



THE REPUBLIC OF UGANDA

---

# KOLE-APAC OKOLE **WETLAND MANAGEMENT PLAN**

2014





---

# KOLE-APAC OKOLE **WETLAND MANAGEMENT PLAN**

---



# TABLE OF CONTENTS

APPROVAL	vi
LIST OF ACRONYMS	vii
ACKNOWLEDGEMENTS	viii
EXECUTIVE SUMMARY	ix
<b>PART ONE: GENERAL DESCRIPTION</b>	<b>12</b>
<b>CHAPTER ONE: LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK FOR WETLAND MANAGEMENT IN UGANDA</b>	<b>13</b>
1.1 Legal and Policy Framework	13
1.1.1 National framework	14
1.1.2 International framework	14
1.2 Institutional Framework	14
1.2.1 Ministry of Water and Environment	14
1.2.2 The National Environment Management Authority (NEMA)	14
1.2.3. Wetlands Management Department (WMD)	14
1.2.4 District Local Government	14
1.2.5 Local community resource users and stakeholders:	14
<b>CHAPTER TWO: DESCRIPTION OF WETLANDS</b>	<b>15</b>
2.1 General description of wetlands	15
2.2 Description of Gulu-Oyam Tochi Wetland system	15
2.2.1 Location	15
2.2.2 Natural physical features	15
2.2.2.1 Topography	16
2.2.2.2 Soils	17
2.2.2.3 Hydrology	17
2.2.2.4 Climate	17
2.2.3 Ecological features	17
2.2.3.1 Flora	17
2.2.3.2 Fauna	17
2.2.4 Socio-economic	17
2.2.4.1 Ethnicity	17
2.2.4.2 Population density	17
2.2.4.3 Land use	18
2.2.4.4 Water Use	18
2.2.4.5 Land Tenure	18
<b>PART TWO: PLANNING</b>	<b>19</b>
<b>CHAPTER THREE: MANAGEMENT PLANNING PROCESS AND PLANNING CONSIDERATIONS</b>	<b>20</b>
3.1 Purpose of the Management Plan	20
3.2 Target Area	20
3.3 Planning process	20
3.3.1 Process	20
3.3.2 Planning Team	21
3.4 Wetland management planning considerations	21
3.4.1 Ecological and socio-economic values	21
3.4.2 Threats	21
3.4.3 Management problems	24
3.4.4 Management requirements	24
3.4.5 The role of wetland stakeholders	24
3.4.5.1 Mapping Stakeholders	24
3.4.5.2 Relationship between stakeholders and wetland resources	25
3.5 Priorities for management interventions	27

<b>PART THREE: WETLAND MANAGEMENT OBJECTIVES</b>	<b>29</b>
<b>CHAPTER FOUR: VISIONING AND SETTING OBJECTIVES</b>	<b>30</b>
4.1 The long term Vision	30
4.2 Management Objectives	30
4.3 The logical framework matrix	30
4.4 Management interventions and actions	31
<b>PART FOUR: IMPLEMENTATION PLAN AND REQUIREMENTS</b>	<b>34</b>
<b>CHAPTER FIVE: IMPLEMENTATION ARRANGEMENTS</b>	<b>34</b>
5.1 Implementation Plan	35
5.2 Implementation structure of the management plan	35
<b>6. CHAPTER SIX: MONITORING AND EVALUATION OF THE PLAN</b>	<b>41</b>
<b>REFERENCES</b>	<b>43</b>
Annex 1: List of people/stakeholders consulted during the planning process	44
Appendix 1: List of stakeholder ranking	45
Appendix 2: The trends in resource use for the key wetland resources earlier identified	45
Appendix 3: the seasonal calendar for activities in the catchments of Kole-Apac wetlands	46
<b>Figures</b>	
Figure 1: Location of Kole-Apac Okole wetland	16
Figure 2: Unsustainable methods of harvesting wetland resources (fish) at Okole	22
Figure 3: Burnt section of Okole wetland	22
<b>List of Tables</b>	
Table 1: showing wetlands names, Sub county/village, gazetted or leased	18
Table 2: Site specific wetland management problems	23
Table 3: Stakeholders matrix	25
Table 4: Trends in wetland resources use	26
Table 5: Analysis of conflicts their causes, coping strategy and suggested solution	27
Table 6: Priority issues for management plan	28
Table 7: Logframe matrix	30
Table 8: Interventions and Action	31
Table 9: Action Plan for Kole - Apac Okole Wetland	36
Table 10: Composition of Implementation Committee	40
Table 11: Monitoring and evaluation	41

# APPROVAL

The Kole-Apac Okole Wetland Management Plan has been reviewed by the Stakeholders, Local governments of Inomo, Chegere and Ibuje (Apac Districts) and Akalo, Bala, Ayer, Alito and Aboke (Kole District), Apac District Local Government and Kole District Local Government and approved for implementation.




.....  
**Chairperson LC V**  
Apac District Local Government



.....  
**Chairperson LC V**  
Kole District Local Government

Witnessed by:



.....  
**Collins Oloya**  
**Commissioner for Wetlands**  
Wetlands Management Department  
Ministry of Water and Environment

## LIST OF ACRONYMS

BATBP	British American Tobacco Biodiversity Partnership
BATU	British American Tobacco Uganda
CBO	Community Based Organization
CDO	Community Development Officer
DAO	District Agricultural Officer
DDP	District Development Plan
DEO	District Environment Officer
DFO	District Forest Officer
DHI	District Health Inspector
DVO	District Veterinary Officer
DWAP	District Wetland Action Plan
DWO	District Water Officer
EIA	Environmental Impact Assessment
ENR	Environment and Natural Resources
FAO	Food and Agricultural Organization
KAP	Knowledge, Attitude and Practice
LC	Local Council
LGA	Local Government Act
LGDPF	Local Government Development Programme Fund
MoFPED	Ministry of Finance, Planning and Economic Development
MoU	Memorandum of Understanding
MWE	Ministry of Water and Environment
NEA	National Environment Act
NEMA	National Environment Management Authority
NFA	National Forest Authority
NGO	Non - Governmental Organization
NU	<i>NatureUganda</i>
PRDP	Peace Recovery and Development Programme
PWMC	Parish Wetland Management Committee
TBA	Tropical Biology Association
TT	Tree Talk
WMD	Wetland Management Department
WMP	Wetland Management Plan

## ACKNOWLEDGEMENTS

The Kole-Apac Okole Wetland Management Plan was developed by communities and stakeholders around the wetland system with technical support provided by *Nature Uganda* (NU), *Tree Talk* (TT) and *British American Tobacco Uganda* (BATU) under the *British American Tobacco Biodiversity Partnership* (BATBP) Uganda operational project - Addressing sustainable management for biodiversity and ecosystem services in tobacco growing regions of Northern Uganda. The project was coordinated by *Tropical Biology Association* (TBA), Cambridge and implemented during 2012-2015 by NU and TT in collaboration with BATU and other stakeholders with the financial assistance from BATBP.

The preparation of this management plan was supported by the technical staff of the Wetlands Management Department and Apac and Kole Districts Local Governments. The communities around the Kole-Apac Okole, stakeholders and political leadership of the District Local Governments of Apac and Kole provided information about wetlands management issues and views on the management and conservation strategies.

We wish to recognize all the contributions and support provided by all institutions and individuals at all stages of preparation of Kole-Apac Okole Wetland Management Plan.



## EXECUTIVE SUMMARY

This Wetland Management Plan for Kole-Apac Okole wetland system catchment was developed under the British Tobacco Biodiversity Partnership (BATBP) Uganda Project that was implemented in the Mid-northern region of Uganda with the aim to address sustainable management for biodiversity and ecosystem services in tobacco growing regions of Uganda. The project was coordinated by Tropical Biology Association (TBA), Cambridge and implemented by *Nature Uganda* and *Tree Talk* from 2012-2015 in collaboration with stakeholders with the financial assistance from BATBP). The plan will be implemented over a four year period effective 2015 until 2018.

The development of management plan was started with literature review of socioeconomic and ecological information about the mid-north region and biodiversity surveys. It was undertaken mainly in the districts of Apac and Kole where tobacco growing is one of the main agricultural practices. The finding of the literature review and studies revealed potential negative impacts of tobacco growing alongside other agricultural and non-agricultural activities on wetlands ecosystem and biodiversity status. The likely impact include displacement due to wetland drainage and depletion of wetland biomass used during tobacco curing, among others, thus depriving the population the food and plant resources derived from wetlands. These impacts would therefore require tradeoffs interventions with potential to balance biodiversity conservation with people's livelihood.

The tradeoffs had to be initiated through engagement with the local communities and Local Government leadership that operate within project area. A series of consultative meetings were therefore held at community, lower and District Local Government levels. The meetings generated list of stakeholders, resources and issues of concerns to wetlands ecosystem, biodiversity and how the duo relate to livelihoods. The community proposal to the issues were further enriched with Knowledge, Attitude and Practices (KAP) surveys undertaken in the leaf growing area of the Mid-North. These were prioritized to generate action points that were formulated into the management plan.

The Management Plan therefore provides significant opportunities to generate wealth as well as promote the conservation of biodiversity and wetlands ecosystem. The proposals include a range of activities that strengthen structures that govern and regulate the use of natural resources, create knowledge and information, support livelihoods forms that offset over use of natural resources as well as increase biodiversity stock within the project area (selected Sub-Counties of Apac and Kole, Districts).

“  
A series of consultative meetings were therefore held at community, lower and District Local Government levels. The meetings generated list of stakeholders, resources and issues of concerns to wetlands ecosystem, biodiversity and how the duo relate to livelihoods. The community proposal to the issues were further enriched with Knowledge, Attitude and Practices (KAP) surveys undertaken in the leaf growing area of the Mid-North.

”

The management plan was formulated with an ambitious vision as generated by the community; meant to reflect what the community would want to see in Kole-Apac Okole wetland system after the implementation of the proposed restoration strategies. The vision for Okole wetland community resource management plan is therefore **“A wetland system managed to provide sustainable benefits to both the community and the environment”**

The overall objective of the management plan is to promote the conservation of Okole wetland system to sustain its ecological and socio-economic functions by 2018.

The specific objectives are:

- To increase vegetation cover in Okole wetland
- To reduce water pollution in Okole wetland and catchment areas
- To reduce incidents of bush fire out breaks in Okole wetland
- To establish and strengthen environment management structures at grass root levels

Successful implementation of the plan will deliver the following results and outputs:

Objectives	Results	Outputs
To increase vegetation cover in Okole wetland.	Capacity for wetland management at district, sub-county and community levels built.	Political leadership (Environment, Committees at district and sub-county) with capacity to plan and guide wetland management, Wetland management structures at sub-county and community levels, and Wetland resources promoting wetland conservation and wise use activities.
To reduce water pollution in Okole wetland and catchment areas.	Improved ecological integrity of Kole-Apac Okole wetland systems.	Wise use of wetland resources, Restored degraded portions of the wetland, Sustainable land management activities in the catchment, and Wetland boundaries established and respected.
To reduce incidents of bush fire out breaks in Okole wetland.	Wetland resources providing social-economic values sustainably.	Sustainable livelihoods derived from wetland resources use, and Enhanced awareness and appreciation of wetland values.
To establish and strengthen environment management structures at grass root levels.	Wetland resources and their values better understood.	Data/information about the wetland ecology and social-economic values, Wetland wise use principles better understood by community and wetland resources users, and Wetland policies and regulatory frameworks better understood by all stakeholders.
	Compliance with wetland policy and legislation.	Bylaws for regulating wetland resources protection and use, Incentive measures for compliance and compliance monitoring, and Capacity for enforcing wetland regulations and monitoring compliance.

Financial resources required to implement the management plan will be mobilized through collaborative partnership between local government and development/donor partners. The support from Government of Uganda will be handled according to the Conditional Grant Guidelines either for Environment and Natural Resources (ENR) or Peace Recovery and Development Project (PRDP). These are two budget lines from Ministry of Finance, Planning and Economic Development (MoFPED) that are disbursed as Conditional Grants from Government Treasury to District Local Government for implementation of activities as provided for in the respective Guidelines. The Grant under Environment and Natural Resource have guidelines that defined priorities for wetland management; and the PRDP grant also support components of environment and the Local Governments of Apac and Kole are all beneficiaries. However, it is important to note that the selected priorities are not implemented as standalone programs or projects; but must be integrated into the District Development Plan (DDP).

The implementation of this plan will be monitored and evaluated using indicators developed in (Table 8) by monitoring groups comprised of:

Community User groups: will monitor Sub-County level activities supported by District Local Government Staff.

Members of inter-district authorities of Apac and Kole: will monitor activities, inputs and output achievements in their respective areas.

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

The Implementation Committee will monitor and evaluate overall performance and impact of the intervention on biodiversity status, community livelihoods and the general environmental requirements.

---

**PART ONE:**  
**GENERAL DESCRIPTION**

---

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

## 1.1 LEGAL AND POLICY FRAMEWORK

### 1.1.1 National framework

#### a) Principal legislation

The Constitution of Uganda (amended 2005) provides for protection of wetland as national resource. Principle XIII (Protection of Natural Resources) provides for protection of natural resources, including wetlands.

#### b) Policies

The key policies related to the management and uses of wetlands in Uganda include the National Environmental Policy 1994 and the National Wetland Policy 1995. Both National Environmental Policy and the National Wetland Policy empower local governments and communities to protect and manage wetlands and resources therein.

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.

The National Wetlands Policy emphasizes on wise use and sustainable management of wetlands and wetland resources. The Policy provides principles for wise use of wetland resources and stakeholders participation in planning and management of wetland resources at the national and local levels. The National Wetland Policy aims at curtailing rampant loss of wetlands resources and ensures that benefits from wetlands are sustainable and equitably distributed to all people of Uganda. The overall aim of the National Wetland Policy is to promote the wise use and conservation of Uganda's wetlands in order to sustain the ecological and socio-economic functions. More specifically strategy 7.1 (i) stipulates that, **there will be no drainage of wetlands from development activities unless more important environmental management requirements supersede.** Thus, non-destructive uses of the wetlands and their surroundings are therefore permitted and these include water supply, fisheries, wetland edge gardening and grazing. Drainage of wetlands is not allowed unless more important environment management requirements supersede. The policy also makes provision for the restoration of drained wetlands, whereby the Government may require the wetland abuser or to fully or partially rehabilitate a wetland after the lease.

#### c) Legislation

Wetland conservation is provided for in the National Environment Act, cap 153, the Land Act, cap 227 and Local Government Act 1997. The National Environment Act, Cap. 153, Section 36(1) restrict the use of wetlands and prohibits destructive activities such as reclamation or drainage of wetlands, erection, construction, placement of any structure and equally emphasizes wise concepts. The Local Government Act (1997) 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 provide 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.

### 1.1.2 International framework

The principal international framework for wetlands conservation and management is the Ramsar Convention of 1971. The Ramsar Convention is an intergovernmental treaty which provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. Uganda ratified the convention on 4<sup>th</sup> July 1988 and therefore has obligation to promote wise use and protection of wetland and their resources.

## 1.2 INSTITUTIONAL FRAMEWORK

### 1.2.1 Ministry of Water and Environment

The Ministry of Water and Environment is responsible for the protection and conservation of wetlands of Uganda.

### 1.2.2 The National Environment Management Authority (NEMA)

The National Environment Management Authority (NEMA), a semi-autonomous, self-accounting corporate body under the Ministry of Water and Environment is the principal agency in Uganda for overseeing the management of the environment and co-ordinates, monitors and supervises all activities in the environment sector.

### 1.2.3. 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.

### 1.2.4 District Local Governments

The Local Governments have mandate of managing wetlands within their jurisdiction. 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.

### 1.2.5 Local community resource users and stakeholders:

The local communities are the primary resource users and wetland managers. 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 TWO: DESCRIPTION OF WETLANDS

### 2.1 GENERAL DESCRIPTION OF WETLANDS

According to the National Wetlands Policy (1995), the term wetland refers to an area where plants and animals have become adapted to temporary or permanent flooding by saline, brackish or fresh water. They include areas of seasonally flooded grasslands, swamp forest, permanently flooded papyrus, grass swamp and upland bogs.

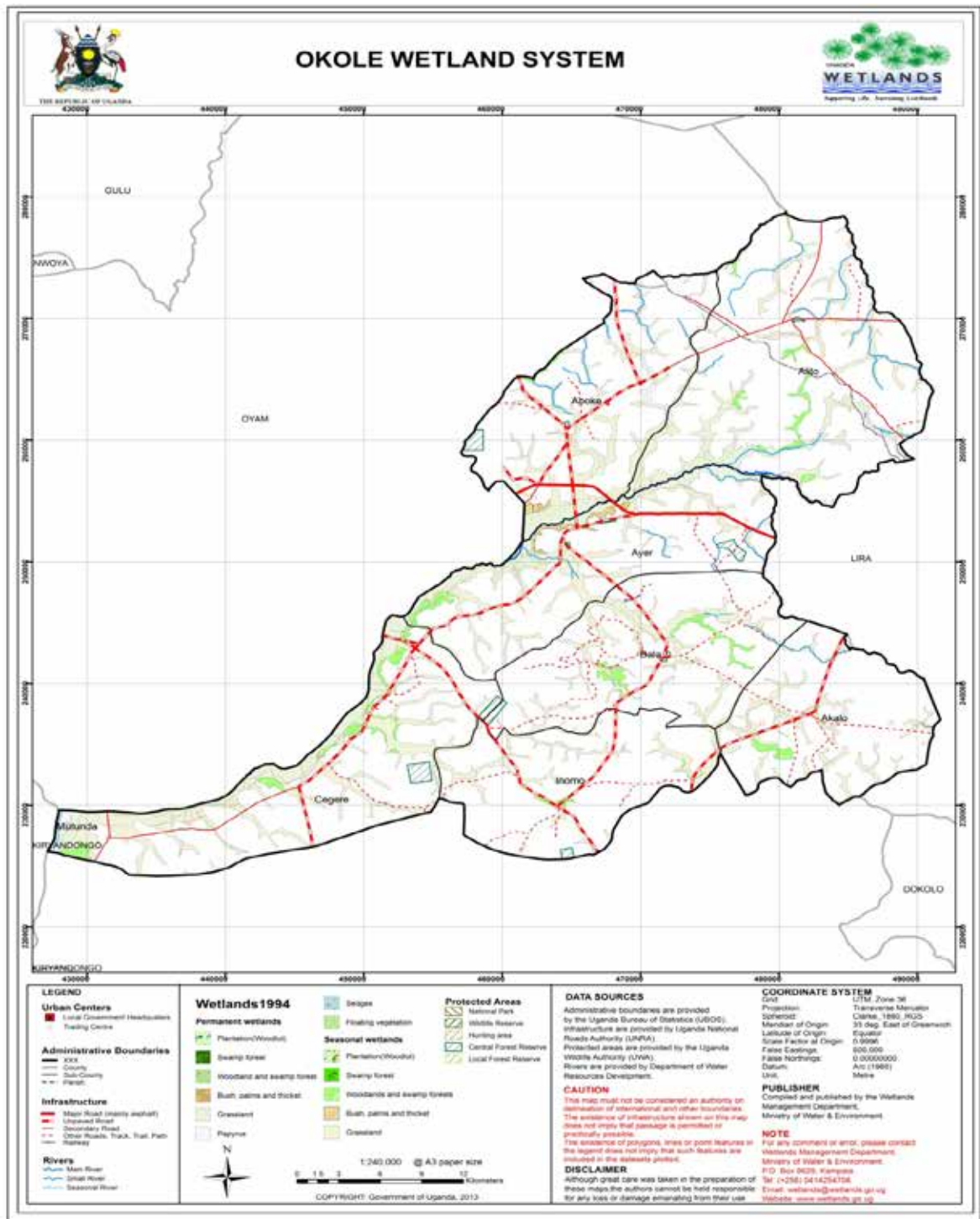
Globally, wetlands constitute one of the most sensitive, biologically productive and vital ecosystem in the world. It covers 5% of the earth's ice-free land surface (Maltby, 1988). In East Africa, Uganda has the largest percentage of wetland coverage. For example, Kenya has 4% of the total land cover, Tanzania has 7% (Maltby, 1988; Bakema, 2000); and Uganda currently has about 10.9% as revealed by Wetland mapping carried out in 2008. This is however much lower than the 13% revealed from the data set of 1994.

### 2.2 DESCRIPTION OF KOLE - APAC OKOLE WETLAND SYSTEM

#### 2.2.1 Location

Kole–Apac Okole Wetland is part of the upper tributary of Okole wetland which originates from Barr Sub County in Lira District. This then flows in the southwestern direction through Ayago Parish, Kitgum road, Odokomit ginnery, and enters Kole district through Ayer Sub-County. The catchment covers the Sub-Counties of Akalo, Bala, Ayer, Alito and Aboke (Kole District) and Inomo, Chegere and Ibuje (Apac District) (Figure 2).

Figure 1: Location of Kole-Apac Okole wetland



## 2.2.2 Natural physical features

### 2.2.2.1 Topography

The topography of Apac and Kole districts is characterized by low plains and rolling hills, along the river, at 900 metres above sea level, rising to a series of hills and peaks in the eastern and, north eastern parts of the district. The districts lie within an average altitude of 1,150m above sea level.



### 2.2.2.2 Soils

According to the Department of Geological Surveys (1967), Kole – Apac Okole Wetland area is underlain by undifferentiated gneiss and mobilized basement. The rocks are Precambrian metamorphic or granite formations. In a number of places the rocks have been thoroughly weathered and its regolith forms the parent material of the soil.

The soils in the area are sandy and black with isolated brown layer of clay loam. This covers about 60% of the cultivable Land. This soil is very suitable for rain fed agriculture. The rocky soils account for 3% and black clay soils accounts for 97% of the total soil mass in the region. The peats and organic hydromorphic soils are of scattered occurrence. They can be found in some areas of Kole District and are closely associated with the Okole swamp system. The Okole wetland consist of soils that are mainly flooded (Aniku, 1992). The soil is fairly thin consisting of a layer of fibrous peat overlaying a clayey mineral soil. At the edge of the wetland, the soil is eutrophic and ferrallitic.

### 2.2.2.3 Hydrology

Kole- Apac Okole wetland empties into River Nile and its main source of water remains direct surface run off from the surrounding catchments and underground discharge from the catchments. The wetland losses water through evapo-transpiration processes, draining into River Nile at Atura in Aber Sub County in Oyam District. The biggest parts of Kole- Apac Okole wetland remain permanently wet throughout the year with a few exceptions of some tributaries ramifying parts of Lira District. This has largely been due to encroachment and conversion to other forms of land uses with agriculture. In addition to other activities, in some parts of Kole and Apac districts, the disturbance has also been through tobacco growing.

### 2.2.2.4 Climate

The two districts that constitute catchments for the planning area of Kole-Apac Okole wetland have similar climatic condition characterized by dry and wet seasons. The wet season extends from April to November with highest rainfall peaks in April and August. The dry season is felt from December to March, the total annual rainfall is 1,330mm. The average monthly maximum temperature is 29°C and the average monthly minimum temperature is 17°C.

## 2.2.3 Ecological features

The ecological characteristics of Kole-Apac Okole wetland system are described in form of flora, fauna. This description is based on available information that is deemed not comprehensive. The management plan recommends ecological surveys to address information gaps.

### 2.2.3.1 Flora

The dominant plant species are *Cyperus papyrus* and *Typha*. Water lily, algae, *Echinochloa* and *Alchornea* spp. do exist with isolated cases of water hyacinth in some areas, Woodlands are occasional.

### 2.2.3.2 Fauna

The common animals here include; snakes monitor lizards, edible rats, squirrels, pelicans, ducks, egrets, mudfish, catfish, tilapia, *Haplochromis* and frogs.

## 2.2.4 Socio-economic

### 2.2.4.1 Ethnicity

The population around Akole-Apac Kole wetland system is dominated by Acholi and Lango tribes.

#### 2.2.4.2 Population density

The current population density in the region is one of lowest in Uganda, but it is rapidly increasing. According to the 2002 Housing and population data, Apac had a population density approximately 107 people/km<sup>2</sup>. Majority of the population is rural (>80%) being involved in subsistence agriculture.

#### 2.2.4.3 Land use

The local communities use the wetland as a source of water for domestic use and livestock, wood fuel, medicinal plants and also harvest raw materials for making crafts. Illegal hunting of wildlife especially endangered Sitatunga, Reed buck is prominent in the area, though now very few and difficult to trap. Agricultural activities especially rice and sugar cane cultivation is prominent in the wetland areas.

#### 2.2.4.4 Water Use

Okole wetlands play an important hydrological role for the waters entering the ecosystem and people living in its vicinity. It controls floods from the runoff entering the system. This is achieved by slowing down the speed at which water passes through it. Also acts as a natural filter for the silt, sediments and excess nutrients in the incoming surface run-off and wastewaters which it achieves by physically, chemically and biologically removing the sediments and pollutants from the water that passes through it. This helps to purify the surface run-off and maintain the natural clean water conditions important for the survival of many aquatic flora and fauna.

#### 2.2.4.5 Land Tenure

According to the Constitution of Uganda (amended 2005), wetlands are held in trust for the people by the government of Uganda. The government therefore owns Kole-Apac Okole wetland on behalf of the communities.

Land in the surrounding areas is under customary ownership. Most important wetlands in the districts are regarded as common property with no clear cut ownership arrangements. It is frequent to find households neighboring wetlands alleging ownership of parts of these wetlands next to their land. It is in such situations that encroachment in form of cultivation accrued. The (Table 1) shows wetlands names, Sub county/village, gazetted or leased.

**Table 1: showing wetlands names, Sub county/village, gazetted or leased.**

Wetland name	sub-county/ village	Gazetted	Leased
Owalo	Bala /Te Abaho		
Akwoyo	Alito / Kakira		
Lelatwonlee	Ayer / Kokcanikweri		
Apelo	Bala / Apelo	CFR	-
Kulu-Obia	Inomo / Bunggudu	CFR	-

---

## **PART TWO: PLANNING**

---

## CHAPTER THREE: MANAGEMENT PLANNING PROCESS AND PLANNING CONSIDERATIONS

### 3.1 PURPOSE OF THE MANAGEMENT PLAN

The purpose of the management plan for Kole-Apac Okole Wetland system is to provide common goal and management objectives and interventions to the local governments, stakeholders and communities for the conservation and management of the wetland resources therein.

Thus, wetland management plan provides a framework for conservation and management of a particular wetland. In this particular case this management plan provides for the local community participation and involvement in the management of Kole-Apac Okole wetland area which is highly threatened by degradation. It also helps in community consistent with the objectives for the management of the wetland and its catchments. Different stakeholders have different interests in the wetland; the management plans therefore suggest actions intended at decreasing conflict between uses and users that would otherwise lead to the degradation and reduction in the integrity of the wetland. The result of participatory planning presents substantial protection to the resources while offering the user communities the chance to share management and benefits arising from the resources.

### 3.2 TARGET AREA

The management plan targets Kole-Apac Okole wetland system which is faced with challenges emanating from tobacco, sun flower, sugar cane and rice growing and other agricultural activities in its catchment. Tobacco growing poses greater challenges because of the extensive land coverage as well as its intensive use of wood biomass during tobacco curing. As population continues to grow, the carrying capacity of land becomes exceeded and more farmers extend the cultivation towards wetlands. The above scenarios require a management planning especially for sections of wetland that fall within tobacco growing communities.

### 3.3 PLANNING PROCESS

#### 3.3.1 Process

The preparation of the Kole-Apac-Okole wetland management plan was done in participatory manner involving all stakeholders at local/community and district levels at various stages of preparing the management plan mainly in form of consultations (Annex 1) The planning process involved the following steps:

- a. Designing the planning methodology and process by *NatureUganda*, BATU and Tree Talk in consultations with Wetlands Management Department and District technical staff.
- b. Introducing the planning concept to the Local governments, technical departments and community. This process involved site visits, mobilization, identification of the planning area, and participants. This was intended to bring into the planning process a variety of knowledge and skills.
- c. Convening stakeholder consultations and feedback platforms (meetings, workshops). Several meetings were held with different identified stakeholders at district, Sub-County, Parish and Village levels. At the district level, meetings were held with technical

officers and political leadership to solicit support and commitment. The major aim of these meetings was to put emphasis on the need for stakeholders' involvement in the planning process, ownership and implementation of the management plan. Being a community based initiative; the process required best possible engagement and participation of NGOs and other private sector development agencies. The planning process put importance on the involvement of local community leaders and government workers at the Sub-County, Parish and Village levels

- d. Technical assessment of wetland issues and compilation of the management plans
- e. Reviewing and endorsement of the draft Management plans by stakeholders
- f. Approval of the management Plan.

### 3.3.2 Planning Team

A 37-person Planning Team comprising of technical officers and community representatives was established at the onset of the planning process. The Planning Team comprised of different stakeholders and took into account gender, resource user groups' representatives, and geographical coverage around the wetland. The following categories of representatives from all the parishes were considered and in cooperated in to the planning team: 1 Women representative, 1 Disabled person, 1 Youth, 6 Resource users, 1 Secretary for Environment, 1 Schools representative, 1 Opinion leader (Appendix 1).

## 3.4 WETLAND MANAGEMENT PLANNING CONSIDERATIONS

### 3.4.1 Ecological and socio-economic values

The importance of Kole-Apac Okole Wetland system in the provision of water to the urban Town Councils, communities and harbouring variety of biodiversity remains critical to the conservationists. Besides, being part of the Eastern Sub-catchment of River Nile makes it equally critical for conservation. It adds onto the volume of the Nile Water increasing its potentiality for Hydro Electric Power Generation (HEP). However, despite this significant functions and roles, anthropogenic activities continue to threaten its existence. Key among these activities is crop cultivation, charcoal burning, cutting of fuel wood and expansion of the urban councils of Apac and Kole.

### 3.4.2 Threats

The Kole-Apac Okole wetland system is faced with threats that need to be addressed and ensure continued existence of the wetland and sustainable supply of wetland resources. The following are the major threats:

- a. Commercial agriculture: Information derived from biodiversity and socio-economic surveys undertaken by *Nature Uganda* (*Nature Uganda Report; 2012-2013*) on tobacco growing in the mid-north of Uganda indicates that there are likely impacts of commercial agriculture such as rice, sugar cane, sunflower and tobacco growing and other land uses on wetland biodiversity and wetland resources. Tobacco growing involves use of insecticides and fertilizers which often pollute wetland waters; thus depriving wetlands of many of their functions. Tobacco growing is a major contributor to loss of wetlands through conversion of wetlands into crop land and forest cover through use of biomass in tobacco curing. Tobacco curing, crop cultivation and the demand for wood for multiple uses are destructive to wetland vegetation and wildlife habitat, food-chain support and human recreation.
- b. Poor land management practices: The catchment for Kole-Apac Okole wetland system is faced with increased soil erosion due to poor farming practices which results in land degradation and siltation of rivers and wetlands. The effects of land and wetland degradation on livelihoods and biodiversity are not recognized at local levels. This provides strong justification for the need to balance livelihood support with

biodiversity conservation. Agricultural activities, mainly crop agriculture is often done up to the streams and inside wetlands.

- c. Increasing population and human pressures on wetland resources: Sand and clay mining is scattered in wetlands neighboring trading centres for example at Teboke and Aboke along Okole wetland. Many more permanent settlements and urbanization are coming up and thus a cause for exploitation of the sand and clay in the wetlands. Siltation of wetlands as a result of man activities e.g. deforestation, over cultivation expose soil to erosion ending up in wetlands.
- d. Low levels of awareness on importance of wetland conservation and wise use: The threat of population pressures is further compounded by limited public awareness and appreciation of dangers of poor natural resource management, over utilization of wood biomass, alarming rate of encroachment and poor land use management. Therefore, there is need for raising the knowledge of wetland resources users on the need to balance improvement of livelihoods through the resource use with conservation.
- e. Overfishing: Over-fishing and use of illegal fishing gears and methods e.g. use of baskets, under sized gill nets, dry season wild fishing using spears, baskets and hands. The wetland is burnt down and over-exploited of fish, particularly Catfish, Protopterus and Clarius sp (Figure 2.)

**Figure 2: Unsustainable methods of harvesting wetland resources (fish) at Okole**



*Courtesy: Isaac Kiirya (2014)*

- f. Uncontrolled fires in dry seasons: constitute part of the threats in addition to crop cultivation. Wetlands are wholly burnt up with intent to open up grazing land and hunting areas .The fire is very destructive to the aquatic flora and fauna and also leads to over exploitation of the wetland resources (Figure 3).

**Figure 3: Burnt section of Okole wetland**



*Courtesy: Sylvano Afai (2014)*

**Table 2: Site specific wetland management problems**

Threat	Location	Causes	Solutions	Responsible person
Bush fire in the entire stretch of Okole wetland especially during dry season.	Alito, Aboke, Ayer, Ayer T.C, Bala, Chegere	Need for easy access to fishing grounds so they burn the grass for clear visibility and also a result of reckless fires set by locals as a hobby.	Sensitization, law enforcement	Local leaders, Env't Officer, Fisheries Officer, Police, CDO
Destruction / depletion of wetland vegetation especially in high settlement areas	Kidilani, Chegere, Inomo, Teboke and Ayer T.C	High demand for craft products made from reeds, palm trees etc Need for construction materials, fuel wood and fencing poles	use of alternation products tree planting (woodlots, agro-forestry ) formulation of by-laws, and Use of energy saving stoves (Okelo kuc) Creation of alternative IGAs	Local leaders, Env't Officer, Forest Officer, Police, CDO
Wetland siltation	Alito, Aboke, Ayer, Ayer T.C, Bala, Chegere	Over mining of clay and sand in Alemi, Aboke, Alito and over cultivation on the soil of the wetland by farmers e.g. paddy rice farmers. Land reclamation Deforestation Overgrazing	Controlled mining, Sensitization and regulated farming in the wetland, Demarcation, and Tree planting	Local leaders, Env't Officer, Fisheries Officers, DAO CDO Police
Water pollution	Ayer, Alito, Aboke	Use of herbicides and pesticides Waste disposal in the wetland	Organic farming, Sensitization, by-laws, and Demarcation of wetland areas	Local leaders, Env't Officer, Fisheries Officers, DAO CDO Police
Lack of resource user groups	All parishes	No mobilization and awareness creation carried out. Weak environment management structures at district and Sub County level	Mobilization and sensitization of the communities to form user groups, & Capacity building of management structures.	District Env't Officer CDO

### 3.4.3 Management problems

Through stakeholder consultations during the formulation of this management plan, site specific problems have been identified (Table 2). They encompass: Bushfire, Destruction / depletion of wetland resources, wetland siltation, water pollution and, unsustainable use and poor arrangements for wetlands resources management. Details are presented in Appendix 2

The Site specific management problems or threats are presented in Table 2.

### 3.4.4 Management requirements

The main management requirements is mobilizing communities and stakeholders to commit themselves to an agreed management goal and objectives, information and management capacity as elaborated hereunder:

- a. **Shared wetland management goal and objectives:** Wetland management is shared responsibility between Central government, local governments and communities and/or stakeholders. Such management arrangement requires strong institutional coordination and actions that focus on agreed management objectives and goals. The latter can only be achieved when management issues and analyzed and interventions or strategies developed in participatory manner with active involvement of stakeholders and wetlands' management authorities. This requirement has been lacking and hence the need for the Management plans that would be developed with involvement of all stakeholders.
- b. **Information and data:** in addition to having common goals and shared management objectives, there is need for sound information base upon which the assessment of management issues and interventions are based. There is inadequate data or information about Kole-Apac Okole wetland system upon which management interventions are based on.
- c. **Management capacity:** Over-all, management capacities at institutional levels is weak. This has contributed to weaknesses in implementation of wetland policy and or enforcement of the Environment Act with regards to protection and regulation of wetland resource use. Capacities within local government's structures are grossly weak. Community level capacities are needed in order to guide wetland resources users promote wise use principles.

### 3.4.5 The role of wetland stakeholders

#### 3.4.5.1 Mapping Stakeholders

Many stakeholder categories were identified and majority of whom were primary stakeholder i.e. people directly involved in the utilization of wetland resources for livelihood. These included Fishermen and women, Craftsmen and women, Clay workers (pottery, bricks etc), Fuel wood harvesters, and wetland farmers (fish farmers, crop farmers, bee keepers and livestock farmers); herbalists, transporters, water collectors, hunters and sand miners. Others were secondary stakeholders which included conservationist, Local Governments and other Government parastatals like National Environment Management Authority, and Research Institutions.

The participants categorized interests, of each of the key stakeholders and the benefits each derives from the wetland and the particular products each harvests as shown in (Table 3).



**Table 3: Stakeholders matrix**

Stakeholder	Category of stakeholder	Stake/Interest	Resource
Fishers	Men, Children, Youth and women	Fishing, raw materials for making fishing gear	Fish, papyrus and other raw materials for making fishing gear
Water users	Men, Women, Children, Youth, Domestic, Livestock keepers, Brick makers, etc	Water use for domestic, livestock and other use	Water
Livestock keepers	Men, Women, Youth	Pasture collection for sale and grazing animals	Pasture and water
Cultivators	Men, Women, Youth	Cultivation of crops e.g. rice , sugar cane, cabbage etc.	Soil, water
Firewood collectors	Women and Children	Firewood collection for domestic and commercial use	Firewood
Craft makers	Men, Women, Youth	Raw materials for making crafts	Grass, papyrus, Phoenix sp (Palm) leaves
Government & NEMA	Institution	Conservation and wise use of resources	Biodiversity
Research Institutions	Institution	Conservation and wise use of resource; Knowledge	Biodiversity

#### 3.4.5.2 Relationship between stakeholders and wetland resources

The relationship between stakeholders and wetland resources and their use was undertaken in order to categorize key wetland resources, the users, conflicts, problems and trends in use of wetland resources. The overall aim was to strengthen community participation in the management of vital wetlands for their livelihoods.

##### a) Resources use dynamics

The planning process took note of the changes in wetland resource use in and around Kole-Apac Okole wetlands over a period of about 60 years (Table 4). Details of the analysis are presented in the Appendix 3.

**Table 4: Trends in wetland resources use**

Resource	Resource User Groups (RUGs)	Benefits
Water	Farmers, Livestock keepers, Clay moulders, Distillers of local brew, Black smiths, and Builders	Drinking Domestic use For sale Irrigation
Firewood	Local brew distillers, Traders, Youths involved in brick burning, Schools, and Women.	Domestic use For sale Burning bricks .
Land	Farmers, Livestock keepers, and Traders	Consumption sale
Palm Leaves	Craft makers, Buyers, and Sellers	Craft making e.g. Hand bags Mats
Papyrus	Craft makers, Buyers, Sellers, and Builders	Mats Firewood Roofing
Sand	Builders and Buyer s	Building Sale

The trend analysis was done to ascertain the previous records of resource use, demand and supply. It also brought out the issues of resource turnover as a result of unregulated utilization. This helped to review the changes in level of utilization, establish the peak of utilization and why that peak. The analysis indicated trends similar to impacts of the current population increase also relates to the decreasing land for cultivation and soil fertility as population grows and land becomes more fragmented.

The trend ideally concurred with the current causes of wetlands degradation. Majority of people engaged in wetland degradation are the poor communities who resort to wetland resources as sources of livelihoods. Thus, regulating the use of these resources would require full engagement of communities in the planning process. In the overall, the analysis provide an insight into careful planning and a thorough analysis trends in resource utilization to help develop a strategic plan for addressing the future needs of the communities.

#### **a) Wetland resource use seasonality**

Seasonal calendar was used to analyze time-related cyclical changes in resource use and availability (Appendix 3). The tool helped to visualize patterns of variations over particular periods of time - such as across seasons, months and likely scenario after several years. While stakeholders may have different interests in the natural resources, it was also important to understand the seasonality of use.

The analysis revealed interesting issues. First, the area experienced two rainy seasons with peaks in April-May and September–October. The two peaks indicated the nature of activities where communities were more engaged in as sources of livelihoods. The discussions revealed that in the rainy Peaks, few people are involved in wetland resource harvesting. However, in dry months, from Late November to Early March, maximum harvest of wetland resources does take place. The seasonal calendar also revealed community dynamism in well-being,

which are often poorly illustrated through conventional forms of poverty assessment. It indicated seasons of vulnerability and the coping measures.

**b) Conflict dynamics**

Planning process analyzed conflicts among different resource user groups. The analysis focused on causes of the conflicts, coping strategies and suggested solutions to the conflicts. The results of this analysis are presented in Table 5.

**Table 5: Analysis of conflicts in to causes, coping strategy and suggested solution**

Conflict	Cause	Coping strategy	Suggested solutions
Farmers versus livestock keepers	Animals destroy crops	Tying the animals	Zoning areas for carrying out different activities
Farmers versus craft makers	Cultivators destroy raw materials for crafts	Quarreling	Demarcating area for cultivation and raw materials for craft making
Livestock keepers versus medicinal plants harvesters	Animals destroy medicinal plants	Tying the animals, and quarrels	Demarcating area for grazing animals and harvesting medicinal plants
Land boundaries	Bad cultivation methods	Migrating, and Bewitching each other	Plant boundaries Resolve the conflicts
Cultivating in wetlands	Lack of enough land in the catchments, and Drying of the catchments	quarrels	Sensitize the persons concern on proper methods of farming like edge gardening

**3.5 PRIORITIES FOR MANAGEMENT INTERVENTIONS**

The management and conservation issues generated with the stakeholders are categorized into key output areas provided in the Environment and Natural Resources (ENRs) guidelines for wetlands. The ENRs-guidelines is a planning tool used by Ministry of Water and Environment to guide and standardize District Local Governments activity planning. The guidelines has four output areas: knowledge and understanding on wetlands enhanced, degraded sections of wetlands restored, relevant policies and legislations on wetlands enforced, and relevant institutions for wetlands management established and strengthened.

Using these guidelines, the following are the major or priority issues to be addressed by the management plan (Table 6).

**Table 6: Priority issues for management plan**

Key output	Issues to be addressed
Knowledge and understanding on wetlands enhanced	Data and knowledge about wetland ecology, biodiversity and socio-economic values, and Community/stakeholders awareness of wetlands values and management needs.
Degraded sections of wetlands restored	Encroachment/Wetland loss, Over-use of certain wetland resources, Siltation/pollution/waste management, Overgrazing, Boundaries, and Poor land management practices.
Relevant policies and legislations on wetlands enforced	Shared Management Goal and Objectives, Wise use options and activities, Regulatory framework (e.g., by-laws), Enforcement capacity, and Compliance levels and measures.
Relevant institutions for wetlands management established and strengthened.	Shared Management Goal and Objectives, Institutional capacities (Local governments, communities), and Collaboration in wetland management and institutional structures

---

**PART THREE:**  
**WETLAND MANAGEMENT**  
**OBJECTIVES**

---

## CHAPTER FOUR: VISIONING AND SETTING OBJECTIVES

This Chapter presents the recommended long term vision for the Okole Wetland, management objectives and strategies and interventions. The management objectives and interventions are based on the assessments of management challenges and needs identified in Chapter Three.

### 4.1 THE LONG TERM VISION

The vision for Kole-Apac-Okole wetland management plan is **“Wetland resources in Kole-Apac Okole wetlands sustainably utilized for the benefit of the communities and environment”**. A vision reflects what people would want to see or what they expect their wetland to be if all management options were implemented. It assumes many constraining factors as being constant to allow for effective implementation of all measures as proposed in the management plan.

### 4.2 MANAGEMENT OBJECTIVES

The overall objective of the Management Plan is to promote the conservation of Okole wetland system to sustain its ecological and socio-economic functions by 2018. Specifically,

- a. To increase vegetation cover in Okole wetland.
- b. To reduce water pollution in Okole wetland and catchment areas.
- c. To reduce incidents of bush fire out breaks in Okole wetland.
- d. To establish and strengthen environment management structures at grass root levels.

### 4.3 THE LOGICAL FRAMEWORK MATRIX

The Vision and objectives of the Kole wetland system management plan will be delivered through the following Results and outputs (Table 7)

**Table 7: Logframe matrix**

Objectives	Results	Outputs
To increase vegetation cover in Okole wetland.	Capacity for wetland management at district, sub-county and community levels built.	Political leadership (Environment Committees at district and sub-county) with capacity to plan and guide wetland management, Wetland management structures at sub-county and community levels, and Wetland resources promoting wetland conservation and wise use activities.
To reduce water pollution in Okole wetland and catchment areas	Improved ecological integrity of Kole-Apac Okole wetland systems	Wise use of wetland resources, Restored degraded portions of the wetland, Sustainable land management activities in the catchment, and Wetland boundaries established and respected
To reduce incidents of bush fire out breaks in Okole wetland	Wetland resources providing social-economic values sustainably	Sustainable livelihoods derived from wetland resources use, and Enhanced awareness and appreciation of wetland values

Objectives	Results	Outputs
To establish and strengthen environment management structures at grass root levels	Wetland resources and their values better understood	Data/information about the wetland ecology and social-economic values, Wetland wise use principles better understood by community and wetland resources users, and Wetland policies and regulatory frameworks better understood by all stakeholders.
	Compliance with wetland policy and legislation	Bylaws for regulating wetland resources protection and use, Incentive measures for compliance and compliance monitoring, and Capacity for enforcing wetland regulations and monitoring compliance.

#### 4.4 MANAGEMENT INTERVENTIONS AND ACTIONS

The management interventions and actions focus on management measures, which are achievable and will address the key issues identified during the resource, conflict and problem analysis, (Table 8). The proposed actions aim at addressing priority management issues that ranges from institutional weaknesses, loss in the integrity wetlands ecosystems and policy and legislation enforcements. The specifics are therefore defined by training, support to community initiatives or projects, public education and formulation, and enforcements of auxiliary and national laws.

**Table 8: Management Action**

Threat	Activity description	Location
Objective 1: To increase vegetation cover in Okole wetland.		
Destruction/ depletion of wetland vegetation especially in high settlement areas	Strategy 1.1 Involvement of communities and wetland users in the restoration of Okole wetland vegetation and catchment areas.	
	Activities 1.1 Sensitization of communities on conservation, harvesting and sustainable use of wetland vegetation	Kidilani, Chegere, Inomo, Teboke, Ayer T.C, Ayer and Bala
	Activity 1.2 training wetland users on sustainable use of wetland resources (craft products) and also adopt use of alternative products	Kidilani, Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer and Aboke
	Activities 1.3 Tree planting (woodlots, agro forestry )	Kidilani, Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
	Activities 1.4 Formulation of by-laws to regulate use of wetland	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke
	Activities 1.5 Training of communities on the use of fuel wood energy saving technologies.	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke
	Activities 1.5 Training of wetland users on alternative IGAs	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke

Threat	Activity description	Location
Wetland siltation	Strategy 1.2 Promoting Environmentally sound Catchment management practices	
	Activities 1.2.1 Training of wetland stakeholders on modern agronomic practices	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke
	Sensitization and regulated farming in the wetland	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke
	Demarcation of the sections of wetland with unclear boundary	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke
<b>Objective 2: To reduce water pollution in Okole wetland and catchment areas</b>		
Water Pollution	Strategy 1: Ensure Safe Waste Disposal	
	Activity 2.1 Sensitization of stakeholders in rural growth centre and urban areas on proper waste management	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
	Designate the waste disposal centres	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
	Formulate by-laws or ordinances on waste disposal	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
<b>Objective 3: Strengthening the enforcement of environmental policies and laws</b>		
Bush fire in the entire stretch of Okole wetland.	Strategy 1: To reduce incidences of Bushfire outbreaks on Okole Wetland	
	Sensitise the communities on the risk of fire out breaks	All sub-counties
	Formulate by-laws on the bush fires	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
	conducting compliance monitoring	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke



Objective 4: To establish and strengthen environment management structures at grass root levels		
Absence of resource user groups	Strategy 4.1: Empowerment of the wetland user groups and local environment committees	
	Activity 4.1: Mobilization and sensitization of the communities to form user groups,	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke
	Activity 4.2: Induction of the local environment committees at sub county, parish and villages.	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke

---

**PART FOUR:**  
**IMPLEMENTATION PLAN  
AND REQUIREMENTS**

---

## CHAPTER FIVE: IMPLEMENTATION ARRANGEMENTS

### 5.1 Implementation Plan

The implementation plan presented in table 9 covers a four-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 and local governments and other development or donor partners. The support from Central Government will be handled according to the Conditional Grant Guidelines either for Environment and Natural Resources (ENR) or Peace Recovery and Development Project (PRDP). These are two budget lines from Ministry of Finance, Planning and Economic Development (MoFPED) that are disbursed as Conditional Grants from Government Treasury to District Local Government for implementation of activities as provided for in the respective Guidelines. The Grant under Environment and Natural Resource have guidelines that defined priorities for wetland management; and the PRDP grant also support components of environment and the Local Governments of Kole and Apac are all beneficiaries. However, it is important to note that the selected priorities are not implemented as standalone programs or projects; but must be integrated into the District Development Plan (DDP).

**Table 9: Action Plan for Kole - Apac Okole Wetland**

Threat	Activity description	Location	Inputs	Outputs	Responsible person(s)	Time Frame (Years)				Budget (000)
						1	2	3	4	
	<b>Objective 1: To increase vegetation cover in Okole wetland.</b>									
	<b>Strategy 1.1 Involvement of communities and wetland users in the restoration of Okole wetland vegetation and catchment areas.</b>									
Destruction/ depletion of wetland vegetation especially in high settlement areas	Activities 1.1 Sensitization of communities on conservation, harvesting and sustainable use of wetland vegetation	Kidilani, Chegere, Inomo, Teboke, Ayer T.C, Ayer and Bala	Personnel, Stationery, Allowances, Transport	Number of sensitization meetings held	District Environment Officer District Forest Officer	Ö	Ö	Ö	Ö	50,000
	Activity 1.2 training wetland users on sustainable use of wetland resources (craft products) and also adopt use of alternative products	Kidilani, Chegere, Inomo, Teboke Ayer T.C, Ayer Bala, Ayer and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment Officer	Ö	Ö	Ö	Ö	100,000
	Activities 1.3 Tree planting (woodlots, agro forestry )	Kidilani, Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke	Tree seeds Nursery implements Funds Personnel Stationery	Number of seedlings raised	District Forest Officer	Ö	Ö	Ö	Ö	300,000
	Activities 1.4 Formulation of by-laws to regulate use of wetland	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel Funds Stationery Transport	Number of sub counties with by-laws	Sub County Chief	Ö	Ö	Ö	Ö	140,000

	Activities 1.5 Training of communities on the use of fuel wood energy saving technologies.	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment Officer	Ö Ö Ö Ö	Ö Ö Ö Ö	300,000
	Activities 1.6 Training of wetland users on alternative IGAs	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment Officer	Ö	Ö	600,000
Wetland siltation	Strategy 1.2 Promoting Environmentally sound Catchment management practices							
	Activities 1.2.1 Training of wetland stakeholders on modern agronomic practices	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment Officer	Ö Ö Ö	Ö Ö Ö	100,000
	Sensitization and regulated farming in the wetland	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment officer	Ö Ö	Ö Ö	100,000
	Demarcation of the sections of wetland with unclear boundary	Chegere, Inomo, Ayer T.C, Bala, Ayer, Alito and Aboke	Tree seedlings Personnel, Stationery, Allowances, Transport	Area demarcated	Wetland officer	Ö	Ö	500,000

Threat	Activity description	Location	Inputs	Outputs	Responsible person(s)	Time Frame (Years)				Budget (000)
						1	2	3	4	
	Objective 2: To reduce water pollution in Okole wetland and catchment areas									
Water pollution	Strategy 2.1 ensure safe waste disposal									
	Activity 2.1 Sensitization of stakeholders in rural growth centre and urban areas on proper waste management	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of trainings carried out	District Environment Officer. Wetland officer	Ö	Ö	Ö	Ö	100,000
	Designate the waste disposal centres	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	Number of waste disposal sites disposed	District Environment Officer. Wetland officer	Ö	Ö	Ö	Ö	50,000
	Formulate by-laws or ordinances on waste disposal	Chegere, Inomo, Teboke Ayer T.C, Bala, Ayer, Alito and Aboke	Personnel, Stationery, Allowances, Transport	By-laws or ordinances formulated	District Environment Officer. Wetland officer	Ö	Ö	Ö	Ö	10,000

Objective 3 strengthening the enforcement of environmental policies and laws										
Strategy 3:1 To reduce incidents of bush fire out breaks in Okole wetland										
Bush fire in the entire stretch of Okole wetland.	Sensitise the communities on the risk of fire out breaks	All sub-counties	Personnel, Stationery, Allowances, Transport		District Environment Officer	Ö	Ö	Ö	Ö	10,000
	Formulate by-laws on the bush fires	Chegere, Inomo, Teboke Ayer, T.C, Bala, Ayer, Alifo and Aboke	Personnel, Stationery, Allowances, Transport	Copies of by-laws formulated	District Environment Officer	Ö	Ö	Ö	Ö	10,000
	conducting compliance monitoring	Chegere, Inomo, Teboke Ayer, T.C, Bala, Ayer, Alifo and Aboke	Personnel, Stationery, Allowances, Transport	Compliance monitoring conducted	District Environment Officer	Ö	Ö	Ö	Ö	50,000
Objective 4: To establish and strengthen environment management structures at grass root levels										
Strategy 4.1: Empowerment of the wetland user groups and local environment committees										
Absence of resource user groups	Activity 4.1: Mobilization and sensitization of the communities to form user groups,	Chegere, Inomo, Teboke Ayer, T.C, Bala, Ayer, Alifo and Aboke	Personnel, Stationery, Allowances, Transport	Number of groups mobilized and sensitized environment officer	District Environment Officer	Ö	Ö	Ö	Ö	200,000
	Activity 4.2: Induction of the local environment committees at sub county, parish and villages.	Chegere, Inomo, Teboke Ayer, T.C, Bala, Ayer, Alifo and Aboke	Personnel, Stationery, Allowances, Transport	Number of environment committees trained and are functional	District Environment Officer	Ö	Ö	Ö	Ö	200,000
<b>TOTAL</b>										
<b>2,820,000</b>										

## 5.2 IMPLEMENTATION STRUCTURE OF THE MANAGEMENT PLAN

The implementation process will also be monitored and supervised by various stakeholders including among others the Management Committee for Kole-Apac Okole Wetland Management plan, comprised of members from the two District Local Governments of Apac and Kole (Table 10)

**Table 10: Composition of Implementation Committee**

Title	Designation	Institution
<b>EXECUTIVES (4)</b>		
Chairperson	Deputy Chief Administrative Officer	Apac
V/Chairperson	Information Officer	Kole
General Secretary	Natural Resources Officer	Kole
Secretary Finance	Planner	Apac
Members (=5)		
	Community Development Office	Kole
	District Forestry Officer	Apac
	NGO representative	NGO Forum
	District Agric Officer	Apac
	District Fisheries Officer	Kole
<b>Ex-Officials (8)</b>		
Nature Uganda representative		
NFA representative		
MWE/WMD representative		
Physical planner (Apac/ Kole)		
Agribusiness Company representative		
NEMA representative		
Tree Talk representative		
All LC. III C/Persons within Wetland system		

The Implementation Committee will perform the following duties

- Support in resource mobilization.
- Regular supervision and monitoring (M & E).
- Mobilizing local communities through the Sub - County leadership.
- Linkage to other partners, sectors and collaborators.
- Provide technical and policy guidance to the implementation of the program.
- Integration of wetland issues to sectoral plans.

*Note: The Ministry of Water and Environment through Wetland Management Department is one of the key implementing partners given its mandates of setting standards and technical back stopping on wetlands management issues.*



## CHAPTER SIX: MONITORING AND EVALUATION OF THE PLAN

The foundation for monitoring and evaluation systems is the logical framework, 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 (Table 11). The general principles for the participatory monitoring and evaluation will also be adopted.

Monitoring groups will comprise of:

- a. Community User groups: will monitor Sub-County activities supported by District Local Government Staff.
- b. Members of inter-district authorities of Apac and Kole: will monitor activities, inputs and output achievements in their respective areas.
- c. Relevant institutions, such as Ministry of Water and Environment through Wetland Management Department, NEMA and NFA will monitor conformity with the standards and relevance to existing policies and guidelines for Environment and Natural Resources.
- d. *Nature Uganda* and her partner organizations will monitor and evaluate overall performance and impact of the intervention on biodiversity status, community livelihoods and the general environmental requirements.

**Table 11: Monitoring and evaluation**

No	OBJECTIVES	KEY OUTPUTS	INDICATORS	MOV
1	To increase vegetation cover on Okole and its catchments	<ul style="list-style-type: none"> <li>-Sensitization and training on sustainable utilization of wetland catchment resources conducted.</li> <li>-Community tree woodlots planted.</li> <li>-Areas of Wetland boundaries demarcated.</li> <li>-Wetland-Bye laws and ordinances formulated and operational.</li> <li>-Income Generating Activities provided to community Groups.</li> </ul>	Number of community groups trained and have adopted sustainable use and management of wetlands, Existence of hectares of woodlots planted. Kilometers or length of wetlands demarcated, and Copies of by-laws and ordinances in place.	Attendance list, Reports, Field visit
2	To reduce pollution of Okole wetlands from municipal waste	Urban dwellers and authorities sensitized on proper waste management.	Number of sensitization drives conducted.	Attendance list, reports, Site visit, Water tests.

No	OBJECTIVES	KEY OUTPUTS	INDICATORS	MOV
3	To strengthen the enforcement of environmental policies and laws	-Environmental policies and laws enforced. -Investigation, arrest and prosecution undertaken. -By-laws or ordinances formulated.	Number of offenders prosecuted, and Copies of by-laws or ordinances formulated.	Reports
4	To establish and strengthen environment management structures at grass root levels.	Environment management structures established and trained.	Number of user groups and environment committees mobilized, sensitized and are functional. Records of their minutes, membership and registration list.	Attendance list, reports, Registration Certificates

## REFERENCES

1. Bakema, R. & Iyango, L, (2000). Engaging Local Users in the Management of Wetland Resources: The Case of the National Wetlands Programme, Uganda.
2. DFID, (2005): Decentralization Support program Review; DFID 2005
3. FAO, (1993). Guidelines for Land Use Planning. Prepared by the Soil Resources, German Foundation for International Development (DSE), (2001). Land Use Planning for Rural Development: Methods and Procedures at National and Provincial level. International Training Course Documentation, April 18 – May 17 2001, Zschortau-Germany.
4. Guidelines for Compliance Monitoring of Wetlands. Wetland Booklet Number 4.
5. Gulu District Development Plan, (2013-2016) Draft Three Year District Development Plan 2013 – 2016.
6. MWE/WMD, (2012). Guidelines for Environment and Natural Resources for Wetland Conditional Grant- (Not published).
7. Nature Uganda (2012/2013). Biodiversity Baseline Surveys of tobacco growing regions of the Middle North; Uganda.
8. Oyam District Local Government, (2013/14). Draft Three Year District Development Plan 2013 – 2016.
9. Process Manual for Development of Community-Based Wetlands Plans. Wetlands Management Department. Ministry of Water and Environment, Kampala, Uganda.
10. Republic of Uganda (2002). Housing and Population Census Report
11. The Ramsar Convention (1971)
12. The Republic of Uganda (1997). Local Government Act
13. The Republic of Uganda (2000). The Land Act, cap 227
14. The Republic of Uganda (2005). The Constitution of Republic of Uganda
15. The Republic of Uganda (2998). National Wetlands Programme, (1998), Wetlands Status Report for Mukono
16. The Republic of Uganda, (1995). National Policy for the Conservation and Management of Wetland Resources 1995. Ministry of Natural Resources, 1995.
17. The Republic of Uganda, (1995). The Uganda Constitution, 1995. Government Printery Entebbe.
18. The Republic of Uganda, (19952000). The National Environment Act, cap 1543 Statute, 1995. Statutes Supplement No. 3, to the Uganda Gazette No. 21 Volume LXXVIII dated 9<sup>th</sup> May 1995.
19. The Republic of Uganda, (19952000). Water Statute, 1995 Act , cap 152. Government Printer y Entebbe.
20. The Republic of Uganda, (1998). The Land Act, (1998). (Act No. 16 of 1998).
21. The Republic of Uganda, (2001). Wetlands Sector Strategic Plan (2010 – 2020) Prepared by Ministry of Water, lands, and Environment, Wetlands.

## ANNEX 1: LIST OF PEOPLE/STAKEHOLDERS CONSULTED DURING THE PLANNING PROCESS

S/ No	Names	Designation	Organization
01	Akot Caroline	Ag. Wetland Officer	Kole DLG
02	Hon Ajok Molley	Sec Prod and Env't Bala	Kole DLG
03	Lemoekol John	Fisheries Officer	Kole DLG
04	Michael Opige	Programme Manager	Nature Uganda
05	Afai Sylvano	Regional Coordinator	WMD - MWE
06	Joel M Wako	Communications Officer	Nature Uganda
07	Gokaka Geoffrey	Wetlands Officer	WMD - MWE
08	Okovi George Cyms	Forest Officer	Kole DLG
09	Isaac Kiirya	Project Officer	Nature Uganda
10	Basire Andrew	NU	Nature Uganda
11	Menya Hakim	WMD	WMD - MWE
12	Mega Wilfred	Fisheries Officer	Apac DLG
13	Judith Aber	Sector Manager	NFA Apac
14	Otimoi Jasper	Environment Officer	Apac DLG
15	Denis Omodo	Lands Officer	Apac DLG
16	Awor Oliver	Wetlands Officer	Apac DLG
17	Ogwal Abraham	Environment Officer	Kole DLG
18	Hon. Joy Adong	Sec Pro & Env't Inomo	Apac DLG
19	Odong John	Natural Resources Officer	Apac DLG
20	Ngura Jacob	Agricultural Officer	Apac DLG
21	Mukasa Juma	WMD	WMD - MWE
22	Fred Alaru	Transport Officer	Nature Uganda
23	Birungi Joan	Wetlands Officer	WMD - MWE
24	Amuge Christine	SAS Alito	Kole DLG
25	Achola P Pauline	SAS Bala	Kole DLG
26	Alaju Caesar	Chairperson Bala	Kole DLG
27	Ogen J Richard	Forest Supervisor	NFA Apac
28	Okori G Cyrus	Senior Lands Officer	Kole DLG
29	Daglas Abra	Chairperson Inomo	Apac DLG
30	Otim Tom	Chairperson Chegere	Apac DLG
31	Aloysius Owor	Officer	WMD - MWE
32	Denis Adekere	BAT Contact Farmer -Inomo	Apac
33	Okabo Thomas	Brick maker & Farmer- Bala	Kole
34	Ocen Alex	Brick maker & Farmer-Bala	Kole
35	Amunyu J Bosco	Farmer – Akaidebe Chegere	Apac
36	Okello Geofry	Farmer – Akaidebe Chegere	Apac
37	Okello Moses	Farmer – Akaidebe Chegere	Apac

## APPENDIX 1: LIST OF STAKEHOLDER RANKING

Stakeholder	Score	Ranking
Fisher men and women	18	1
Cultivators (crop cultivators)	08	2
Livestock keepers	01	4
Craft men and women	03	3
Fuel wood harvesters	03	3
Hunters	02	5
Herbalists	02	5
Water users/sand & clay workers	02	6
Transporters	00	8
Government and NEMA	01	7
Research Institutions	01	7

## APPENDIX 2: THE TRENDS IN RESOURCE USE FOR THE KEY WETLAND RESOURCES EARLIER IDENTIFIED

Wetland Resource	Level of Use			Remarks on Cause of Change		
	1940/ 1960	1961/ 1980	1981/ 2013	1940/ 1960	1961/ 1980	1981/ 2013
Water	1	2	3	Low population	Increased population	Population increased, water livestock watering.
Firewood	0	1	3	A lot of firewood	Increased population	Increase population Increase in schools. Commercial sale.
Food crop Cultivation	0	1	3	Good harvest Fertile soils	Increased population leading to increased land demand	Decrease in cultivatable land, infertile soils, firewood scarcity
Palm leaves	1	2	3	Few users	Increased users	Crafts on demand by; Schools Homes
Papyrus	0	0	3	-	-	Sale, roofing ,baskets,
Sand	1	2	3	Users increased	House construction	Increased house construction, increased demand for money, increased sand demand.

### APPENDIX 3: THE SEASONAL CALENDAR FOR ACTIVITIES IN THE CATCHMENTS OF KOLE-APAC WETLANDS

ACTIVITY	WHO DOES IT														
	J	F	M	A	M	J	J	A	S	O	N	D	F	M	Y
<b>1. Sweet potato cultivation</b>															
Clearing land		*	*			*	*						Ö	Ö	Ö
Planting				*	*		*	*	*				Ö		
Weeding						*					*		Ö		Ö
Harvesting/ selling		*					*						Ö	Ö	Ö
<b>2. Maize cultivation</b>															
Clearing land	*	*				*	*						Ö	Ö	Ö
Planting		*	*	*				*	*	*			Ö	Ö	Ö
Weeding						*	*			*	*		Ö	Ö	Ö
Harvesting/ selling							*				*			Ö	Ö
<b>3. Cassava</b>															
Clearing land	*	*				*	*						Ö	Ö	Ö
Planting			*	*									Ö	Ö	Ö
Weeding			*	*		*	*				*	*	Ö	Ö	Ö
Harvest / sale							*		*				Ö	Ö	Ö
<b>4. Trading in agricultural produce</b>															
Maize						*	*				*	*		Ö	Ö
Coffee harvest / sale				*	*	*				*	*	*	Ö	Ö	Ö
Tomatoes					*	*	*			*	*	*	Ö	Ö	Ö
Cabbages			*	*				*			*		Ö	Ö	Ö

Note: F= Female, M= Male, Y= Youth



