on appropriate collection, transportation and disposal. Kamuli Municipal Council will be a lead in this venture and can opt for municipal collection or privatized methods. ✚ Tree planting programme for landscaping and creation of a roadway portal for domestic or local community aesthetic value is highly emphasised to improve aesthetics. ✚ Provide human waste treatment; to reduce the use of pit latrines by adapting the use of lagoons especially in the CBD and proposed intermediate centres.	3-10 years	✚ Kamuli Municipal Council ✚ NGOs ✚ NEMA
Social services	✚ Need for construction of more community centers at list one per ward where training sessions especially of the youth can take place. ✚ Construct a rehabilitation centers at each division for the physically and mentally disadvantaged youth to impart skills so that they can become self-sustaining.	3-5 years	✚ Kamuli Municipal Council ✚ NGOs ✚ MoHS

8.2. General recommendation

8.2.1. Institutional development

- Develop sensitization programmes for Kamuli community to begin the transformation process from rural to controlled urban systems that meet the acceptable standard and way of life.
- To enable smooth running and management of the development of the Kamuli Municipal Council it is necessary that within the Municipality Institutional Framework, a sector be created specifically to oversee the physical development of the planning area. This is advisable in order to allow for direct generation and allocation of funds, manpower, materials and other resources specifically for the developing lower local plans for the proposed areas in the strategic plan.
- In order to reduce degradation of ecosystem and disturbance such as vegetation loss and in order to encourage development in accordance with development guidelines and ensure

environmental safety, the proposed sector/institution at the municipality should identify key development sectors in the planning area in order to develop and set guidelines, environmental quality standards, laws, rules and regulations governing use and management of natural resources and development projects. Relevant sector bylaws must be laid down e.g. for natural resource conservation; for any indigenous tree felled for construction purposes a replacement must be done. Incentives to encourage compliance and penalties for violation of laws and regulations especially among private sector developers such as visitor centre operators, industrial owners and amenities providers must be defined. Appropriate economic incentives are also necessary to attract especially the private sector to invest in tourism projects in the area.

- The local sector development guidelines must be harmonized with the current guidelines from e.g., relevant government agencies, the ministries, and various existing national laws and policies related to conservation.
- Local management and enforcement organs e.g., pollution control organs within the planning area need to be developed, strengthened and empowered with training and skills, funding, manpower, materials and equipment to effectively regulate and supervise development activities. Contribution and involvement are expected from relevant stakeholders including NGOs operating in the area, local government offices, business enterprises, and other relevant bodies and individuals.
- The municipality should change from being a controller and regulator to being a facilitator and enabler.

8.3. Physical Development

- In order to sustainably utilize the natural environment and to direct development activities according to the area development plan, physical planners of the area must clearly zone the area into designated development areas during the development of detailed schemes. This will result into positively restraining disorderly development and land speculation and will also minimize negative environmental impacts of development on the ecosystem.
- To avoid any unnecessary alterations to the landscape and disturbance to the ecosystem, Environmental Impact Assessments (EIA) must be carried out by registered environmental practitioners before any development related activity such as construction and reconstruction, water supply development, industrial plant establishment, infrastructure development, transport projects, sewerage management, commercial agriculture, tourism development etc, is done. Approval from NEMA must be obtained on completion of the normal procedures of an EIA and presentation of an Environmental Impact Statement (EIS). For development plans to be approved they must be accompanied by a certified EIS. The final approval by the Municipal Physical development Plan is mandatory.
- All developments of infrastructure, facilities, amenities, and other activities must be done in accordance with the required standards, in the designated zones, by competent organs and for approved purposes. This will enable systematic monitoring and evaluation of the development projects and also minimize environmental and social impacts of the projects.
- The consultant recommends an integrated planning approach in in the implementation of the physical development plan. This will go a long way to ease the provision of services in the municipality.

8.4. Marketing and advertisement

- There is need to train local people in the Municipality to become professional entrepreneurs.
- There is need for creation of an Information Centre where residents and visitors can easily obtain any form of information about the Municipality.
- Preparation of brochures, pamphlets, magazines, souvenirs for advertisement and visitor information but also very importantly information on development requirements and standards should readily be available to developers and residents to minimise delays.
- Use of regular local and national radio programs to give information, educate, encourage participation, create awareness, and raise interest of the local people in the Municipality activities was considered very essential.
- Monitor quality of products and processes in order to attract investors and generally visitors.

8.5. Capacity Building, Training and Skills Development

- In order to sustainably implement the plan, there is need for building capacities of technical staff and the policy makers in understanding and implementing developmental programmes in Kamuli Municipal Council. It is the wish of this plan to see the Physical Planner, the Community Development Officer, Environmental Officer, Surveyor and Civil Engineer trained in graduate programmes such as; integrated urban and regional planning, ecotourism development and management, development control mechanisms/systems and land management, GIS and Remote Sensing, Natural resource management, PPP in urban infrastructural development and others. Such courses range from 3 month to 1-year programmes locally and aboard.

- It is highly recommended that the programmes must be tailored toward enhancing capacities of local staff for better management. For the policy makers programs like urban development and management, finance management and budgeting, mobilization and communication strategy are recommended. Recommended institutions for such programmes include UMI, MUK, Public Service Institute in Jinja and Nsamizi for local courses and ITC Netherlands, RCMRD Kenya, ESAMI Tanzania for international courses among others.

- Institutions involved in Community and Environmental Education need to be encouraged in order to provide conservation knowledge, provide necessary skills for transformation of their activities to conform to proposed land use changes, encourage behaviour change, and enlist their positive participation and acceptance of development and conservation initiatives. Institutions such as NGOs, CBOs and the Municipal Community and Environment offices should be identified, motivated and liaised with to intensify conservation and development education among the community members.

8.6. Resource mobilization

- The District Service commission responsible for recruitment of staff in Kamuli Municipality needs to employ persons skilled enough to aggressively lobby both local and international bodies to provide financial and material resources for the development initiatives. Such skills may include ability to organize and manage fundraising activities, write funding proposals, lobby international and local donors, solicit for grants, etc.

- Competent organs need to be consulted to define and/or revise user fees, fines, local taxes, etc. to match the scale of development expected in the area and the services to be provided. This will be a convenient way to generate local funds from the area for its own development activities.

- Local manpower should always be given priority in employment in areas such as facility management and provision, construction, enforcement, local leadership, local program management, community education, monitoring etc. This is a strategy to ensure participation of the local people in development initiatives and getting them involved in beneficial non-consumptive use of resources.

Part IX

9.0.DEVELOPMENT CONTROL

9.1. Introduction

Given that Kamuli Municipal Council is under Kamuli District Local Authority, it's recommended that development control will be the responsibility of both Kamuli Municipal Council and Kamuli District Local Government so as to allow conformity of the Kamuli Municipal Council Development Plan with that of the district in case it exists.

There is need to provide affordable shelter options and its related services but which conform to the planning, building and engineering standards so as to ensure safety of people's lives. In most cases the existing statutory, planning, building and infrastructure standards do not conform to the local needs and resources of people in Kamuli Municipal Council with the regularities and complexities involved in enforcing them notwithstanding. Such emanate from political interference, administrative weakness and resource constraints. Therefore, recommendations for the standards made herein have put into consideration the above issues.

The areas addressed here include building requirement, infrastructure requirement and planning requirements.

9.2. Building requirements

It's recommended that Kamuli Municipal Council setup and review existing by-laws, planning regulations and infrastructure standards to operationalize the recommendations made in form of guidelines in each sector considered in this plan.

All the developments above shall be guided by qualified relevant technocrats who will ensure the following requirement are satisfactorily followed: -

- Well ventilated,
- Well illuminated by natural light during the day,
- If residential each adult should have enough space in the room to stand, sit and sleep in,
- Provide resident with sufficient facilities for the storing of food and utensils. (The nature will depend on the locality of the parish being addressed).

Other functions of the Kamuli Municipal Council shall also include but not limited to; Guide developers on matters related to application and requirements for buildings to be developed. Such requirements shall include inter alia;

- Written application for development,
- Site and layout/block drawings,
- Landscape plan in case the development is more than 1,000 square metres
- Plumbing and drainage installation drawing,
- Building material and specifications,
- Fire protection specifications,
- Structural drawing in case of storied development,
- Refuse disposal specifications,
- Public safety requirements,
- Sanitary provisions,

- Electrical layout drawing,
- Consideration for disabled groups in case of public building,
- Gender specification and consideration say ion case of rest rooms etc.

The Municipal Physical Planning Committee (MPPC) on receiving such application should expedite its approval or rejection within 30 days. In case of approval of a building, the PPC/UBC shall issue a permit allowing consent of the development. In case of objection, the PPC shall do it in writing to the affected parties giving reasons for objection. Samples of the required permissions and applications are indicated in the attached annexes.

The building/engineering section should ensure that building construction and site operation are carried out as stipulated by the Uganda's Building Regulations. The Engineering Department should also provide technical guidance to Developers where appropriate. The following particular areas are strictly recommended: -

- Structural plans (Prototype plans),
- Landscape, public open space and earth works,
- Building construction,
- Temporary building erection,
- Demolition works,
- Site operations,
- Material selection,
- Plumbing and drainage work,
- Refuse disposal,
- Public safety,
- Gender specification,
- Building and property maintenance.

9.3. Infrastructure requirements

The Kamuli Municipal Council should be responsible for the entire infrastructure to be planned, established, developed and used/maintained so as to ensures accessibility, it does not become a health hazard and shall not be a danger/injurious to the community. Such infrastructure shall include but not limited to the following: -

- Water borne systems other than those operated by NWSC,
- Water supply other than those operated by NWSC,
- All access and tertiary roads,
- Drainage of surface runoff/storm water system,
- Refuse management system.
- Drainage system
- Street lighting

To effectively enforce the above there is need to build capacity to administer tasks mentioned above. It requires further building capacities for some of the following offices and establishing those that are non-existent.

- Plans Office – Plans Clerk (2)
- Building Inspection Office (1 per division)
- Assistant Public Health Office (1 per division)

- Draftsman/Cartographer (2)
- Assistant Land Surveyor (1)
- Assistant Physical Planner (1 per division)
- Assistant Community Development Officer (1)
- Assistant environment officer (1)

These Officers should be able to fit in the local government staff establishment structures. There will be need for equipment and avail logistics to officers in order for them to operate efficiently. The equipment and logistics can be acquired gradually depending on the availability of financial resources in the Municipality.

9.4. Planning requirements

Developers applying to construct buildings and infrastructure are required to make formal application to council and applications shall be accompanied by any and not restricted to the following documents: -

- Site plan,
- Block plan,
- Service drawing showing locations of existing and proposed point connection,
- Site drainage plans,
- Structural design details,
- Construction technology specifications,
- Fire protection plan,
- Building material tests and specifications,
- Lighting, heating, and ventilation requirements,
- Environmental safety,
- Gender specifications in case of public buildings,
- Disabled group specifications,

Application for subdivision and change of user shall be made to the PPC for approved or deferred depending on the circumstances and situation that does not contravene this plan. For change of use shall be subject to Council and National Planning Board approval. Where the area of concern is too big and or sensitive to District and/or national interest the approval of the National Physical Planning Board shall be sought, with support of other relevant government agencies. Issues relating to the skyline, building line, orientation, setbacks shall be prescribed at detailed planning level where flexibility shall be prevalent as seen deemed necessary by the Municipal Physical Planner.

Further guidance shall be sought from the National Planning Authority and the secretariat of the National Physical Planning Board on matters related to planning in Kamuli Municipal Council.
It's recommended that Council should acquire information related to land administration and/or management so as to ensure effective management. Such may include updated topographic and cadastral maps, which will expedite effective detailed planning.

This Plan is a framework for future development planning of Kamuli Municipal Council and therefore it's important to effectively and immediately embark on preparation of lower-level zoning plans to help in the preparation of detailed planning schemes. The Municipal Council also needs to mobilize funds to establish a fully-fledged GIS unit and periodic purchase a satellite image for the Municipality to aid surveying and physical planning team in executing their mandate but also to support revenue enhancement.

Part X

10.0. PLAN IMPLEMENTATION

10.1. Tasks and Responsibilities

In order to implement the plan effectively, it is important to point out the key activities and the major actors in the implementation process. Table 64 gives an overview on roles and responsibilities during the plan implementation. Table 65 gives the indicative costs for implementation of the plan and identifies the implementation phases.

Table 64: Work Plan (tasks and responsibilities)

Work plan for the implementation of Kamuli PDP					
No.	**Activity**	**Time frame**			**Key players**
		Short term (3Yrs)	**Medium term (5 Yrs)**	**Long term (2Yrs)**	
1	Popularization of the Plan	1 year			Kamuli Municipality, MoLH&UD, CBOs
2	Institution strengthening	1 Year			MoLG, Kamuli Municipality, Kamuli District Service Commission &MoPS
3	Capacity Building of technical staff	3 Years	1 Year	1 Year	Kamuli Municipality, MoLG, MLHUD, Development partners, NGOs
4	Develop all Division Council PDPs	3 Years			Kamuli Municipality, MLHUD, all Division Councils
5	Development of E-Tax collection system to improve revenue collection	2 Years			Kamuli Municipality, Division Councils, MoFPED, URA
6	Survey and marking of all municipal planned infrastructures and land for social services	3 Years			Kamuli Municipality, MLHUD, NGOs
7	Develop prototype plans	1 Year			Kamuli Municipality, MLHUD
8	Planning of the all the intermediate commercial centers	2 Years			Kamuli Municipality, MLHUD
9	Environmental restoration, protection and education programs	3 Year	5 Years		Kamuli Municipality, MLHUD, NGOs, MoW&E, NEMA, NFA
10	Modern solid waste treatment plant (land and facility)	3Years	2 Years		KMC, MLHUD, NGOs, MoWE&NR, NEMA,
11	Acquisition of land, plan and service it to attract investment in low cost housing and industrial areas	3 Years	5 Years		Kamuli Municipality, MoLH&UD, Division Councils, Development partners
12	Develop all neighbourhood detailed (Wards) plans in each Division	2 Years	5 Years		Kamuli Municipality, MLHUD, Division Councils
13	Plan and develop the artisan industrial park at Nakulyaku and Busota in Kamuli	3Years	3 Years		Kamuli Municipality, MoW&T, MLHUD, Development Partners
14	Tarmacking of all Municipal collector (45.5kms)	3 Years	5 Years		Kamuli Municipality, MoW&T, Development Partners
15	Developing other Municipal roads with drainage works		5 Years	2 Years	Kamuli Municipality, MoW&T, Development Partners
16	Repair all the drainage and landscape the main streets in the CBD to improve aesthetics		8 Years	2 Years	Kamuli Municipality, MoW&T, Development partners
17	Construction of taxi park at Mandwa Ward		2 Years		Kamuli Municipality, MoW&T, Development Partners,

Work plan for the implementation of Kamuli PDP					
No.	**Activity**	**Time frame**			**Key players**
18	Street lighting of roads in the CBD and other intermediate centres	2 Years	2 Years	2 Years	Kamuli Municipality, MoW&T, Development Partners
19	Develop a Municipal and Division Markets	2 Year	2 Years	2 Years	Kamuli Municipality, Development partners
21	Development of modern waste water treatment Plant		5 Years		NEMA, Kamuli District, MoWE, Development Partners
22	Plan and service the Industrial Park	2 years	4 years	2 Years	Kamuli Municipality, UIA, NEMA, Kamuli District, MLHUD, MoW&T,
23	Prepare ward Detailed Plans	2 Years	2 Years	2 Years	Kamuli Municipality, MLHUD,
24	Monitoring and evaluation	1 Year	1 Year	1 Year	Kamuli Municipality, MLHUD

10.2 Investment plan

Table 65: Indicative Costs for proposed Project Implementation

Projects/Activity	**Implementation Period**	**Indicative Costs (USD)**	**Source of Funding**
Popularization of the plan	Continuous	30,000	KMC
Institutional development	1 year	50,000	KMC, MoLG
Phased capacity building of technical staff	5 years	380,000	KMC, MoLG, Development Partners
Strengthen and promote physical planning awareness campaigns	Continuous	40,000	KMC, MLHUD, NPPB
Develop all Division Council PDPs	3 years	47,000,000	KMC, MLHUD, NPPB
Repair all the drainage and landscape the main streets in the CBD and plant trees on all municipal roads to improve aesthetics	8 Years	2,000,000	KMC, WB, MLHUD,
Planning of the all-intermediate commercial centers	2 years	100,000	KMC, MLHUD
Develop prototype development plans to encourage the poor to access architectural services to.	1 year	25,000	KMC, MLHUD
Develop Municipal and Division markets	6 Year	6,486,000	KMC, WB, USMID, MLHUD,
Prepare Ward detailed schemes	6 years	290,000	KMC, MLHUD
Environmental restoration, protection and education programs	8 year	50,000	KMC, NEMA, MoW&E
Tarmacking of all Municipal Collectors (45.5kms)	8 year	24,600,000	WB, MLHUD (USMID, UNRA
Developing a computerized register for local revenue enhancement and E-tax collection	2 years	3,700,000	KMC, MFP&EM, MoLGs
Develop a modern waste water treatment plant	5 Years	1,050,000	MLHUD, KMC, NEMA
Developing other municipal roads (190 km) with drainage works	10 years	102,702,702	KMC, MoLGs, MLHUD, Development Partners
Acquisition of land, plan and service it to attract investment in low cost housing.	8 years	10,000,000	KMC, MoFP&EM
Construction of a taxi park at Madwa ward	2 Years	1,351,000	KMC, Development Partners, Private Sector

Projects/Activity	Implementation Period	Indicative Costs (USD)	Source of Funding
Plan and develop the artisan industrial park at Busota and Nakulyaku in Kamuli Division	8 Years	150,000,000	KMC, Development Partners, Private Sector
Monitoring and evaluation of plan implementation throughout the implementation period	Continuous	40,000	KMC, NPPB, MLHUD, MoLGs
Total		**707,993,000**	

Table 66: Specific indicative costs for road construction

Type of Upgrading	Cost (UGX/km)
Track/open bush to earth road	20,000,000/-
Earth road to Gravel Road	80,000,000/-
Gravel road to Paved road	485,000,000/-
New Paved Road	800,000.000/-

10.3 Schedules for Plan Implementation

Table 67: Schedule for plan implementation

Phase	Activity	Duration	*Execution office*
1	Popularise the plan	Continuous	*Kamuli Municipal Council*
2	Surveying infrastructure	12 months	*Kamuli Municipal Council*
3	Compensations	3 Years	*Kamuli Municipal Council*
4	*Opening of infrastructure*	*6 years*	*Kamuli Municipal Council*

APPENDECIES

Appendix 1: References

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Appendix 2: Public health act

KAMULI MUNICIPAL COUNCIL
THE PUBLIC HEALTH (BUILDINGS) RULES, 1951
APPLICATION FOR APPROVAL OF PLANS
(To be submitted in quadruplicate)

TO THE CITY ENGINEER AND SURVEYOR……

I hereby submit Plans, Section Elevations, Block Plans and Details for *New Building Alterations, Additions for use as *Domestic Building, Dwelling House, Public Building, Building of the Warehouse class, in accordance with Building Rule No.6.

Plot No……..Street or Road……..
Having a frontage to……...
Foundations……
Damp-proof Course……
External Walls……
Mortar in Walls……
Floor (describe all types of floors)…….
Roof (covering of)……..
Ceilings……..
Description of water fittings……
Means of water supply……..
Description of machinery to be installed……
Name of Architect……
Address……
Cost of proposed works: Shs…….

I certify that the term under lease No……will be fully complied to and that application and the accompanying plans are to the best of my knowledge.

Signature of Architect……..

Date…… Full Name and Address of owner……
(In Block Letters)

I hereby give am undertaking:

a) To cleanse and maintain common parts and premises (section II of the Public Health Building Rules, 1951)
b) To provide dustbin bays at front of premises or in the backyard to the satisfaction of the Medical Officer of Health.
c) To construct a footpath along the frontage of Building in accordance with City Engineer's requirement

Owner's Signature _____ Date_____

N.B –Particulars of any proposed drainage must be submitted on the forms specified in the appendix to the Drainage and sanitation rules, 1950, or any rules amending or replacing the same, should accompany this application._____

* Delete description inapplicable.

OFFICIAL USE ONLY
File No…….

Date Received……

Appendix 3:Formate for development application

KAMULI MUNICIPAL COUNCIL
DEVELOPMENT APPLICATION FOR PERMISSION TO CARRY OUT DEVELOPMENT

1. (i)Address or location of the proposed development. (ii) Name of Planning area.	
2. Full names, postal address and telephone number of person responsible for the development. (IN BLOCK LETTERS)	
3. Full names, postal address and telephone number of person applying on behalf of the developer(if any)	
4. (i) Particulars of the developer's interest (e.g. free hold, lease, prospective purchaser etc.) (ii) Details of any restrictive covenants likely to affect the proposed development.	
5. (i) State the zone within which the proposed development falls. (ii) Give a brief description of the proposed development including where appropriate information as to the process involved and machinery to be installed. (iii) State the purpose for which the land/or building era now used and if used for more than one purpose give details	
6. (i) State whether the proposed development involves the construction of a new, or the alteration of an existing access to or from a road. (ii) State whether provision will be made for a car perking within the plot and if so, for how many cars. (iii) Give details of the intended provision for the loading and unloading vehicles.	
7. (i) Source of water supply (ii) Means of subsoil drainage (iii) Details of sanitary arrangement. (iv) Means of disposal of any trade refuse or trade effluents.	
8. **Give the area of the plot in square meter**	
9. Where the proposed development includes any building or re-building operations the following table where applicable shall be completed.	

Floor Level	**Use** **NOTE: of more than one use on any one floor give**	**Area covered by building Square**	**Percentage of plot. covered**	**Floor Space Square.**	**Plot Ratio**

	figures for accommodation allocated to each use.	**metre.**		**meter.**	
Lower Ground or Basement					
Ground					
First					
Second					
Third					
Fourth					
Fifth					
Sixth					
Seventh					
Eighth					

10. Describe briefly the material to be used, together with details of any advertising signs and any other relevant information likely to assist the planning Committee in the assessment of the application.

Note:-This information should also be indicated on the plans.

I/We hereby certify that to the best of my/our knowledge the information contained in this application is correct.

Signed…….

Date……

EXPLANATORY NOTES

1) "Land" "building" and "development" have the meaning assigned by the ordinance
2) Attendance is drawn to the regulations, particularly Regulation 2.
3) This is for planning permission ONLY and does NOT cover any application which may be required under the Building Rules or legislations dealing with the display of advertisements.
4) Attention is drawn to the provision of outline or Detail Planning Scheme Operating or in course of preparation.
5) Attention is drawn to the advisability of agreeing the external colour scheme for the development with the committee.

6) Four copies of this schedule, when completed, together with relevant attachments to be sent to: Office of Origin

PLANNING AND LAND MANAGEMENT DEPARTMENT
P.O.BOX…… KAMULI

Appendix 4 the public health act

KAMULI MUNICIPAL COUNCIL
THE PUBLIC HEALTH ORDINANCE
(The Drainage and sanitation Rules 1962 (20) (1))
APPLICATION FOR APPROVAL OF DRAINAGE PLANS

I……here by make application for permission to construct the work shown on the plan annexed here to drainage of the premises owned/occupied by me situated at……
……
And I undertake and agree to conform in the construction of the works with the law relating to the same.

PARTICULARS

Description of building…….
……
……
……

	MALE	FEMALE
Number of persons normally living on premises	_____	_____
Number of persons normally employed on premises	_____	_____

Whether on completion of works application will be made to connect with a public sewer……
……
Proposed and existing system of drainage……
Proposed and existing means of disposal of soil and waste water…….....
……
Proposed and existing means of rain water……
……
Means of disposal of manufacturing effluents (if any)……
Name and address of contractor or agent doing the work……
…… ……
(Date) (Signature)

Appendix 5: format for approval of drainage plans

CCK/CELS 14
(ANNEXTURE TO FORM OF APPLICATION FOR APPROVAL OF DRAINAGE PLANS)

PLAN SHOWING PROPERTY TO BE DRAINED AND THE POSITION OF ADJOINING STREETS OR ROADS

Drainage for sewerage to be shown by RED lines.
Drains for surface and storm water by BLUE dotted lines.
Channels for surface and storm water by BLUE dotted lines.
Existing sewer and drains by BLACK lines.

SCALE……..feet to an inch
Date…… (Signature)

REFERANCE

A.S. P	–	Anti-siphon	S.	-	Sinks
B.	-	Bath	S.P	-	Soil pipes
C.	-	Cesspool	S.V.P.	-	Soil ventilating pipes
F.A.I.	-	Fresh air inlet	So.	-	Soak way
G.T.	-	Gully Trap	S.T.	-	Septic Tank
I.C.	-	Inspection Chamber	U.	-	Urinals
In.	-	Interceptor	V.P.	-	Ventilated Pipes
L.	-	Lavatory basins	V.W.P	-	Ventilated waste pipes
R.W.P.	–	Rain-water pipes	W.C.	-	Water closers

Levels which give the height above main sea level Mombasa of the invert of both foul and storm water drains immediately at the point at which the authority will be required to connect such system of drains to sewers, must be shown.

Position at which it is proposed to connect with the sewer is to be shown by the distance from the centre of the cover of manhole next downstream.

Approved by …….. On ……

Tested and inspected by…… On ……
Any deviation from the above plan to be shown by lines or notes in GREEN ink.

Appendix 6: Form. P.PA. 2

APPLICATION FOR SUBDIVISION/ CONSOLIDATION OF LANDS AND BUILDINGS

Application No……. of 20……..

To ……

(insert name and address of the appropriate Planning Office)

Owner's name and address……

Applicant's name and address ……

Nature of interest in land (Registered owner, lessee, tenant by occupancy, sub leassee, customary tenant)

(a) Block, plot number and location ……

(b) District, sub county, parish, town and street/ road……

(c) Acreage……

5. If an application was previously submitted, state the registered number of the application

……

6. The purpose for which land or building is now used. If not used, the purpose for which and the and the date on which they were last used

……

7. Describe briefly the proposed subdivision including the purposes for which the land and/ or buildings are to be used

……

8. Details of any relevant easements affecting the proposed sub-division.

……

9. State the-

(a) Area affected

……

(b) Area covered by buildings

……

(c) Percentage of the site covered by existing buildings and that covered by proposed buildings

……

Dated this ……. Day of …….

Signature of applicant or agent

……..

If signed by the agent, state:

Name……

Address……

Profession……

Telephone……

E-mail……

****Application to be submitted in TRIPLICATE in respect of each transaction and sent to or left at appropriate office of the local physical planning committee***

Appendix 7: From P.P.A.3

THE PHYSICAL PLANNING ACT, 2010
NOTIFICATION OF APPROVAL/ REFUSAL/ DEFERMEMNT OF DEVELOPPMENT PERMISSION

No …… of 20……

TO:

……

Your application No …….. of 20 ……, for permission to develop parcel No ……. Situated on …….. road was considered on …… (Insert date) and the committee approved/ refused/ deferred the application for the following reasons/ subject to the following conditions

……

……

……

……

Date this …….. day of ……

Signed ……

For: Chief Administrative Officer/ Town Clerk/ Sub county chief

Appendix 8: the physical planning act

THE PYHSICAL PLANNING ACT, 2010
ENFORCEMENT NOTICE

No ……. Of 20 …….
TO: ……
(Insert name of owner, occupier or developer)
In accordance with section 48 of the Physical planning Act, 2008 the committee is satisfied that you are carrying out an illegal development on plot ……. in (state area)
…… of this town/ municipality/ district.
This is therefore to require you to
……
……
……
Within …… days from the service of this notice
Failure to comply with this notice shall result in
……
……
……
Dated this …….. day of ……
Signed ……
For: Chief Administrative officer/ Town Clerk/ Sub county Chief