THE REPUBLIC OF UGANDA

NALUGUGU WETLAND

COMMUNITY BASED WETLAND MANAGEMENT PLAN

2025-2035

MINISTRY OF WATER AND ENVIRONMENT
Wetlands Management Department

With support from

Strengthening Adaptive Capacity and Resilience
of Communities in Uganda's Watersheds - Awoja Catchment
(SACRiAC) - Project

THE REPUBLIC OF UGANDA

NALUGUGU WETLAND: COMMUNITY BASED WETLAND MANAGEMENT PLAN 2025-2035

APPROVAL

This Management Plan has been prepared and reviewed by the local wetland stakeholders, leaders of Bukiise sub-county and Mutufu town council, Sironko district Local Government technical staff and leaders, SACRiAC project management team and Ministry of Water and Environment. It has therefore, been approved for implementation on this 10th day of July 2025.

NASAAGA MOSES

LC3 Chairperson

BUKIISE SUB-COUNTY

CHAIRPERSON BUKIISE SUB-COUNTY 10 JUN 2025 SIRONKO DISTRICT

Mayor

MUTUFU TOWN COUNCIL

MUTUFU TOWN COUNCIL 10 JUN 2025 SIRONKO DISTRICT LOCAL GOVERNMENT

GIRULI DAVID LIVINGSTONE

District Chairperson

SIRONKO DISTRICT LOCAL GOVERNMENT

OFFICE OF THE DISTRICT CHAIRPERSON SIRONKO LOCAL GOVERNMENT 10 JUN 2025 P.O BOX 34 SIRONKO

Witnessed by

FOR CHIEF ADMINISTRATIVE OFFICER 10 JUN 2025 P.O.BOX 34, SIRONKO Sironko District Local Gov't

Chief Administrative Officer

SIRONKO DISTRICT LOCAL GOVERNMENT

Permanent Secretary

MINISTRY OF WATER AND ENVIRONMENT

ACKNOWLEDGEMENTS

The preparation of Nalugugu Community Based Wetland Management plan was widely consultative and community led. Special thanks go to the members of the community from Bukiise sub-county and Mutufu town council together with their cultural and religious leaders, civil society organizations and political leaders who provided information but also proposed management and conservation strategies contained in this plan. The contribution made will not be in vain and will go a long way in shaping wetland management in the district.

Technical staff from both Sironko District local government and the Wetlands Management Department, Ministry of Water and Environment spearheaded the process of preparation of this management plan. The technical expertise and leadership exhibited in this process is highly appreciated. Special appreciation goes to the team that was at the fore front during development of this plan and they include Ministry of Water and Environment team led by Commissioner Wetlands Management Department Mr.David Okurut, Iyango Lucy Anne, Barugahare Vincent, Kairumba Kagaba Carol, Gokaka Geoffrey, Ssebyoto Asadhu, Wafula Dickson, Arinaitwe Topher, Timothy Kiboma, Namuganga Linah Rebecca, George Wamunga and Mutai Emmanuel: Sironko District Local Government headed by the District Natural Resources Officer, Mr. Rashid Mafabi and Ms. Teddy Nabukwasi, the Environment Officer; SACRiAC project team led by the National Project Coordinator, Dr. Tusiime Felly Mugizi and Irene Itenu.

Finally, special thanks also goes to the ***"Strengthening Adaptive Capacity and Resilience of Communities in Uganda's Watersheds - Awoja Catchment (SACRiAC) - Project"*** that fully facilitated this entire process with funding from the Global Environment Facility (GEF) and the African Development Bank. Indeed, this is the only way of ensuring sustainable utilization and conservation of not only wetland resources but also natural resource capital in general.

We believe that the management plan once implemented will contribute to the recovery and sustainable utilization of Nalugugu wetland.

EXECUTIVE SUMMARY

The Nalugugu community based management plan (CBWMP) is developed under the "*Strengthening the Adaptive Capacity and Resilience of Communities in Uganda's Watersheds in Awoja Catchment - SACRiAC project"* with funding from the Global Environment Facility (GEF) and the African Development Bank. It is presumed that the ten-year plan will ensure the sustainable use and conservation of Nalugugu wetland so that it can provide benefits to the community.

The development of the plan is in line with the current legal and policy provisions, that is the Constitution of Uganda 1995, Vision 2040, the National Development Plan III, the National Environment Act (2019), The National Policy for the Conservation and Management of Wetland Resources (1995), The National Forestry Policy (2001) and the Forestry and Tree Planting Act (2003) that make provisions for Community participation in the management of the Uganda's natural resources, including wetlands. The CWMP formulation process for Nalugugu Wetland in Sironko district is therefore one of many communities based natural resources management initiatives that have been undertaken across the country.

Sironko district is located in Bugisu sub-region of Eastern Uganda along the slopes of Mt.Elgon with a total area of 44,610 hectares where 1.4% (641 hectares) is covered by both permanent and seasonal wetlands. These wetlands however, have been threatened with degradation resulting mainly from subsistence agriculture such as rice growing, vegetables, sugar canes , maize and beans contributing to 99.8% (640 ha) degradation of wetlands in the district. Due to lack of proper management strategies in place, coupled with increasing population, the wetlands in the district have all been almost converted to other land uses leaving roughly 0.2% (1 hectare) of intact wetlands.

Nalugugu wetland in Bukiise sub-county and Mutufu town council covers an estimated total area of 88.6 hectares and a perimeter of 24 km. It supports a population of about 18,200 people (Source: 2025 projected population for both Mutufu town council and Bukiise sub-county (UBOS*)* directly and indirectly. The majority of these people depend on wetland resources and subsistence agriculture (livestock, fish, clay and crop as major activities). The area is characterized by siltation, flooding, prolonged droughts, water scarcity, contaminated water sources, declining fish stock, loss of wetland vegetation and other products, all of which compromise the quality of life of wetland adjacent communities.

Arising from these challenges, Sironko district local government with support from Ministry of Water and Environment initiated the community based wetland management planning process to empower the community to plan and propose interventions aimed at conservation, sustainable utilization and wise use of the wetland. The development of this management plan started with literature review of socio-economic and ecological information about the area. This was followed by collection of primary data, field transect walks, actual development of the plan together with the relevant stakeholders and the community. This Management Plan provides opportunities to generate wealth and promote conservation of Nalugugu wetland in the most equitable manner. The proposals in the plan include a range of strategic actions and specific activities that will strengthen structures for and regulate the use of natural resources, create knowledge and information, support livelihoods opportunities that offset over use of natural resources as well as increase biodiversity stock.

The management plan was formulated with an ambitious vision of: "*A conserved Nalugugu wetland by 2035, restored to support biodiversity and eco-tourism, driving sustainable development and resilient livelihoods for adjacent communities*."

In order to realize this vision, specific objectives were identified including;

- To build and enhance institutional capacity and management structures at village, parish, and sub-county levels to ensure effective, community-driven conservation of Nalugugu wetland.
- To promote eco-friendly income-generating activities for communities adjacent to Nalugugu wetland, fostering economic resilience and reducing dependence on unsustainable practices.
- To increase awareness among stakeholders about the ecological and socio-economic benefits of sustainable Nalugugu wetland management through targeted education and engagement.
- To rehabilitate the biophysical integrity of Nalugugu wetland to sustain its biodiversity, water regulation, and climate resilience services through science-based restoration.

For the successful implementation of the above stated objectives, a number of costed actions were proposed, a monitoring and evaluation plan and implementation structures defining specific stakeholder roles (MWE, WMD, DLG, CSOs and Community) were developed. In addition, community implementation structures were formed with an implementation committee drawing representatives from all key resource users in Bukiise sub-county and Mutufu town council.

The cost of implementing the plan over the next ten years is estimated at one billion, three hundred nineteen million, and eight hundred, ninety-five thousand shillings (1,319,895,000). Financial resources required to implement this management plan will be mobilized through collaborative partnership between Central Government, Local government and development partners. The support from Government of Uganda will be channeled through the Environment and Natural Resources Conditional Grant and it is important that some of the identified interventions be integrated into the District Development Plan (DDP) for synchronized implementation along with other existing government programs.

LIST OF ACRONYMS

CMP- Catchment Management Plan

CBWMP – Community Based Wetlands Management Plan

CBOs-Community Based Organisation

CSO- Civil Society Organisation

GIS – Geographical Information Systems

GPS - Global Positioning Systems

FGD - Focus Group Discussion

M&E – Monitoring and evaluation

MoU- Memorandum of Understanding

MWE – Ministry of water and environment

NGO – Non-Government Organization

Ramsar – Ramsar Convention (Convention on wetlands)

RUGs – Resource user groups

UBOS – Uganda Bureau of Statistics

WMD – Wetlands Management Department

WMZ - Water Management Zone

Lists of Tables

Lists of Figures

Table of Contents

CHAPTER ONE: INTRODUCTION

1.1 Background

Wetlands are defined under the National Policy for the Conservation and Management of wetlands resources (1995), as areas where plants and animals have become adapted to temporary or permanent flooding by saline, blackish or fresh water. They include areas of seasonally flooded grasslands, swamp forest, permanently flooded papyrus, grass swamp and upland bogs. This is a domesticated definition adopted from the Ramsar definition of wetlands.

Wetlands constitute one of the most sensitive, biologically productive and vital ecosystems in the world. They cover 5% of the earth's ice-free land surface (Maltby, 1988). In East Africa, Uganda has the largest percentage of wetland coverage. For example, Kenya has 4% of the total land cover, Tanzania has 7% (Maltby, 1988; Bakema, 2000); and Uganda currently has about 9.3% as intact wetland cover as revealed by Wetland mapping carried out in 2021(MWE, 2025). This is however much lower than the 15.6% revealed from the data set of 1994.

The role of wetlands in sustaining livelihoods and contributing to the overall environment health cannot be over emphasized. Some of the key highlights about the values of wetlands in Uganda include; National income: - Wetlands contribute over US$1 billion per year; Food security and livelihood support: - 80% of the population directly rely on wetland resources; Fresh water supply: - 5 million people in rural areas get their daily freshwater supply from wetlands valued at US$25 million per year; Carbon stores- carbon stock estimation of 192 million tons; Hydrological services- Water purification, storage and distribution in space and time; and habitats for biodiversity-threatened, endemic, rare species.

However, given the many uses, there are conflicting interests that have resulted into increased loss of wetland cover and aggravated the impacts of climate change. Based on the increasing pressure on wetland resources in the country, the government of Uganda through the Wetlands Management Department (WMD) adopted community-based wetland resource management as one of the most effective and sustainable methods to promote the conservation of wetlands. Management plans address the need to rationalize and streamline the utilization of wetland resources and promote the wise use concept across a wide range of stakeholders involved in the management of wetland resources. Community wetland management plans (CWMP) are developed within the context of the Ramsar Convention *"wise use"* concept, which emphasizes the maintenance of the integrity of the wetland, provision of benefits to the community, and encourages the sustainable use of resources for present and future generations.

The National policy for conservation and management of wetland resources (1995) recommends for the promotion of optimal and sustainable use of wetland resources. One major tool for promoting the sustainable use of wetlands is through management planning, developed with the active participation and consensus of the wetland resource users, traditional and local council leaders. This is further strengthened through the Local Government Act (1997) which devolved the management of wetlands to local government and resource users themselves. It is therefore the responsibility of the communities to plan for and manage wetlands in their respective areas.

It is on the above basis that the community-based wetland management plan for Nalugugu wetland was developed. This management plan was developed through a highly participatory process and presents a 10-year direction and vision for Nalugugu wetland. The management plan provides for the local community participation and involvement in the management of Nalugugu wetland in Bukiise sub-county and Mutufu town council, which is highly threatened by degradation from subsistence agriculture. It also helps in community mobilization and empowerment to actively participate in the management affairs of the wetland and its catchments. The management plan therefore, suggests actions intended at decreasing conflict between uses and users that would otherwise lead to the degradation and reduction in the integrity of the wetland.

1.2 Rationale for participatory management planning

A management plan refers to a set of agreed principles to guide sustainable utilization of natural resources including wetlands. The purpose of the plan is to prevent further deterioration, protect and enhance the health of all wetland resources and by doing so, sustain the natural ecosystems that depend on them. In so doing, they will be optimization of use of wetland resources but also reduced resource conflict and problems in accessing the wetland resources.

Local communities as stewards of wetlands resources and direct beneficiaries to the same are at the forefront of the planning process. It is also appreciated that the local communities have a lot of information about the wetland resources they utilize, including problems associated with the resources, the historical perspectives, cultural values/myths associated with the resources and their use.

Based on this background, the approach used involves facilitating the local communities to share the issues related to resource use, problems and working out suggested solutions to the optimal use of resource. A participatory approach is necessary to have local communities contribute to the management plan formulation and implementation.

1.3 Structure of the plan

The plan is divided into three parts as follows;

- **Part I:** - Highlights the policy and legal provisions for wetland management and gives a description (biophysical, chemical and socio-economic environment) of the planning area.
- **Part II:** Describes the management planning process and planning considerations. It is the core for community participation and as such it highlights the outcomes of reconnaissance meetings, stakeholder and wetland resource analyses.
- **Part III:** Spells out the management planning objectives and actions, based on site-specific conflicts and problems analyses around Nalugugu wetland. This section brings out a shared vision as envisaged by the community members and implementation arrangements.
- **Part IV:** describes the implementation arrangement and also the monitoring and evaluation of the framework.

PART I: GENERAL DESCRIPTION

CHAPTER 2: LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK FOR WETLAND MANAGEMENT IN UGANDA

2.1 Introduction

This chapter summarizes the various policies, legal and institutional frameworks relevant to wetland management in Uganda and highlights the key international and regional arrangements related to wetland management.

2.2 Legal and policy frameworks

2.2.1. International policy frameworks

The international policy frameworks on wetlands provide guidance on sustainable management of wetlands, governance and structures for management of wetlands and take into consideration sustainability as well as benefit sharing to the citizens. Key international frameworks are listed below.

❖ The Sustainable Development Goals (2016-2030)

The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Key Goals that speak to wetland conservation include; Goal 6 which is to ensure availability and sustainable management of water and sanitation for all particularly Target 6.6 which aims at protecting and restoring water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes; Goal 13 of the SDGs aims to combat climate change and is therefore pertinent to this management plan, which has mainstreamed climate change; Goal 15 which is to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt or reverse land degradation, and stop biodiversity loss. This goal has stringent targets of significantly reducing soil, water, land, wetland, and forest degradation by 2020 and is therefore relevant to this management plan.

❖ The Ramsar Convention, 1971

Uganda is a signatory to the Ramsar convention, whose mission is “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”. Uganda ratified the convention in July 1988 and has since designated 12 sites as Wetlands of International Importance, with a total surface area of 455,303 hectares. In line with the Ramsar convention, the government of Uganda developed a wetland policy in 1995 and wetland sector strategic plans that set strategies for wetland use.

The Convention provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. Contracting parties are bound by three pillars of the convention, that is: to work towards the wise use of all their wetlands through national land use planning, appropriate policies and laws, management actions and public education; to designate suitable wetlands for the List of Wetlands of International Importance (“Ramsar List”) and ensure their effective management; and to cooperate internationally concerning trans-boundary wetlands, shared wetland systems, shared species and development projects that may affect wetlands.

Parties to the Convention also commit to specific actions regarding formulation and implementation of national plans to promote conservation of listed wetlands and the wise use of wetlands in their territory; research and exchange of data and publications regarding wetlands and their flora and fauna; and training of personnel in wetlands research and management.

❖ The Convention on Biological Diversity, 1992

The Convention on Biological Diversity (CBD) is the legally binding agreement on the use and conservation of biological diversity. Its objectives are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. Wetlands are therefore a critical ecosystem under the Convention of biological diversity wetlands since they are habitats to some unique, threatened, endemic and diverse species. The CBD compels its members to develop national strategies, plans or programs for conservation and sustainable use of biological diversity, and to integrate the conservation and sustainable use of biological diversity into sectoral or cross-sectoral plans, programs and policies.

❖ United Nations Convention to Combat Desertification (UNCCD), 1994

UNCCD is a Convention to combat desertification and mitigate the effects of drought through national action programs that incorporate long-term strategies supported by international cooperation and partnership arrangements. Sustainable management of Nalugugu wetland will mitigate effects of drought that may be brought about by degradation of the resource. Prolonged droughts is already a key problem identified by the Nalugugu stakeholders.

❖ United Nations Framework Convention on Climate Change (UNFCCC), 1992

UNFCCC is an international environmental treaty negotiated at the Earth Summit in Rio de Janeiro in 1992, then entered into action on 21 March 1994. The UNFCCC objective is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The framework outlines how specific international treaties (called "protocols" or "Agreements") may be negotiated to set binding limits on greenhouse gases. Once restored, wetlands, including Nalugugu, will play significant roles in micro-climate enhancements but also in storing carbon and reducing further emissions.

❖ The Paris Agreement, 2016

The Paris agreement is a legally binding international treaty on climate change adopted at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. Its overarching goal is to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels." Nalugugu community-based wetland management plan targets to address wetlands degradation that can cause increased greenhouse gas emissions and contribute to global warming.

2.2.2. Regional policy frameworks

❖ The East African Community (EAC) Treaty, 1999

Uganda is part of the East African community and is bound by the EAC treaty. The treaty establishing the EAC recognizes the importance of natural resources to the economic development of the region. Article 5 of the treaty links the achievement of economic development to "the promotion of sustainable utilization of the natural resources of the Partner States and the taking of measures

that would effectively protect the natural environment of the Partner States". Furthermore, Chapter 19 of the treaty provides for cooperation in environment and natural resource management to realize objectives that include ensuring "sustainable utilization of natural resources like lakes, wetlands, forests and other aquatic and terrestrial ecosystems".

- **East African Community Protocol on Environment and Natural Resource Management, 1999**

The EAC developed a protocol on environment and natural resource management to further strengthen cooperation and management of environment resources in the region. Article 14 of the protocol spells out sustainable management and wise use of wetland resources, and commits the Partner States to develop, harmonize and adopt common policies, laws and strategies for the purpose.

2.2.3. National legal frameworks

All Ugandans have a responsibility for wetland conservation and management, but the government takes lead in ensuring sustainable management by enacting laws and policies to regulate use, management and benefit sharing. Uganda is a party to the Ramsar convention on wetlands and has an obligation to conserve wetlands and use them sustainably. Consequently, in order to manage wetlands and other natural resources sustainably, the government has established legal and policy frameworks.

2.2.3.1 National Laws

- **Constitution of the Republic of Uganda, 1995**

Objective Xiii, Article 237(2) (b) of the Constitution of the republic of Uganda provides for the state to protect important natural resources, including land, water, wetlands, minerals, oil, fauna and flora from degradation. As per the constitution, Government or local government shall continue to hold in trust natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and touristic purposes for the common good of all its citizens. The Constitution has provisions for enhancing conservation and management of the environment and natural resources. The Constitution also enshrines the constitutional right of all Ugandans to a clean and healthy environment in article 39 (The Republic of Uganda Constitution, 1995).

- **National Environment Act 2019**

This is the principal law that regulates management of environment including wetlands in the country. The Law under sections 54 provides for the management of wetlands and Section 55 provides Restrictions on the use of wetlands. The law highlights the following principles; (a)wetland resources shall be utilized in a sustainable manner compatible with the continued presence of wetlands and their hydrological functions and service; (b)an environmental and social impact assessment shall be carried out for all activities that are likely to have an adverse impact on wetlands; (c)special measures are essential for the protection of wetlands of international, national and local importance as ecological systems and habitats for fauna and flora species, and for cultural and aesthetic purposes, as well as for their hydrological functions; and (d)wise use of wetlands shall be applied in national and local approaches to the management of wetland resources through awareness campaigns, dissemination of information and environmental literacy.

❖ The Local Government Act (1997)

Uganda operates under a decentralized system of governance and the Local Government Act decentralizes the powers and mandate over services and activities, which include the management of wetlands from central government to the district level. Under decentralization, districts are responsible for managing the wetlands within their jurisdiction. Local Governments are required to identify critical wetland areas and take appropriate actions for conservation and management; carry out wetland assessment and co-ordinate wetland management, including enforcement of legislation relevant to wetland management.

❖ The Land Act Cap. 227

Provides that Government or a local government shall not lease out or otherwise alienate any natural resource referred to in this section". This implies that it would be illegal to lease out a wetland for ownership or development but would be legally appropriate to plan for its sustainable management. Section 44 emphasizes the need to manage and utilize the land in accordance with national Environment Act, National Forestry and Tree Planting act, Mining Act, water Act and any other relevant law for purposes of ensuring rational development.

❖ Water Act, 1997

The Water Act of 1997 provides for the use, protection and management of water resources and drinking water supply. Wetland is a critical component in wetlands and therefore management of water resources is very critical. The Act provides for sustainable use of water resources and in so doing allowing for wetlands to thrive.

2.2.3.2. National policy framework

❖ Vision 2040

Vision 2040 aims to transform Uganda from a predominantly peasant and low-income country to a competitive upper-middle income country. Vision 2040 is conceptualized around strengthening the fundamentals of the economy to harness the abundant opportunities around the country. The design and implementation of the Vision emphasizes sustainable development through preservation of natural resources such as forests and wetlands. It further emphasizes the restoration of degraded wetlands, hilltops, rangelands and other fragile ecosystems where wetlands target is 13% and restoration would be achieved through the implementation of catchment –based systems, gazetting of vital wetlands for increased protection and use, and monitoring and inspecting restoration of ecosystems.

❖ National development plan III

Under the Natural Resources, Environment, Climate Change, Land and Water Management Programme, the aim is to stop, reduce and reverse environmental degradation and the adverse effects of climate change as well as improve utilization of natural resources for sustainable economic growth and livelihood security. Key expected results include improved land use and management; increasing land area covered under forests and wetlands, increasing compliance of water permit holders with permit conditions and enhancing the accuracy of meteorological information. Wetland coverage is anticipated to increase from 8.9 percent to 9.57 percent. The National Development Plan is reviewed every five years and accordingly a successor plan devolved.

❖ National Policy for the Conservation and Management of Wetland Resources, 1995

The National Policy for the Conservation and Management of Wetland Resources underpins wetland protection and provides for wise use and sustainable management of wetlands and wetland resources plus equitable distribution of benefits accrued from wetlands. It also calls for the application of Environment Impact Assessment (EIA) procedures on all development projects in wetlands to safeguard the integrity of the ecosystem. The policy has five goals: to establish the principles by which wetland resources can be optimally used now and in the future; to end practices that reduce wetland productivity; to maintain the biological diversity of natural or semi-natural wetlands; to maintain wetland functions and values; to integrate wetland concerns into the planning and decision making of other sectors and developing wetland specific management plans.

❖ National Environment Management policy, 1994

The policy empowers local governments and communities to protect and properly manage natural resources in their areas of jurisdiction for the betterment of society. The National Environment Management Policy for Uganda emphasizes sustainable social and economic development that enhances environmental quality and resource productivity. This emphasis sets the benchmark for sustainability in which the needs of present generations are met without compromising the ability of future generations to meet their own needs.

❖ Climate Change Policy, 2015

The goal of the Climate Change policy is to ensure a harmonized and coordinated approach towards a climate-resilient and low-carbon path for sustainable development in Uganda. The objective of the policy is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development and a green economy. This management plan has integrated climate change by recognizing that climate change is a key management issue in the Nalugugu wetland.

❖ National Soils Policy for Uganda, 2000

The National soils policy provides guiding principles to land users for soil conservation. The Elgon area is one of the areas that has over time experienced soil and water conservation challenges as a result of the terrain. Soil degradation and run off has resulted in reduced productivity in the catchment and increased the encroachment on wetlands and Nalugugu is one of those affected.

2.2.3.3. Regulations

❖ National Environment (Wetlands, River Banks & Lake Shores Management) Regulations, 2000

The regulations provide guidance on the conservation and wise use of wetlands and their resources in Uganda It spells out the principles for wetland management, the regulated activities in wetlands, the need to undertake wetland inventories and also guides on the protection categories of wetlands that is, fully protected wetland; partially protected wetland; and wetland subject to conservation by the local community. The regulation further stipulate that wetland resources must be utilized in a sustainable manner compatible with wetlands and their hydrological functions and service. These regulations are relevant to implement the Nalugugu management plan and will guide all developments that will be executed in the area.

2.3. Institutional framework

Whereas there are, many institutions that handle aspects of wetlands given the vast nature of resources derived from wetlands such as Agriculture, Tourism, this plan will restrict itself to institutions that are directly charged with management of wetlands.

❖ Ministry of Water and Environment

The Ministry of Water and Environment (MWE) is responsible for sound management, rational utilization and conservation of water and environment resources in the Uganda. Wetlands is one of the key environment resources managed by the Ministry. MWE and constituent departments of Forestry, wetlands, water, climate change is charged with formulation of policies and laws and providing guidance and technical backstopping on management of the resources.

❖ Ministry of Finance, Planning and Economic Development

Ministry of Finance is charged with resource mobilization and allocation for sustainable management of natural resources. Most importantly, is to ensure efficient allocation and utilization of public funds, monitor, and account for the utilization of public resources.

❖ The National Environment Management Authority (NEMA)

The National Environment Management Authority (NEMA), is a semi-autonomous body under the Ministry of Water and Environment and is the principal agency in Uganda for overseeing the management of the environment and coordinates, monitors and supervises all activities in the environment sector. It is a regulator for environmental activities including activities in wetlands.

❖ Wetlands Management Department (WMD)

The mandate of the Wetlands Management Department (WMD) (under the Ministry of Water and Environment) is to promote the conservation of Uganda's wetlands in order to sustain their ecological and socio-economic functions for the present and future well-being of the people. As such, the WMD exercises stewardship over the wetlands in Uganda. It has the delegated responsibility and authority to uphold the wetland related clauses in the Constitution (amended 2005) and implement the National Wetlands Policy (1995). WMD is responsible for setting standards, formulating policy and providing technical support for wetland management.

❖ District Local Governments

The Local Governments have mandate of managing wetlands within their jurisdictions as provided for by the Local Government Act. Local Governments are required to identify critical wetland areas and take appropriate actions for conservation and management, including enforcement of legislation relevant to wetland management. Districts perform this function through the Environment Committees and technical departments.

❖ Lower local governments

At lower local government level, the Sub-county and Parish administrative units ensure that wetlands are sustainably used. They are required to plan and implement management alternatives and actions for wetlands conservation and wise use of wetland resources. They work closely with the local communities as the primary resource users and wetland watchdogs to generate issues that inform the management plan.

❖ Local community resource users and stakeholders

The local communities are the primary resource users and therefore wetland watchdogs. This responsibility is exercised through local councils and administrative components like, the Parish and Sub County units, which are required to plan and implement management alternatives and actions for wetlands conservation and wise use of wetland resources. The resource users are the architect of the issues generated in formulating the management plan

CHAPTER THREE: DESCRIPTION OF NALUGUGU WETLAND

3.1. Introduction

This chapter highlights the biophysical aspects of Nalugugu wetland and adjacent environment. It describes the socio-economic and cultural parameters as well as geographical extent of the planning area.

3.2. Biophysical characteristics of Nalugugu Wetland

3.2. Location

Nalugugu wetland is located in Sironko District in Eastern region of Uganda. The wetland traverses the parishes of Nalugugu,Nandago, Busale, Bukiise, and Busiu in Bukiise sub-county and Nandere ward in Mutufu town council forming the planning area of approximately 88.6 hectares (0.89 Km^2) and a perimeter of 24 Km.

It is a permanent wetland that is part of the greater Sironko River located within the Awoja catchment and Lake Kyoga drainage basin. Nalugugu river originates from Bumudoma village, Bumalimba parish, Bumalimba sub county, flowing downwards crossing the sub-counties of Bumulisha, Mutufu town council and Bukiise where it drains into River Sironko as it enters Buwanyanga sub-county.

Unlike other sub-counties where it traverses just as a plain river, in Bukiise and Mutufu town council, River Nalugugu forms a big permanent wetland as it drains into River Sironko, which is called the Nalugugu wetland thus forming the management planning area.

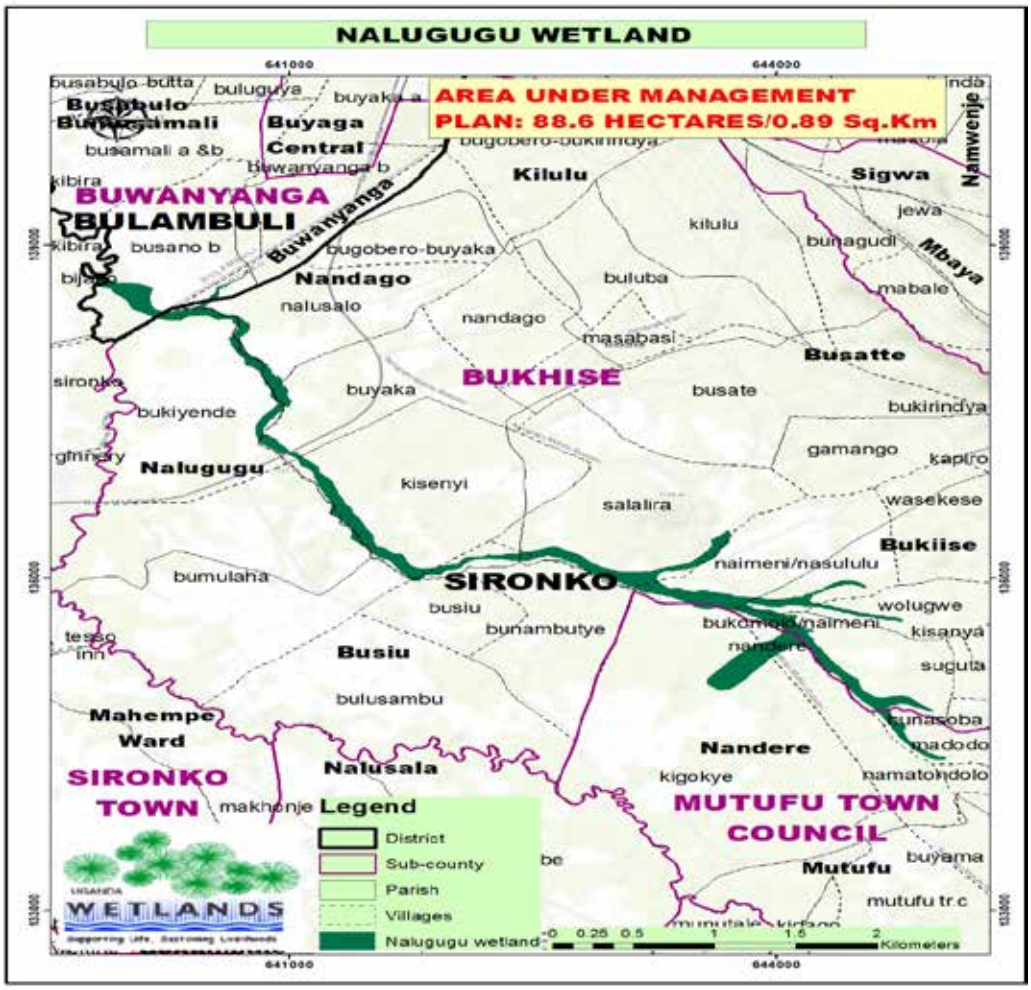

Figure 1: Map showing the extent of Nalugugu wetland in Bukiise sub county and Mutufu town council

3.2.1. Topography

The topography of Sironko district is into three different types namely the lowland (Plain), the Highland and the mountain landscapes. The lowland topography stands at an altitudinal range of 1100-1350m with 1320-1340m being the most common level and it lies in North and North-West covering the sub-counties of Bukiise, Sironko Town Council, Bukhulo, lower Bukiyi and Nalusala. From the upper level of the lowland, which is the highland, land rises significantly to form a hill and valley topography. The dominant altitude of this landscape is slightly over 1800m, but with many features lower and higher than this. Most of the sub-counties fall under this region. These include; Bumalimba, Budadiri TC, Bukyambi, Buwasa, Buteza, Busulani, Buwalasi, Buyobo, Bunyafwa, part of Bukyabo part of Nalusala and Bukiiyi. The most striking topographic feature in Sironko District and indeed in the whole of Eastern Uganda is Mt. Elgon with its magnificent crater, deep and narrow valleys and ridges. Sitting astride Uganda – Kenya border in a North – East to South – West direction with a large portion in Uganda. Zesui, Masaba, Bugitimwa, Bumasifwa, Butandiga and upper Bukyabo are the sub counties found here.

3.2.2. Geology and Soils

Precambrian Basement in Sironko District is the Tertiary (Lower Miocene) extrusive volcanic strata resultant upon the eruption and creation of the Mt. Elgon volcanic massif. These volcanic strata consist of soda-rich agglomerates, tuffs and lavas in a spatial and temporal discontinuous sequence. Associated with these volcanic strata are the Tertiary and Quaternary erosion sediments that comprise conglomerates, sandstones, mudflows, and intra-erosional calcareous deposits that are widespread around the foothills of the Mt. Elgon massif. Overlying many of these sediments and occupying much of the Western and Northern portion of the district are a considerable thickness of Pleistocene to recent alluvium, black soils and river deposits with swamp alluvium in the valley bottoms and in the Lake Bisina swamp system to the North.

3.2.3. Hydrology

Sironko District features several rivers and wetlands critical for agriculture and water supply. Key rivers include the Sironko and Namatala Rivers and other seasonal streams originating from Mount Elgon. Wetlands, such as Nalugugu in the lowlands, support rice farming and act as habitats for biodiversity but are under immense pressure from agricultural encroachment. The district's proximity to Mount Elgon ensures a network of streams and springs, though siltation and riverside cultivation exacerbate degradation.

3.2.4. Climate

3.2. 4.1. Temperature

Sironko District experiences a tropical climate modified by its elevation. Temperatures typically range from 16°C (62°F) to 34°C (93°F). February is the hottest month, with average highs of 33°C (92°F) and lows of 19°C (66°F), while July is the coolest, with highs around 28°C (82°F) and lows around 17°C (63°F). The highland areas near Mount Elgon are cooler due to elevation, supporting different agricultural practices than the warmer lowlands.

3.2.4.2. Rainfall

The district has a bimodal rainfall pattern with two wet seasons: March to May and September to November, with April and October being the wettest months. Annual rainfall averages 1,182 mm, though it can range from 1,200 mm to 2,000 mm depending on proximity to Mount Elgon. Dry seasons occur from December to February and June to August, impacting rain-fed agriculture. Recent climate variability has led to erratic rainfall, affecting crop planning.

3.2.4.3. Humidity

Relative humidity in Sironko averages around 80%, with higher levels during wet seasons (March–May, September–November) due to the region's proximity to wetlands and Mount Elgon's influence. High humidity supports rapid plant growth but also increases disease prevalence in crops and livestock. (MWE, 2018).

3.3. Ecological features

Sironko's ecological diversity is shaped by its highland-lowland gradient and proximity to Mount Elgon National Park. The highlands feature fertile volcanic soils and cooler climates, supporting coffee and banana agroforestry systems. Lowlands include wetlands and seasonal rivers, critical for rice farming and biodiversity. The district faces environmental challenges like deforestation, soil erosion, landslides, and wetland encroachment, exacerbated by population pressure and climate change. Sustainable land management practices, such as terracing, agroforestry, and bamboo planting along riverbanks, are promoted to mitigate these issues.

3.3.1. Flora

Nalugugu wetland is a mosaic of patches of small to fairy large stands of plant communities dominated mainly by Cyperus exaltatus Retz (Giant sedge). It is comprised of so many plant community categories including maize, vegetables, eucalyptus plantations and other scattered tall trees and a grassy layer mixed with Typha domingensis. Rice fields of so many kinds like mature, ready to harvest, just newly panted ones and others dominated the main agricultural crops grown in the wetland. The wetland is almost 100% highland degraded and has lost most of its original flora.

*Figure 2: Rare Intact patches of Nalugugu wetland with **Cyperus exaltatus Retz** (Giant sedge).*

Figure 3: Degraded sections of Nalugugu wetland

Rice gardens in Bukiyende village

A drainage channel and eucalyptus plantation in kisenyi village

Rice nursery beds

3.3.2. Fauna

Given the level of disturbance in the wetland, there was hardly any typical wetland Fauna was observed during the assessment. Interactions with the community indicated that the wetland harbors birds like cranes, herons, fish such as mud fish, cat fish, tilapia, lung fish etc. which is a source of food for the surrounding communities and a few insect species like bees, butterflies etc.

3.4. Socio-economic & cultural situation

3.4.1. Population characteristics

According to the National Population and Housing Census (2024) results, Sironko District had a total population of 298,363 people. The gender distribution was reported to be males: 143,357 (48.1%) and females: 159,006 (51.9%). Detailed population at sub-county level has not yet been released by UBOS.

Table 1: Population in each sub-county (male and female) (2025 UBOS sub-county provisional population)

Sub- county	Males	Females	Total Population
Bukiise	6,600	6,300	12,900
Mutufu town council	2,600	2,700	5,300
Total Target population	**9,200**	**9,000**	**18,200**

3.4.2. Land use

Land use in Sironko District is predominantly agricultural, with 14,280 ha of cropland in 2015. Plantains are the most widely harvested crop (5,740 ha, $6.69 million value), followed by coffee, red onions, Irish potatoes, and vegetables. Agroforestry systems, particularly for Arabica coffee, incorporate shade trees to enhance soil fertility and reduce erosion. Wetlands are used for rice farming but face encroachment. Soil conservation practices like terracing, contour plowing, mulching, and bamboo planting along riverbanks are promoted to combat erosion and landslides. Deforestation and riverside cultivation remain challenges, with sustainable land management. Mount Elgon National Park occupies part of the district, supporting tourism and conservation.

Figure 4: Other key activities in Nalugugu wetland such as fish farming and gravity flow scheme

The wetland provides direct uses to the population such as provision of water for domestic use, water for livestock, fishing, grazing area, fuel wood, herbs and extraction of sand. It also offers other indirect uses that range from water storage and releases, water purification, habitat for fish, sediment and nutrient trapping, regulation of climate and flood control.

This places Nalugugu wetland at the center of production for both crop and animal husbandly, making it one of the vital wetlands in the district. About 99% of the farmers use traditional farming methods and techniques. The produce finds ready market in Mbale, which is about 30km away and Kenya. These activities contribute to the massive degradation of the Nalugugu wetland accounting for 88.6 Hectares which means the entire wetland is severely converted or degraded with only small patches of sedges existing along stagnant water courses. Therefore, this is more reason for need for a management plan to improve management of the wetland including undertaking serious restoration initiatives. In addition, subsistence agriculture is the dominant land use in Nalugugu wetland covering 100%. This shows how severe the situation is in Nalugugu wetland. Rice, vegetables, eucalyptus, maize and other crops have replaced the original native vegetation.

Figure 5: Maps showing status and Land Use and Land cover of Nalugugu wetland

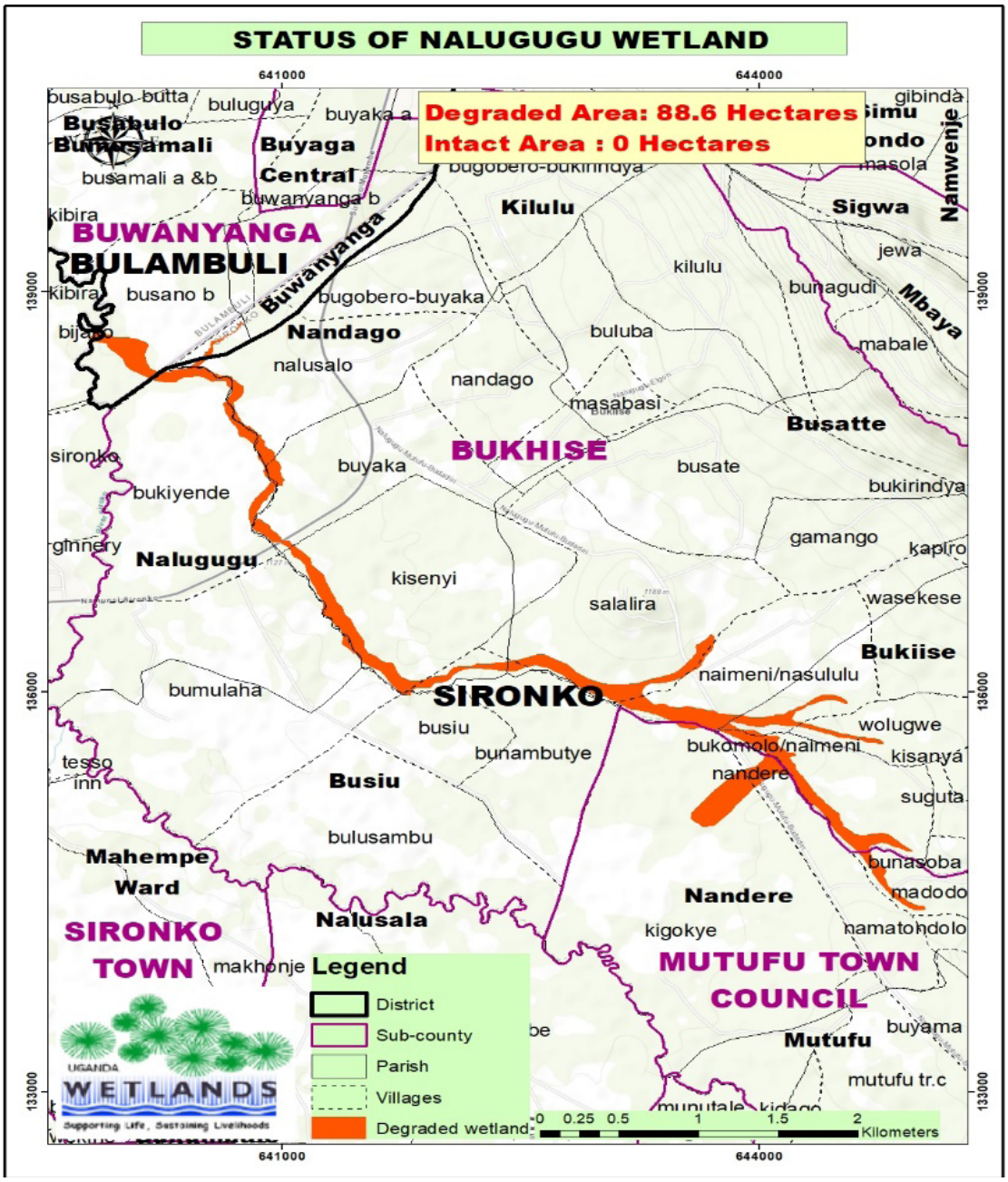

Figure 6: The management planning team-undertaking reconnaissance of Nalugugu wetland

PART II: MANAGEMENT PLANNING PROCESS

CHAPTER FOUR: MANAGEMENT PLANNING PROCESS AND PLANNING CONSIDERATIONS

4.1. *Introduction*

This chapter highlights the major events through the planning process for Nalugugu wetland and is guided by the Ramsar handbook and the Uganda wetland management-planning manual. A situational analysis in which major community based participatory appraisal techniques are employed to make the local community appreciate the concept of bottom-up approach to natural resource planning and management in undertaken. Hence, tools such as stakeholder matrix, resource mapping, transect walk, economic valuation, seasonal calendar and historical analysis among others are explicitly elaborated in this chapter and will help define what management interventions are required in chapter four.

4.2. Purpose of the management plan

Management planning for Nalugugu wetland was undertaken to promote sustainable management of the wetland through facilitating wetland restoration and wise use of wetland resources therein. Main reasons for development of the management include;

- Defining the objectives of management and developing actions and strategies for effective and sustainable management of the wetland
- Identifying issues that are affecting the wise use of the wetland system and the conflicting land use practices and thereby propose mitigation measures;
- Developing indicators for monitoring the wise use of the wetland
- Developing a budget for mobilization of resources for implementation of the identified actions.
- Raising awareness about the importance of the wetland
- Promoting community and stakeholder participation in resource management and ownership of the wetland resources to ensure sustainability.

4.3. Target area

The management plan targets Nalugugu wetland located in Nalugugu, Busiu,Nandago, Busate and Bukiise parishes in Bukiise Sub-county and Nandele and Southern wards in Mutufu town council, Sironko District, Eastern Uganda.

4.4. Wetland management planning considerations

The planning process took into account several aspects, including; the ecological and socio-economic and socio-cultural values of the wetland, threats to the wetland (for example, poor land management, pressure on the wetland resources, poor water quality, low awareness levels among others), the conditions in the adjacent catchment, and its resources. Participation of all stakeholders at all levels was prioritized in order to ensure ownership of the management plan.

4.5 Planning process

The preparation and development of Nalugugu conducted in a participatory approach manner with the participation of stakeholders from Ministry of Water and Environment, Sironko District, Sub-County, religious and cultural leaders plus community members as per the attached list Annex I).

The planning process involved the following steps:

- Preparatory phase that involved desk review, planning and formulation of the technical team
- Awareness creation and stakeholder consultations at all levels in Sironko
- Reconnaissance of the wetland and delineation of the planning area
- Mobilization and sensitization of communities to participate in the planning process
- Engagement meetings with the planning team
- Preparation of Community based wetland management plan for Nalugugu
- Review, validation, approval and launch of the CbWMP.

4.6. Reconnaissance meeting

The first meeting was held on 22nd July 2024 at Bukiise sub-county headquarters with the main objective of the meeting being to sensitize the leaders and local communities on the need for community participation and empowerment in managing Nalugugu wetland. Both political and technical officials of the district, sub-county, town council and community representatives attended the meeting. The meeting was used for Identifying key stakeholders, selecting the planning team members and agreeing on the target planning area for Nalugugu wetland and its catchment in the district.

The meeting agreed on the following;

- Nalugugu wetland in Bukiise Sub County and Mutufu town council, Sironko district would form the planning area, covering 62 villages.
- The planning team should have representatives from farmers, local leaders, landlords of areas adjacent to the wetland, tenants (farmers who hire from landlords for use), grazers, rice growers, herbalists, craftsmen, horticulture, sand miners, water collectors and government.
- 70 stakeholders constituted the Planning Team comprising of Community District Officers (District and sub county officers), District Natural Resources Officer, District Environment Officer, District Forestry Officer, Physical Planner, District and Production Officer, District and Town council Agricultural Officers, Veterinary and Fisheries Officers, Town Council administration staff (Town clerk, GISO, Police,), Political leaders including LCI-V Chairperson and councilors at sub county and district levels, Religious leaders, Resource user groups, Cultural leaders like Bamasaba kingdom representative, civil society and Private sector representatives

Table 2: Agreed planning area of Nalugugu wetland

S/N	Sub County	Parish	Villages	Summary
1.	Bukiise	Nalugugu	Bukiende, Docus, Namirembe, Nabirende, Bumulaha, Namwambe, Nsambya	01 Sub-county 05 Parishes 51 Villages
		Busiu	Nabili, Masola, Lubembe, Ffene, Bunambutye, Elgon, Ndiba, Wanale, Bulusambu, Buwabuyi, Namakyele, Busiu	
		Nandago	Maremule, Nalugugu, Nazwazwa, Doko, Kisenyi, Nalusalo, Nandago, Kyibaya, Buyaka, Busiango, Sebele, Masaba	
		Busatte	Mivule, Kijewa, Miyembe, Kityale, Gadigadi, Wasekese, Salalira, Makyele	
		Bukiise	Buledo, Mayo, Suguta, Natanyo, Kiluku, Kituti, Bunasijje, Naimeni, Kisanya upper, Kisanya lower, Wolugwe, Nasamali, Lugongo, Kyamala, Kapilo	
2.	MUTUFU TOWN COUNCIL	Nandele Ward	Nandele Upper, Nandele Upper, Mabaale, Buwetwe, Namatondolo, Kisenyi, Kitagalu, Kigokye, Kikuyu.	01 Town council 02 Wards 11 Villages
		Southern Ward	Kidago, Nangisilili	

Figure 7: Deputy RDC Sironko district addressing the participants during reconnaissance meeting

4.7. Stakeholder Analysis

Wetlands provide a variety of services and products to varied groups and individuals, validating the term commonly used as “one resource, many interests”. Based on this analogy, it was imperative to identify key stakeholders of Nalugugu wetland and explicitly define their interests, importance and influence and rank them accordingly to ascertain the levels of wetland utilization among different categories of resource users.

4.7.1. Stakeholder mapping

The main stakeholders identified during this process included farmers, grazers, fishermen, craftsmen, landlords, brick makers, herbalists, water collectors, sand miners, local leaders, MWE, NEMA, Sironko DLG, and CSOs. The identified stakeholders largely belong to two categories that is, primary stakeholders and Secondary stakeholders. The Primary stakeholders are those community members who derive benefits directly from the wetland or those who directly impact on the wetlands while the secondary stakeholders are those who indirectly benefit from the wetland but may influence conservation and wise use activities in the wetland system.

Table 3: Primary and secondary stakeholders

Primary stakeholders	Secondary Stakeholders
• Farmers • Grazers • Fishermen • Craftsmen • Landlords • brick makers • herbalists • water collectors • sand miners	• Ministry of Water and Environment National Environment Management Authority • Wetlands Management Department • Sironko Local Government • Ministry of Agriculture, Animal Industry and Fisheries • Ministry of Works and Transport • CSOs (NGOs/CBOs)

4.7.2. Stakeholder matrix

The members in the planning team from the 62 villages of Nalugugu wetland, identified key wetland stakeholders, the resources they use and the interest derived from each of them.

Table 4: Stakeholder matrix

Stakeholders	Resource	Interest
Tenants	Land	Income, Agriculture, Settlement
Fish farmers	Water, Land	Income, Wetland, Water
Herbalists	Herbs, Cultural sites	Income, Medication, Rituals
Craftsmen	Clay, Water, Grass, Papyrus	Income, Crafts
Brickmakers	Clay, Water, Firewood, Grass	Income, Bricks
Bee keepers	Wetland, Land	Water
Farmers	Water, Fertile soils, Cool environment, Worms for fertilization	Food, Income, Economic growth, Irrigation
Government	Wetland	Restoration, Conservation, Demarcation
Clay miners	Clay, Water, Wetland	Income, Pottery
Grazers	Water, Grass, Land, Salty soils	Income, Minerals
Sand miners	Sand, Wetland	Income, Employment, Building materials
Water collectors	Water	Income, Irrigation, Domestic use
Car washers	Water, Land	Income
Local council	Wetland, Water	Conservation, Income, Local revenue
Fishermen	Fish, Water, Land, Wetland	Food, Income, Medicine, Fishing gears

Settlers	Land	Cheap land for construction and agriculture
Land lords	Land, Wetland	Settlement, Income, Wetland resources
Government	Wetland	Conservation
Cultural leaders	Wetland Land	Conservation, Heritage
CBOs (bright view mission)	Wetland	Conservation, IGAs

4.7.3. Stakeholder importance and influence

The table below summarizes the perceived importance of various groups involved in wetland utilization, based on pairwise ranking. Water collectors and farmers are ranked highest, followed by grazers, Fishermen, and settlers. In contrast, the community perceives NGOs, local leaders and government as less important.

Government took the lead in decision-making (influence) since all policies, laws are enforced by government agencies, followed by Community based organizations (CBOs), local council, and settlers concerning the decisions made for sustainable planning and management of Nalugugu wetland.

The table below highlights thirteen key stakeholders, ranked based on their perceived importance and influence within the resource users' community.

The table below highlights the key stakeholders that were identified and ranked according to the perceived importance and influence among the resource users’ community.

Figure 8: A community member facilitating during the pairwise ranking of influence and importance of stakeholders.

Table 5: Ranking of stakeholders' importance and influence of Nalugugu wetland

S/N	STAKEHOLDERS	IMPORTANCE		INFLUENCE	
1	Landlords **(L)**	04	15	14	05
2	Tenants **(T)**	06	13	13	06
3	Grazers **(GR)**	13	06	11	08
4	Herbalists **(HB)**	14	05	05	13
5	Fish farmers **(FF)**	16	02	10	09
6	Local council **(LC)**	02	16	16	03
7	Bee keepers **(BK)**	09	10	04	15
8	Farmers **(F)**	16	02	12	07
9	Brickmakers **(BM)**	11	07	06	12
10	Sand miners **(SM)**	11	07	05	13
11	Clay miners **(CM)**	10	09	04	15
12	Fishermen **(FM)**	16	02	08	10
13	Water collections **(WC)**	17	01	08	10
14	Car washers **(CW)**	09	10	02	17
15	Settlers **(S)**	07	12	15	04
16	Government **(GVT)**	00	19	18	01
17	CBOs	02	16	17	02
18	Cultural leaders **(CL)**	02	16	02	17
19	Crafts men **(CM)**	05	14	00	19

The implication of the above ranking to a common person means that Nalugugu wetland plays a vital role in people's livelihoods because it supports farming activities especially during dry seasons, water collection, fishing activities. It is no wonder that among the least perceived influential stakeholder is central government and district local governments when it comes to Nalugugu wetland. The reason for this is that government agencies and district local government are hell-bent to enforce environmental laws that put them on collision with the wetland users whose main source of livelihood is this wetland. The lessons from this analysis means that government should invest more in alternative income generating projects such as mini-irrigation schemes, fish farming, cattle grazing, modernized supervised rice cultivation that most of the community members are engaged in if sustainable utilization of Nalugugu wetland is to be achieved.

4.8. Participatory Resource Analysis

In order to understand the trends in resource use and availability in the area, the planning team synthesized the wetland resources, their uses, users and trends in resource use over time. This is important for creating more awareness on the range of wetland products and associated benefits that the community derive from Nalugugu wetland.

4.8.1. Key wetland resources

Nalugugu wetland provides a variety of benefits to the community around it. Just like any other wetland, Nalugugu wetland offers both direct and indirect benefits to the community in form of provisioning, regulating, supporting and cultural functions. However, to the community, those tangible values matter a lot in their day-to-day living. Table 6 below indicates fourteen most used resources from the wetland in order of their priority.

Table 6: Ranking of resources from Nalugugu wetland resources

Resource	Score	Rank	Current use/benefit	Gender involved	Seasonality
Firewood	56	4	Cooking, income, source of energy, employment	M, F, Y	All season
Fish	51	6	Source of protein, food, income, medi-cation	M, Y	All season
Food	69	1	Home consumption, health, income	M.Y, F	All season
Sand	37	8	Construction, income, employment	M, Y	Dry season
Water	65	3	Source of income, Irrigation, fishing, swimming, home consumption	M, F, Y, C	All seasons
Timber/ poles	39	9	Construction, income, fencing	M.Y	All seasons
Grass	52	5	Pasture, zero grazing, making of hay, thatching, mulching	M, Y	Dry season
Crafts	42	8	Income, beddings, craft making, con-struction	M, F	All season
Honey	14	13	Income, healthy, consumption	M, Y, F	All season

Papyrus	30	11	Crafts making, income, beddings, fishing gears, building	M, F	All season
Herbs	48	7	Medication, income, employment	M, F	All season
Fruits	28	12	Healthy, consumption, income	M, Y, F, C	All seasons
Clay	36	10	Pottery, construction, animal feeds, brick making, Moulding	M, F, Y	All season
Fertile soils	69	2	Cultivation, nursery bed	M, F, Y, C	All seasons

Where M= Male, F= Female, Y= Youth, C= Children

4.8.2. Community Wetland Resource Mapping

To understand and appreciate the extent of planning area, the community members drew a wetland resource map indicating Nalugugu wetland and adjacent villages during the focus group discussions.

Group work when developing a community resource user mp

Bukiise community during group work for resource map

Figure 9: communities drawing sketch resource maps for Nalugugu wetland in groups

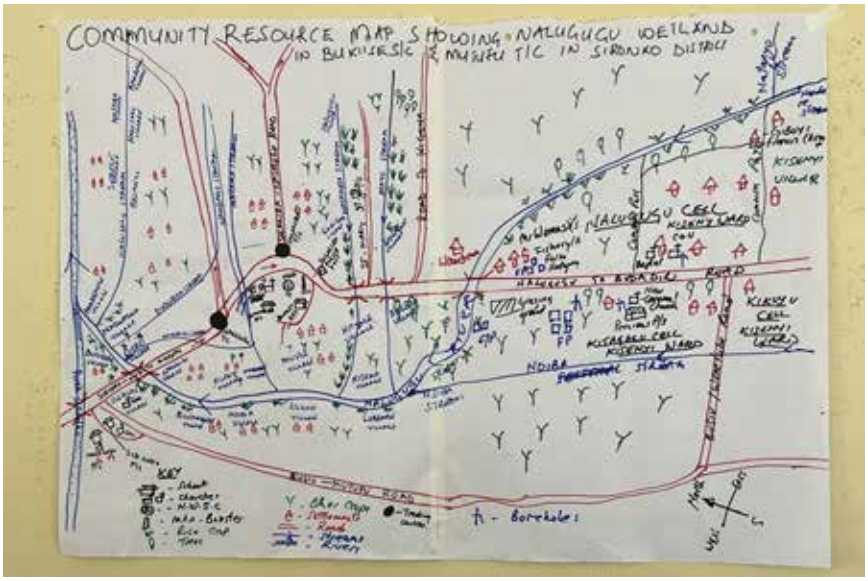

Figure 10: A combined refined community resource user map showing Nalugugu wetland

4.8.3. Wetland resource user groups and uses by gender and seasonality

Key wetland resources, corresponding resource user groups, and associated benefits from Nalugugu wetland are shown in the table below.

Table 7: Key resources, uses, user groups and seasonality

Wetland Resource	Benefit/value	Resource user group	RUG by Gender	Seasonal usage
Papyrus/grass	Crafts making e.g. Mats, Baskets, Hats, Bags, drying racks, Cup boards, tables, Wall hangings, Craft shoes, Roofing, Mulching	Crafts makers Builders Farmers	Men Women	Dry season
Trees	Fencing, Firewood, Medicine, Construction	Farmers Settlers	Men	Dry season
Fertile soils (crop & cattle)	Cultivation such as vegetables, maize etc., Grazing	Farmers Industries	Men Women Youth M&F	Dry season
Herbs	Medicine, Food, Income, Spices	Herbalists	Men Women	All seasons
Water	Watering animals, Irrigation, Domestic use, Brick making, Transport Baptism, Cultural rituals, Factory use, Study purposes, Distillation	Water users	All	All seasons
Clay	Brick making, ventilators, Plates, Pots, Charcoal stove, Medicine (MUMBWA), building, income	Clay miners Industries	Men Women	All seasons
Fish	Food, Income, Medicine	Fishermen	Men	All seasons

Figure 11: Participatory planning process by the planning team

4.8.4 Activity calendar by season

To understand the community interactions further with the wetland and how different seasons of the year come to play, a seasonal analysis was conducted and based on the wetland resource ranking, the main activities being practiced within Nalugugu wetland and its catchment include cultivation, fishing, grazing, collection of papyrus and other products for crafts and thatching, fire wood collection and water collection for both domestic and livestock use. The analysis included

(a) activity calendar for the above-named crops like sorghum, rice, maize and vegetables, which are largely planted in wetland for the period of one year, (b) seasonal calendar for Nalugugu wetland catchment indicating cultivation processes as the mainstay of communities. These analyses are indicated on the tables 8 and 9 below respectively.

Table 8: Seasonal calendar for the key activities in Nalugugu wetland

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
Herbs collection	*	*	*	*	*	*	*	*	*	*	*	*
Water collection	*	*	*	*	*	*	*	*	*	*	*	*
Farming			*	*	*		*	*	*			
Brick making	*	*	*							*	*	*
Clay mining	*	*	*	*	*	*	*	*	*	*	*	*
Fishing	*	*	*	*	*	*	*	*	*	*	*	*
Grazing	*	*	*	*	*	*	*	*	*	*	*	*
Sand mining	*	*	*	*	*	*	*	*	*	*	*	*
Grazing	*	*	*	*	*	*	*	*	*	*	*	*
Firewood	*	*	*	*	*	*	*	*	*	*	*	*
Crafts	*	*	*	*	*	*	*	*	*	*	*	*
Papyrus	*	*	*	*	*	*	*	*	*	*	*	*
Timber/ poles	*	*	*	*	*	*	*	*	*	*	*	*
Fruits	*	*	*	*	*	*	*	*	*	*	*	*

Table 9: Detailed calendar for the two main activities

Activity	Sub activity	J	F	M	A	M	J	J	A	S	O	N	D
Rice	Clearing											*	*
	Ploughing	*											*
	2nd ploughing	*											
	Ridges		*	*									
	Nursery bed		*										
	Transplanting			*									
	Weeding				*	*							
	Spraying					*	*						
	Bird chasing					*	*						
	Harvesting							*	*				
	Fallowing							*	*	*	*		
								*	*	*	*		

Maize/ sorghum	Sub activity	J	F	M	A	M	J	J	A	S	O	N	D
	Clearing	*										*	*
	Ploughing	*	*										
	Planting		*										
	Weeding			*									
	Spraying			*									
	Harvesting						*						

4.8.5. Historical analysis/timeline and implication of resource use

Owing to the importance of this tool in helping the community understand the dynamics of wetland resources use over time, history of resource use analysis was undertaken. It was observed that the oldest person in the audience was 87 years old, which directed the timing of analysis from 1980's to date. The table below presents the outcomes of different wetland resources used from Nalugugu wetland, their levels of utilization and the reasons for such level of utilization.

Table 10: Historical analysis of wetland resources from Nalugugu wetland

Resource	Level of usage			Cause of change		
	1982-1992	1993-2003	2004-2024	1982-1992	1993-2003	2004-2024
Sand	3	2	1	Low population Low demand No market Poverty	Limited demand Low population No market Low income to afford brick houses	High population High demand Market availability
Fruits	3	3	1	Low population Abundance of fruit trees	Low population Abundance of fruit trees	Increased population Deforestation of fruit trees
Herbs	3	2	1	Poverty Limited medical facilities	Improvement in livelihoods Medical facilities	Medical facilities Improved standards of living Difficulty in getting them due to land clearance
Grass	3	2	1	Low level of education Low population Poverty Low income	Low level of education Poverty Low income	Over grazing Increase in population
Fish	3	2	1	Low population Low prices No bylaws	Hugh prices Encroachments	High population High demand of fish Poor fishing methods

Water	3	2	1	Low population Low production Insecurity Low modernization	Insecurity Low population Hunger	Increased population Agricultural modernization Tree planting Industrialization Water collection using trucks Increase in Brick making
Trees	1	2	3	Low population Low market for tree products	Increase in population Low market demand	High population High demand for charcoal Demand for land for settlement and agriculture Brick burning
Clay	3	2	1	Low technology Low population Pottery House construction	Insecurity New technology	High population Technology
Papyrus	3	2	1	Low technology Poverty	Modernization Encroachments	Increase in population Low market demand
Firewood	3	3	2	Ignorance Only source of fuel Low technology Low urbanization	Low technology Low urbanization Only source of fuel	Urbanization Technology Alternative fuel sources e.g. electricity, Biogas, Solar etc
Crafts	3	2	1	Low levels of technology Need for crafts to acts beddings, mats, caps Abundance of crafts materials Low population	Modernization Introduction of new materials to replace crafts Technology change	Modernization New technologies Alternatives for crafts
Fertile soils	3	3	1	Natural fertility Low population Limited agriculture activities	Low population Enough land Too much fertility rates	Soil erosion Monocropping Over cultivation Increased population
Timber	3	3	2	Building Firewood Burning bricks Income	Firewood Burning of bricks Income	Charcoal burning Brick burning Technology

**** 0- Resource not used at all, 1- High level use, 2- Medium level of use (Fairly used), 3- Low level of use**

Figure 12: Group discussions and presentations on Historical analysis

From the above analysis; It is clear that most of the changes in natural resources such as demand for fertile soils, firewood, fish, water, sand and wetland vegetation have taken place in the last two decades due to increase in population, technology, unemployment, urbanization, chemical use, infrastructure development and climate change impacts among others. It is evident that prior to the 21st century, natural resources were being used in moderation due to low human populations, low advanced technology (such as use of power saws that are wasteful, fishing nets, bull dozers that can wipe out a wetland in one hour) and availability of virgin arable land for cultivation all of which prevented the population from invading the wetlands for survival.

4.8.6 Economic Valuation of Resources from Nalugugu Wetland

Using the resource substitute approach, participants were able to assess the monetary benefits obtained from Nalugugu wetland. Assumptions were based on the substitute value of a resource that is in case it was no longer available from Nalugugu wetland. Five key resources as prioritized in the resource analysis as shown in the table below;

Table 12: Economic valuation of selected wetland resources (average household of 5 people)

Resource	Use	Substitute	Unit cost	QNTY/HH/Yr	Total
Firewood	Cooking	Charcoal	50,000	50,000x1x12	600,000
	Lighting	Gas	130,000	130,000x4	520,000
		Electricity	40,000	40,000 x 12	480,000
	Brick burning	Solar	1,000,000	1,000,000	1,000,000
	Income	biogas	3,000,000	3,000,000	3,000,000
Water	Domestic use	Water harvesting	5.000 tank	1,000,000 +500,000	1,500,000
	Farming	NWSC	8 jerrycans	8x200x30x12	576,000
	Grazing	boreholes			
	Car washing				

Herbs	Treatment /Medication Income	Hospital	500,000	2x500,000	1,000,000
Sand	Building Income Raw material	Soil	3 trips @100,000	3x150,000	450,000
		Stone dust	3 trips @600,000	3x600,000	1,800,000
Timber	Building Income Making furniture	Metals	2,500,000	2,500,000	2,500,000
Fish	Income Food Medicine Craft	Meat	1 kg	1x30x12x15,000	5,400,000
		Chicken	1	1x30x12x30,000	10,800,000
		Greens Beans			
Food	Eating Income	Buying	20,000@day	20,000x30x12	7,200,000
Papyrus/ Grass/ Palm trees	Mats	Mattress	5 pcs	10,000	50,000/=
		Tapoline	2 pcs	50,000	100,000/=
	Stools	Plastic chairs	3 pcs	25,000	75,000
	Roofing	Iron sheets	30 (standard house of 5 people)	30,000	900,000/=
			Roofing nails	200,000	200,000/=
			Labor	400,000	400,000/=
	Poles	Eucalyptus	500	5,000	2,500,000/=
Fertile soils	Growing crops (2 acres)	Fertile upland soil (2acre/HH) rental	2acres x 2 seasons = 4 acres	300,000	1,200,000
Pasture	Feeding animals (8 cows)	Buying fodder	12 kgs/day x 8 cows 30 days x12months = 34,560kgs	500	17,280,000/=

The above valuation suggests that a lot of money can be saved from using the wetland by the community in extracting resources that support the livelihoods of hundreds. The tool helps to tickle and awaken the community members to realize that indeed natural resources represent money, and should therefore be protected at all costs to ensure sustainability.

4.9. Problem Analysis in Nalugugu wetland

4.9.1. Problem listing

The planning process identified the problems, ranking and analysis in order to appreciate the most adverse problems facing the wetland and the people surrounding and using it. Problem ranking is the basis for prioritization and optimization of management measures or actions. The following problems were identified through participatory problem listing;

- Soil erosion
- Over grazing
- Wind
- Poor waste management
- Famine
- High population
- Climate change
- Pests and diseases
- Limited land for grazing, farming
- Drought
- Deforestation
- Land grabbing
- Water scarcity
- Channelization
- Over cultivation
- Poor farming methods
- Limited pasture
- Reduction or low water levels
- Low standards of living
- Increased barrow pits due to sand and clay mining

4.9.2. Problem ranking

To understand the extent of the problems, causes and possible solutions members were put into four groups in order for them to rank and analyze these problems and later presentations were made with ranking details, causes and the possible solutions to these problems.

Table 13: Problem ranking by Nalugugu CbWMP team

Problem	Score	Rank
Limited land for grazing, farming	74	6
Pests and diseases	68	9
Over grazing	60	12
High population	79	3
Land grabbing	69	8
Water scarcity	70	7
Deforestation	56	14
Soil erosion	54	15
Wind	45	16
Poor waste management	63	11
Famine	43	17
Drought	40	18
Climate change	36	19
Channelization	76	4
Over cultivation	82	1
Reduction in water levels	75	5
Limited pastures	68	9
Low standards of living	80	2
Increased barrow pits	58	13

4.9.3. Problem analysis

This provides a basis for development of objectives and actions upon which the management plan shall be implemented and evaluated. Problems were identified and the root causes analysed. Identification of the root causes helps in developing interventions that are feasible and targeted to the real problem. A summary of major problems and their causes is as shown in the table below;

Table 14: Root causes and suggested solutions to key problems in Nalugugu wetland

Problem	Cause	Solution
Siltation	Poor farming methods Clearing away vegetation along river banks Heavy rains Deforestation Soil erosion Over grazing Bush burning	Mulching Afforestation Zero grazing Sensitization and awareness Soil and water conservation Good improved farming practices Contours Demarcation Restoration
Water poloution	Poor waste disposal Use of chemicals, fertilizers, and herbicides Industrial waste	Proper waste management Sensitization and awareness
Soil erosion	Flooding Over grazing Poor farming methods Deforestation Over cultivation	Crop rotation Mulching Reafforestation Afforestation Terracing Dam construction
Soil degradation	Deforestation Soil erosion Bush burning Over grazing Over cultivation Use of chemicals as fertilizers	Mulching Reafforestation Zero grazing Crop rotation
Over grazing	Limited land Increased numbers of cattle in the area Inadequate pastures	Paddocking Growing of improved pastures Use of alternative feeds like maize brand
Wind storm and hail storms	Deforestation Bush burning Prolonged droughts	Afforestation Avoiding bush burning Mulching Reafforestation

Poor waste management	Poor waste management Ignorance Poor industrial waste management	Creation of waste dumping sites Sensitization and awareness Enforcement Recycling
Famine	Low food production Drought Soil erosion Insecurity Floods Limited land	Increased food production Dam construction Afforestation Planting drought resistant crops Improve security in the area Improved seeds to improve yields
Poor road networks	Floods Poor drainage Unplanned construction Community resistance	Proper drainage system De-siltation of drainage channels Community sensitization
Land slides	Heavy rains Poor farming methods Deforestation	Contour farming Afforestation Soil and water conservation Resettlement Sensitization
High population	Early pregnancies Environmental influence High fertility rates Lack of knowledge Polygamy Lack of education Religious beliefs Cultural influence Ignorance	Healthy education Prevention of early marriages Birth control measures Monogamy Vasectomy
Climate change	Deforestation Bush burning Drought Floods Wetland destruction	Reafforestation Environmental conservation Restoration of wetlands
Over population	Migration High fertility rates Early marriages Ignorance on family planning methods Poverty Cultural beliefs	Sensitization on family planning Mindset change

Pests and diseases	Poor farming methods Poor seed varieties	Improved farming methods Improved pesticides Improved seed varieties Fertilizer application
Limited land for grazing, farming	High population Over cultivation	Family planning Sensitization
Land fragmentations	Over population Poverty Urbanization	Family planning use Sensitization Proper land use
Drought	Deforestation Bush burning Siltation of water bodies	Afforestation Restoration
Flooding	Heavy rains Poor farming methods Poor drainage systems Deforestation	Improved farming methods Planting trees Opening or expanding drainage systems
Deforestation	Firewood Brick burning Charcoal Timber	Bylaws Reafforestation Afforestation Biogas
Land grabbing	Over population Limited land for agriculture	Demarcations and boundaries Mediations
Water scarcity	Drought Over cultivation Opening up trenches Land fragmentation Encroachment	Afforestation Conservation Demarcation Restoration
Poor farming methods	Poverty Ignorance Limited capital Limited land for agriculture	Sensitization


Figure 13: Group discussion to analyze the problems facing the communities of Nalugugu wetland

4.10. Conflict analysis

Nalugugu wetland supports livelihoods of thousands of local populations, each with differing interests as highlighted in previous sections of resource analysis. It is therefore natural that in the process of each individual or a resource user group trying to satisfy its needs, conflicts arise. This exercise therefore helped the community identify the areas of conflict and propose ways to minimize the conflicts for sustainable utilization of the wetland. The findings are presented on table below;

Table 15: Conflict analysis

Conflicts	Cause	Copying strategy	Solution
Land vs land lord	Boundaries Tress pass Water usage	Fighting Quarreling Reporting	Open boundaries Courts of laws Bylaws
Farmers vs community	Disconnection of water sources Negligence by community Crop damages Envy by community	Migration Quarreling Killings Poisoning Harmonization	Community policing Mediation By laws
Farmer vs farmers	Boundaries Tress passing Malicious damage Trenches Thefty Water Spraying	Fighting Harmonizing Compensation Witch craft Quarreling	Bylaws Mediation Compensation Courts of laws Boundary opening
Water collectors vs land lords	Blockage of passages Crop damage Tress passing	Quarreling and abusing Forcefully trespass Damaging property Fighting	Mediation by local leaders

Farmer vs local leaders	Encroachments Demarcations	Laws Compensation Restoration Mediation	Demarcation Restoration Sensitization
Farmers vs grazers	Malicious damage of crops Trespass Lack of pasture, grass and land Lack of access roads for cattle to water sources	Quarreling/ fighting Compensation Reporting to LC authorities Fencing and warnings Land demarcation Negotiations	Compensation Zoning Set by-laws Establish access route for cattle Arbitration Sensitization
Land lords vs tenants	Delay in payments Jealousy Encroachments	Quarreling Fighting	Mediation
Government vs farmers	Policy matters Encroachment Guidelines Ignorance Encroachments	Imprisonment Destruction of crops Enforcement	Awareness and sensitization Demarcation Restoration Evictions Zoning
Water collectors vs Grazers	Dirtying water	Quarreling Fighting Killing of cattle	Zoning Bylaws
Government vs political leaders	Miss interpretation Cheap popularity	Imprisonment of political leaders	Dialogue Sensitization and awareness
Farmers vs brick makers	Space for their activities Lack of access to grazing grounds Ditches that cause accidents Theft of crops and tools	Negotiations Provision of accessibility Lcs arbitration	Zoning of activities Establishment of access road Arbitration
Brick makers vs cattle keepers	Livestock destroying crops Ditches which cause accidents Limited space for both groups Accessibility of cattle Destruction of bricks by cattle	Fencing of plots Negotiations Filling up ditches Provision of access routes Compensation	Zoning Fencing Compensation Fencing Arbitration
Farmers vs fishermen	Fishing grounds Water sources Blockage of water channels Damage of crops Use of chemicals	Quarrelling Fighting	Dialogue Awareness

PART III: WETLAND MANAGEMENT PLAN

CHAPTER FIVE: VISION, OBJECTIVES AND ACTIONS

This chapter presents the vision, objectives and strategic actions that the planning team proposed based on how they would like to see Nalugugu wetland after successful management interventions.

5.1 Visioning

A vision reflects the future aspirations of the community and assumes many constraining factors as being constant to allow for effective implementation of all measures as proposed in the management plan. Participants were divided into two groups depending on the different sub counties where they were told to develop a vision, objectives action points and activities. The two visions were then polished to generate the Long-term Vision Statement for Nalugugu wetland as agreed by the community as follows;

A conserved Nalugugu wetland by 2035, restored to support biodiversity and eco-tourism, driving sustainable development and resilient livelihoods for adjacent communities.

5.2. Objectives

The communities then proposed objectives that are geared at how to achieve the stated vision above. The overall objective of the Management Plan is *"To ensure the sustainable conservation of the Nalugugu wetland system by 2035, preserving its ecological integrity and enhancing its socio-economic benefits for local communities."* Each sub county presented its objectives, which were later refined and consolidated to have the objectives of Nalugugu wetland management plan as follows;

1) To build and enhance institutional capacity and management structures at village, parish, and sub-county levels to ensure effective, community-driven conservation of Nalugugu wetland.

2) To promote eco-friendly income-generating activities for communities adjacent to Nalugugu wetland, fostering economic resilience and reducing dependence on unsustainable practices.

3) To increase awareness among stakeholders about the ecological and socio-economic benefits of sustainable Nalugugu wetland management through targeted education and engagement.

4) To rehabilitate the biophysical integrity of Nalugugu wetland to sustain its biodiversity, water regulation, and climate resilience services through science-based restoration.

5.3. Management Measures and Actions

The community scrutinized the objectives and derived management actions and measures, which would lead to achieving the formulated objectives. Focus was put on management measures, which are achievable and aimed at addressing the identified problems during the resource, conflict and problem analysis. Below are the formulated management actions for each of the four objectives:

Table 16: Summary of management actions per objective

Objective 1: To build and enhance institutional capacity and management structures at village, parish, and sub-county levels to ensure effective, community-driven conservation of Nalugugu wetland.

- Formation of Resource User Groups (RUGs)
- Train and empower the wetland management committee to do oversee the wetland activities in the area
- Capacity building for provision of extension services
- Designate a Focal Point Person for wetland/environment management at sub county and Town council
- Establish and equip the committee's coordination office at town council and sub county
- Gazette environment focal persons at sub county and parish levels
- Develop and implement bye-laws to strengthen enforcement of the regulations
- Conduct participatory monitoring activities involving the community
- Enhance planning and budgeting function at sub county Town Council for effective implementation.
- Co-opt cultural institutions and spiritual leaders in the area to mobilize for conservation

Objective 2: To promote eco-friendly income-generating activities for communities adjacent to Nalugugu wetland, fostering economic resilience and reducing dependence on unsustainable practices.

- **Establish wise use demonstration model at the wetland**
- **Conduct enterprise selection**
- **Group farmers according to enterprise selection**
- **Conduct tailor-made trainings based on enterprises,**
- **Promote value addition of agricultural products**
- **Train the youth in vocational skills such as carpentry, welding, mechanics, electric, hairdressing, tailoring, bakery, etc.**
- **Support selected groups with inputs, equipment and startup capital through established SACCOs**

Objective 3: To increase awareness among stakeholders about the ecological and socio-economic benefits of sustainable Nalugugu wetland management through targeted education and engagement.

- ❖ **Mobilize communities though their local leaders to conserve**
- ❖ **Introduce environmental conservation in schools**
- ❖ **Design customized awareness materials**
- ❖ **Set up sub-committee for awareness creation**
- ❖ **Design and install awareness posts and billboards on the wetland**
- ❖ **Conduct community broadcasting with conservation messages**
- ❖ **Carry out exchange visits to benchmark**

Objective 4: To rehabilitate the biophysical integrity of Nalugugu wetland to sustain its biodiversity, water regulation, and climate resilience services through science-based restoration.

- ❖ **Create awareness on both direct and indirect wetland values**
- ❖ **Demarcate the wetland boundaries**
- ❖ **Wetland restoration (replant wetland vegetation and indigenous trees in severely degraded areas, block the drainage channels and allow free flowing water, leave the wetland to regenerate)**
- ❖ **Control pollution from farmlands**
- ❖ **Voluntarily vacate the wetland**
- ❖ **Undertake regular monitoring by the committees**

PART IV: IMPLEMENTATION

CHAPTER SIX: IMPLEMENTAION PLAN AND ARRANGEMENTS

6.1. Implementation plan

The implementation plan presented in the table below covers a five (5) year period. This plan will form basis for deriving annual targets and activities as well as indicators for measuring implementation progress and impacts. The management plan will be implemented through collaborative partnership between central, local governments, NGOs, CSOs, and other development partners. The support from Central Government will majorly be through the Conditional Grant for Environment and Natural Resources, however partnerships with NGO's/ CSO's in the district should also be harnessed to contribute towards implementation of some elements of this plan like food security, water and sanitation as well as community mobilization.

6.2. Costed budget for implementation of Nalugugu management plan

Table 17: Costed budget for implementation of Nalugugu management plan

Objective 1: To build and enhance institutional capacity and management structures at village, parish, and sub-county levels to ensure effective, community-driven conservation of Nalugugu wetland.						
Management Action	**Activities / Tasks**	**Input/materials**	**Unit 1**	**Unit 2**	**Unit Cost**	**Total Cost**
Build capacity of wetland management committee to handle environment issues	Train elected committees	Refreshments	1	5days	50,000	250,000
		SDA for resource persons	2	5days	110,000	1,100,000
		Stationary	1	1	100,000	100,000
		Fuel for resource persons	1	120ltrs	5,000	600,000
	Formulate byelaws	Refreshments	1	5 days	50,000	250,000
		Resource persons	2	5days	110,000	1,100,000
		Stationary	1	lumpsum	100,000	100,000
		Mobilization	1	do	50,000	50,000
		Secretarial activities and editing the draft document	2	5days	110,000	1,100,000
		Ratification (allowances for councillors and technical officers)	30	1day	50,000	1,500,000
Management Action	**Activities / Tasks**	**Input/materials**	**Unit 1**	**Unit 2**	**Unit Cost**	**Total Cost**

Establish a local office for coordination of wetland management issues and regular reporting	Identify a central point to set up office	Rent fees	1	60months	200,000	12,000,000
		Furnish the office	1	1	1,000,000	1,000,000
		Stationary	1	60months	30,000	1,800,000
		Volunteer secretary	1	60months	100,000	6,000,000
Designate Town Council and sub county technical officers as environment focal persons	Formal designation by CAO	Communication and delivery	1	1	100,000	100,000
	Train designated officer in environment and wetland policies and laws	Training costs	1	1	500,000	500,000
		Facilitation in form of transport, SDAs etc	3	60 months	50,000	3,000,000
Sub total						**30,550,000**

Objective 2: To promote eco-friendly income-generating activities for communities adjacent to Nalugugu wetland, fostering economic resilience and reducing dependence on unsustainable practices.

Management Action	Activities/ Tasks	Input/materials	Unit 1	Unit 2	Unit Cost	Total Cost
Awareness creation to popularize alternative livelihood projects	Hold meetings amongst wetland users to select alternative viable projects	SDA for resource persons	2	5 days	50,000	500,000
		stationary	1	1	200,000	200,000
		Fuel for resource persons2	1	60ltrs	5,000	300,000
	Conduct meetings to form groups of similar enterprises and do trainings	SDA for resource persons	2	4days	50,000	400,000
		stationary	1	1	200,000	200,000
		Fuel for resource personnel	1	60ltrs	5,000	300,000
	Conduct exchange visits to similar successful alternative livelihood projects	Host training fees	1	1	500,000	500,000
		Transport for 30 people	30	1day	20,000	600,000
		Stationery	1	1	200,000	200,000
		Meals	30	1day	12,000	360,000
		Per diem allowances for resource persons	2	1day	120,000	240,000

Mobilize resources to support	Develop fundable project proposals	Contract resource person to write proposal	2	1month	2,000,000	4,000,000
	Support selected groups per parish on demonstration and multiplication basis such as;	Heifers (Friesian)	30@	1 sub county and 1 T/C	2,500,000	150,000,000
		Goats	100@	1 sub county and 1 T/C	300,000	60,000,000
		Piggery	100@	1 sub county and 1 T/C	200,000	40,000,000
		Small-scale home irrigation	4	1 sub county and 2 T/C with 2@	20,000,000	80,000,000
		Start-up feeds/ medication	1	Lump-sum	20,000,000	20,000,000
	Value addition	Machinery for coffee and rice processing	2@	1 sub county and 1 T/C	200,000,000	400,000,000
Sub total						**757,800,000/-**

Objective 3: To increase awareness among stakeholders about the ecological and socio-economic benefits of sustainable Nalugugu wetland management through targeted education and engagement.

Management Action	**Activities/Tasks**	**Input/materials**	**Unit 1**	**Unit 2**	**Unit Cost**	**Total Cost**
Conduct mobilization and sensitization campaign	Produce site specific message for Nalugugu community audience	Facilitation for technical person	2	10days	110,000	2,200,000
		SDA for field survey for pretesting	4	1day	50,000	200,000
	Conduct meetings to disseminate information on sustainable utilization of wetlands	Stationary	1	1	200,000	200,000
		Per diem for resource persons	2	14days	120,000	3,360,000
		Fuel for resource persons	1	70ltrs	5,000	350,000

	Hold radio talk shows	Radio airtime	1	10 nights	500,000	5,000,000
		Per diem for radio panelists	3	10	110,000	3,300,000
		Fuel/transport	3	10	50,000	1,500,000
	Establish environment clubs in at least 1 primary schools per parish and conduct drama shows in schools	Facilitation for technical persons to develop content	2	5days	100,000	1,000,000
		Support to drama activities such as teacher allowances, costumes, equipment etc	5 schools	1	2,000,000	10,000,000
		Support drama competitions at wetland system level every year for 5 years	5years	1	20,000,000	100,000,000
	Conduct exchange visits by executive committee to benchmark best practices	Host trainer facilitation	1	4days	100,000	400,000
		Transport	1	2days	600,000	1,200,000
		Per diem allowances for resource persons	2	4ds	110,000	880,000
		Refreshments and meals	30	2days	50,000	3,000,000
SUB TOTAL						**132,590,000**
Objective 4: To rehabilitate the biophysical integrity of Nalugugu wetland to sustain its biodiversity, water regulation, and climate resilience services through science-based restoration.						
Management Action	**Activities/Tasks**	**Input/materials**	**Unit 1**	**Unit 2**	**Unit Cost**	**Total Cost**
Create awareness	Mobilization and community meetings	Communication (airtime, posters, village radios etc.)	Lump sum	1	200,000	200,000
		Allowances for resource persons	2	3days	110,000	660,000
		Stationary	1	1	150,000	150,000
		Fuel	1	100lts	5000	500,000
Control water pollution	Train farmers on the right use of agro-chemicals	Allowances for resource persons	2	4days	110,000	880,000
		Transport	2	4days	100,000	800,000
		Mobilization	1	1	100,000	100,000
	Designation of solid waste dumping site in urban centres (Mutufu TC)	Land acquisition or hire	1	1	10,000,000	10,000,000
		Compliance enforcement	1	365 days	5,000	1,825,000

Map out severely degraded wetland sections and demarcate boundaries	Generate computer vegetation cover map and use it to delineate sub boundaries of critically degraded sections	Allowances for technical officers	2	5days	110,000	1,100,000
		Allowances for ground truthing the wetland with select committee	10	2days	20,000	400,000
		Procure boundary markers and plant them	1000 pillars	1	200,000	200,000,000
		Procure, transport and plant indigenous tree species in restored areas	5000 seedlings	Lumpsum	5,000	25,000,000
		Fencing off the plantings (including poles, transport, barbed wire, nails and labour)	Lump sum	1	20,000,000	20,000,000
		Excavator and its transport to and from various sections that require such equipment	1	10days	2,000,000	20,000,000
Undertake actual wetland restoration using the suitable techniques and related activities	Subject to the level and type of degradation, facilitate the restoration activities such as backfilling drains, re-vegetation, tree planting, establishing buffer zones, etc.	Causal labourers	30	30days	20,000	18,000,000
		Transport	Lumpsum	Lumpsum	1,000,000	1,000,000
		Technical staff allowances	15	30days	110,000	49,500,000
		Tree seedlings	5,000	Lumpsum	5,000	25,000,000
	Undertake post restoration activities	Regular monitoring transport and allowances for community committee	2x 48days /year	Lumpsum	5,000	3,840,000
		Enforcement activities (inc. fuel, allowances, courts, etc)	1	1	20,000,000	20,000,000
Sub total						**398,955,000**
TOTAL						**1,319,895,000**

6.3. Monitoring and evaluation plan

6.3.1 Monitoring and Evaluation Framework

The foundation for monitoring and evaluation systems is the logical framework in which a series of key performance indicators are identified and suit a set of actions and activities raised in the management plan. The monitoring indicators, disaggregated by objectives will compare performance in every objective with clearly set targets per year. The general principles for the participatory monitoring and evaluation will also be adopted.

Monitoring groups will comprise of:

a. **Community user groups:** will monitor local wetland related activities supported by implementation committee

b. Members of Implementation committee: will monitor activities, inputs and output achievements in their respective areas supported by district local government.

c. Relevant institutions, such as Ministry of Water and Environment through Wetland Management Department and NEMA will monitor conformity with the standards and relevance to existing policies and guidelines for Environment and Natural Resources.

d. CSOs/CBOs will monitor and evaluate overall performance and impact of the intervention on biodiversity status, community livelihoods and the general environmental requirements

Table 18: Monitoring and Evaluation framework

OBJECTIVES	OUT PUT	INDICATOR (WHAT TO MONITOR)	MOV (MEANS OF VERIFICATION)	RESPONSIBLE INSTITUTIONS
To build and enhance institutional capacity and management structures at village, parish, and sub-county levels to ensure effective, community-driven conservation of Nalugugu wetland.	Routine monitoring Apprehension of encroachers Sensitization of co munity wetland bye laws Reporting Functional committee established Functional office premises Environment focal persons designated at town council and sub county level	No. of environment committees functional at Town Council level •No of training meetings conducted for committees and focal persons •No of joint inspections conducted •No of wetland offenders sanctioned •No and quality(trained) of designated env`t focal persons •Level of office operationalization	Field visits Compliance and monitoring Records Report observation designating appointment letters	DLG MWE NGOs CSOs

OBJECTIVES	OUT PUT	INDICATOR (WHAT TO MONITOR)	MOV (MEANS OF VERIFICATION)	RESPONSIBLE INSTITUTIONS
To promote eco-friendly income-generating activities for communities adjacent to Nalugugu wetland, fostering economic resilience and reducing dependence on unsustainable practices.	Livelihood based projects funded and being implemented Fish farming being practiced Improved crafts industry Irrigation farming Zero grazing Poultry farming Rice & maize milling machinery in place Hatchery established	No. of funding proposals developed and approved No of fish ponds in established No of people practicing improved crafts making No of farmers or groups accessing irrigation facilities No of HHs practicing zero grazing and poultry farming No of hatcheries established and functioning	Technical Reports Field visits Farmer records Market surveys	MWE DLG Committee
To increase awareness among stakeholders about the ecological and socio-economic benefits of sustainable Nalugugu wetland management through targeted education and engagement.	Appreciation of wetland values Reduced encroachment on wetland	•Community attitudes •Community knowledge and practices	KAP survey Interviews Observations of behaviors	DLG MWE Committee CSOs NGOs

OBJECTIVES	OUT PUT	INDICATOR (WHAT TO MONITOR)	MOV (MEANS OF VERIFICATION)	RESPONSIBLE INSTITUTIONS
To rehabilitate the biophysical integrity of Nalugugu wetland to sustain its biodiversity, water regulation, and climate resilience services through science-based restoration.	•Restored wetland •Increased wetland coverage providing essential services and products to community	Area in hectares of wetland restored or naturally regenerating No of people benefiting from wetland products Length in kilometers of the boundary line demarcated	Field visits Compliance monitoring reports Standing boundary live markers or pillars Accountability reports	Committee Ministry of Water and Environment District Local Government

6.3.2. Implementation structures

The implementation process will be monitored and supervised by various stakeholders including among others the Management Committee for Nalugugu Wetland Management Plan, Civil Society Organizations, Sironko District Local Government and Ministry of Water and Environment.

6.3.2.1. Composition of implementation committee

Based on the number villages involved in the planning process, efforts were made to have a representative number of stakeholders on the implementation committee so that each group's interests would be articulated and planned for in implementation. Each sub county elected a committee which will be able to take on the different duties of managing the different parts of the wetland in that locality but a combined committee from the 2 committees of the different sub counties of 9 members was constituted from the resource user groups representing all the villages in the different parishes in the 2 sub counties and a number of ex officials from both district and the 2 sub counties constituted 22 members. Table below highlights the composition by category of main stakeholders as far as utilization and protection of Nalugugu wetland is concerned.

Table 19: Implementation committee representatives

Category	No.
Committee	9
Community Development Officer	2
DFO, DAO, DEO, DNRO	4
GISO	2
District Natural Resources Officer	1
LCIII Chairperson	2
Male and female District councilors	2
Total	**22**

6.3.3. Committee members

Table 20: Bukiise sub-county committee

NAME	TITLE	CONTACT
MUWODEYA REMEGIO	CHAIRPERSON	0776354554
BALYEJUSA WINNIE	VICE CHAIRPERSON	0770742801
NANGOLI ROGERS	SECRETARY	0788869700
WOMUSI ROBERT	TREASURER	0779966156
KWAGA LYDIA	PUBLICITY	0773818872
WANGWE PETER	PWD	077665914
NELIMA LILLIAN	YOUTH	0760403030
WOKYOMBE JOEL	CIVIL SOCIETY REP	0772575068
NAMADEGA MICHAEL	OPINION LEADER	0706739668
NAFUNA ANNET	OPINION LEADER	0770428286
MUNGASA LAWRENCE	RESOURCE USER GROUPS	0774122698
ZEMA FREDA	WOMEN REP	0782556837

Table 21: Mutufu Town Council committee

NAME	TITLE	CONTACT
WOYEYA TITO	CHAIRPERSON	0782490542
KWAGA IRENE	VICE CHAIPERSON	0777906214
NABUDOMBA ZAVERIO	SECRETARY	0776756943
NAMBOOZO CHRISTINE	TREASURER	0754004734
MAFABI MUHHAMAD	PUBLICITY	0785566304
NANGOLI SAM	YOUTH	0767411401
NAMBOHE DAVID	PWD	0774181053
WABULO GEOFFREY	CIVIL SOCIETY REP	0774023085
REV. ESTHER WOJAMBUKA	OPINION LEADER	0773552663
WONYEMA MICHAEL	OPINION LEADER	0788165895
NABUKONDE CONNIE	RESOURCE USER GROUPS	0784179589
NEUMBE CAROL	WOMEN REP	0774492222

Table 22: Executive committee for Nalugugu management plan

Name	Title	Contact
MUWODEYA REMEGIO	CHAIRPERSON	0776354554
WOYEYA TITO	VICE CHAIRPERSON	0782490542
NANGOLI ROGERS	SECRETARY	0788869700
KWAGA LYDIA	PUBLICITY	0785566304
KWAGA IRENE	TREASURER	0777906214
WANGWE PETER	PWDS	077665914
NELIMA LILLIAN	YOUTH	0760403030
NABUDOMBA ZAVERIO	ELDERLY	0776756943
BALYEJUSA WINNIE	WOMEN REP	0770742801

6.4. Roles and responsibilities of stakeholders in implementation of plan

Table 23: Roles and responsibilities of key stakeholders in implementation of plan

Stake holders	Roles
Community	• Abiding by the bye-laws put up by management committee • Implementing rules and regulations • Engaging in alternative income generating activities • Sensitization of fellow community members • Report wetland abuses to committee
Local leaders (LC1-lC5)	• Exemplary • Mobilization f communities • Monitoring the management committee • Coming up with resolutions for management of the wetland • Sensitization • Linking community to develop projects
Government (central and local government)	• Developing and disseminating resource use guidelines • Registration of resource user group associations • Universal application of environmental laws • Resource mobilization • Monitoring and enforcement
CSO's	• Proposal writing or funding • Building capacity of committees • Act as watchdogs for environment

6.5. SWOT Analysis of Enterprise Selection

A SWOT analysis of nine enterprises identified by the participants as the main flagship projects in the area was conducted in the participatory manner. These included dairy farming, poultry, piggery, fish farming, bee keeping, horticulture, fruit farming, tailoring and carpentry. Looking at the strengths, weaknesses, opportunities and threats as far as the nine projects were concerned, it was concluded that ***dairy farming*** takes precedence due to its capacity to generate daily income for households and ability of the participants to take care of the animals. ***Horticulture*** came second as many women in the Nalugugu community derive livelihoods out of it. However, this enterprise will require guidance on how best wetland edge gardening can be undertaken. ***Fruit farming*** was voted the third best since there is availability of market for fruits especially to the neighboring Kenya for Hass avocado and the active weekly Mutufu general market. Tailoring was the fourth best activity as participants saw it best to train and empower youth especially women with hands on skills that can enable them generate income. This includes provision of equipment as well. Bee keeping was the fifth as it is also a less timely consuming but highly earning business, poultry farming was the sixth, to support especially stay at home mothers and other youth who are interested in venturing into this business. Piggery was seventh, fish farming came eight due to the associated high costs of maintenance and lastly carpentry.

7. REFERENCES:

Bakema, R. & Iyango, L, (2000). Engaging Local Users in the Management of Wetland Resources: The Case of the National Wetlands Programme, Uganda.

Bulambuli District Local Government. Five Year District Development Plan 2020/21 – 2024/25

Guidelines for Compliance Monitoring of Wetlands. Wetland Booklet Number 4.

Guidelines to Wetland Restorations in Uganda. Vol. 1: wetland restoration guidelines 2017

Kizza, M., Westerberg, I., & Kim, Y. (2021). Rainfall-runoff dynamics in the upper Nile basin: A case study of Mount Elgon catchments. Journal of Hydrology.

Ministry of Water and Environment (MWE). (2019). Assessment of water resources in eastern Uganda: Focus on Mount Elgon and surrounding districts. Kampala, Uganda.

Ministry of Water and Environment (MWE). (2018). Water and Environment Sector Performance Report. Kampala, Uganda.

National Environment Management Authority (NEMA). (2020). Environmental report on the status of wetlands in Uganda. Kampala, Uganda.

Nature Uganda (2012/2013). Biodiversity Baseline Surveys of tobacco growing regions of the Middle North; Uganda.

Process Manual for Development of Community-Based Wetlands Plans. Wetlands Management Department. Ministry of Water and Environment, Kampala, Uganda.

Republic of Uganda (2014). Housing and Population Census Report. www.ubos.org/wp-content/uploads/publications/National-Population-and-Housing-Census-2024-Preliminary-Report.pdf

The Republic of Uganda (1997): Local Government Act

The Republic of Uganda (2000): The Land Act, cap 227

The Republic of Uganda, (1995): National Policy for the Conservation and Management of Wetland Resources 1995.

The Republic of Uganda, (2011). Wetlands Sector Strategic Plan (2010 – 2020)

The Republic of Uganda, (2019). The National Environment Act, 2019. Statutory Instrument Supplement No. 15, to the Uganda Gazette No. 29 Volume CXII dated 21st June 2019

The State of Wetlands Report (2019)

weatherspark.com/y/98128/Average-Weather-in-Bulambuli-Uganda-Year-Round

8. ANNEXES

8.1. Annex I: Attendance lists

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	Gidudu Peter Rahmus	SHRO	M			✓			078296529	[illegible]
2.	Wamaniala Geoffrey	PACAO	M			✓			0782529189	[illegible]
7	Nabubyuma Rider	LC5	M			✓			0772603073	[illegible]
04	CHEBET JANAM	ARDC	F		✓				070321?494	[illegible]
05	Mugusha Stephen	DFO	M				✓		078212831	[illegible]
06	Nabukwasi Teddy	DEO	F			✓			07741060?4	[illegible]
07	Mafabi Rashid	DNRO	M				✓		0772435518?	[illegible]

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	MAGUJJE SAM	L.C.I	M			✓			0777431999	Magujje
2	NANGAI JOHN	L.C.II	M					✓	0765227184	[illegible]
3	KAPEYO SALIM	L.C.I	M				✓		0772251209	K.S.
4	NANGOLI ALEX	L.C.I	M			✓			0760503452	N-A
5.	WODUDU NICHOLAS	C'LLOR PWD's	M			✓			0702768550	[illegible]
6	MADOYI JAMES	LC.III YOUTH	M		✓				0701713230	[illegible]
7	LUMAKO PETER	Nabweende	M			✓			0757608700	[illegible]
	~~Magombe Zakayo~~	~~Bukiende~~	~~M~~			✓				
8	Nangumba Charles	CDO	M			✓			0759011993	[illegible]
9.	Kasakya Aramadhan	T/Agent	M			✓			0784583150	[illegible]

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	Arapta Honarth	CSO Bukiise	F		✓				0773419798 0751184845	[illegible]
2	NAFUNA PROSSY	P/C BUKATE	F		✓				0783671633	[illegible]
3	NAKIBUULE MARIAM	P/C BUSIU	F			✓			0788055838	[illegible]
4	MASIBO JANE	P/C NANDAGO	F			✓			0773524873	[illegible]
5	NAMBOZO JACKLINE	P/C BUSISHE	F			✓			0784366632	[illegible]
6	NAZGBA STEPHEN	FARMER	M				✓		0788843326	[illegible]
7	WAMUSI ROBERT	FARMER	M			✓			0779961156	[illegible]
8	NAFUNA ANNET	P/C NANDAGO	F			✓			0770428286	[illegible]
9	KUOACIA LYDIA-B	FARMER	F				✓		0773812872	[illegible]
10	MAKONE GEORGE	FARMER	M		✓		✓		0774544998	[illegible]

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	WOYIEYA TITO		M				✓		0782490542	[illegible]
2	BALAYO RICHARD	Chair LC1 Bisece	M					✓	0784416240	[illegible]
3	MAKOBA JAMES	D/Cllor Mutufu T/C	M					✓	0774086089	[illegible]
4	WABULO GEOFREY	C.S.O Rep	M			✓			0774023085	[illegible]
5	MERESI MUDENDA	D/Cllor Mutufu	F					✓	0772480401	[illegible]
6	WAMBOZA MICHEAL	FARMER	M		✓				0789224465	[illegible]
7	NAMZAGA PETER	FARMER	M			✓			0702723253	[illegible]
8	MABUKONDE KOMI	LII Secretary	F					✓	0784179589	[illegible]
9	NEWUMBE CAROL	FARMER	F				✓		0774492222	[illegible]
10	NELIMA LILLIAN	YOUTH	F	✓					0760403??	[illegible]

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: .....

Date: .....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	WODEYA ROBERT	MUTUFU	m					✓	0775043830	
2	MAISHANGA BOB	BUSIU	m				✓	✓	0783758837	
3	MUKAMBU CLERK LES	Nalugugu	M				✓		07889184	Mukam
4	NAMAROME YOWANI NN	BUSIU	F				✓		0774544 881	yowanino
5	WANYENZE FLORENCE	BUSAATE	f	✓					0782823818	
6	PAALI JAMES	BUSIU	M					✓	0774133357	
7	NAMATAKA SARAH	BUSATE	F			✓			0776624444	MS
8	WOLAYO PATIENCE	BUSATE	F	✓					0752249616	W-P
9	KAKAI MARY	ELGON	F				✓		0785593683	

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: .....

Date: .....

Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
MASABA PATRICK	LC II	M					✓	0782706234	
WANGWE PETER	c/ku tv PLC	m					✓	0777665914	
NABUKWASI ELIZABETH	LC III	F					✓	0762341106	
KHAISA MARY	LCI	F					✓	0781477068	
NABUKWASI ROSE	TOWN CLERK	F						0773806387	
WAKOKO SAMUEL	LC I	M					✓	0771306112	
ZEEMA DAVID	V/C/PLC III	M				✓		0776044422	
MAUGO ROBERT	V/C/PLC II BUKIISE	M					✓	0787751939	
MUGOYA SALIM HUSSEIN	LC I	M				✓		0702330164	
WOCHOMBE SAM	LI	m			✓			0783913559	

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
01	NASAAGA MOSES	LC III C/P	M				✓		0772403329	[illegible]
02	MAKOBAYI JAMES	MUTUFU T.C	M				✓		0759925001	[illegible]
03	CHISA WILLIAM	CAO	M				✓		0782849699	[illegible]
04	NAMBUYA SARAH	DCLLOR	F			✓			0771026362	[illegible]
05	CHEBET JANAM	ARDC	F		✓				0703217744	[illegible]
06	Sylvia Namanda	SACAO	F						0783257949	[illegible]
07	KALISITI WATIKHULU	BUSIU	M					✓	078856850	[illegible]
08	MUWOOBIA R.	FARMER	M					✓	0776352259	[illegible]
09	WANGAI VICENT	LC I	M				✓		0784738698	[illegible]
10	MUKYEIDA MOSES WEKOYE	LC I C/M	M				✓		0777297245	[illegible]

STRENGTHENING THE ADAPTIVE CAPACITY AND RESILIENCE OF COMMUNITIES IN UGANDA'S WATERSHEDS-AWOJA CATCHEMT (SACRiAC) PROJECT

Gender Form

Activity: ....

Date: ....

No.	Name	Designation	Gender	18-24	25-34	35-44	44-55	56+	Contact	Signature
1	MASIGA PATRICK	KISENYI	M				✓		0772484931	Masiga Patrick
2	NASHAPA ROBERT	DIBA	M					✓	0788398502	[illegible]
3	MASSA IDI	NAMASHELE BUSIU Chm	M				✓		0782087210	[illegible]
4	NEUMBE HADIJA	Nendegroup	F				✓		0775559343	[illegible]
5	WAMOTO CHARLES	BOKO	M				✓		0772930761	[illegible]
6	Mugusha Stephen	DFO	M				✓		0752622311	[illegible]
7	WAKHASA PETER	NALUGUGU	M				✓		0784153055	[illegible]
8	MAGOLO BISON	NAZWAZWA	M				✓		0779833697	[illegible]
9.	MAGOMBE ZAKOY	BUKIENDE	M				✓		0762058510	[illegible]
10	GIBONDI JACKSON	BUKIISE	M				✓		0779460395	[illegible]
11	WETAMA SIMON	BUKIISE	M		✓				0780361228	Sim

8.2. Annex II: Definition of key terms

Ecological character: The combination of the ecosystem components, processes and benefits or services that characterize the wetland at a given point in time.

Ecological benefit and services: The benefits or services that people receive from ecosystems.

Ramsar site: Ramsar sites are wetlands of international importance. The international convention, which forms the basis for their identification, is the "Ramsar Convention" named after the city in Iran where the convention was signed in 1971. Uganda has 12 Ramsar sites, namely: Lake George, Lake Mburo-Nakivale Wetland System (LMP), Lake Bisina Wetland System (BSN), Lake Nakuwa Wetland System (NKW), Lake Opeta Wetland System (OPT), Lutembe Bay (LTB), Mabamba Bay Wetland System (MBB), Murchison Falls-Albert Delta Wetland System (MFP), Nabajjuzi Wetland System (NBJ), Sango Bay-Musambwa Island-Kagera Wetland System (SAMUKA), Rwenzori Mountain National Park (RNP) & Lake Nabugabo wetland system Ramsar site.

Stakeholder: Any individual, group, or institutions that has a vested interest in the Nalugugu wetland and/or who potentially will be affected by activities within and have something to gain or lose if conditions change or stay the same.

Wetlands: Areas permanently or seasonally flooded by water where plants and animals have become adapted; and include swamps, dams, areas of marsh, peat land, mountain bogs, banks of rivers, vegetation, areas of impeded drainage, or blackish salt.

MINISTRY OF WATER AND ENVIRONMENT

Plot 3 - 7 Kabalega Crescent Road, Luzira

P.O. Box 20026 Kampala, Uganda

Tel : +256 417 889 400

Email: mwe@mwe.go.ug

Website: www.mwe.go.ug