LEGAL NOTICE NO. 145

THE WATER ACT

(*Cap*. 372)

IN EXERCISE of the powers conferred by section 22 of the Water Act, the Water Resources Authority makes the following Order—

THE KIBIRONG' WETLAND CATCHMENT PROTECTION ORDER, 2024

Citation.

1. This Order may be referred to as the Kibirong' Wetland Catchment Protection Order, 2024.

Interpretation.

2. In this Order, except where the context otherwise requires—

Cap. 372.

"Act" means the Water Act;

"association" means a water resources users association registered by the Authority in accordance with the Act.

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a basin area under section 24 of the Act;

"Plan" means the Kibirong' Wetland Catchment Management Plan set out in the Second Schedule;

"Protected Area" means the area declared to be a Protected Area under paragraph 4 and is demarcated for protection and conservation within the Kibirong' Wetland Catchment Management Plan;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area.

"soil and water conservation plan" means soil and water conservation plan as defined in regulations relating to water resources; and

"sub-basin area" means the area designated by the Authority as a basin area under section 24(2) of the Act.

Application of the Order.

3. This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

Declaration of a protected area.

4. (1) The Kibirong' Wetland Catchment Protection Area is declared to be a protected area for purposes of the Act.

(2) The Kibirong' Wetland Catchment Protection Area shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Kibirong' Wetland Catchment Management Plan.

Kibirong' Wetland Catchment Management Plan.

5. (1) The Plan set out in the Second Schedule shall, without prejudice to the provisions of the Regulations made pursuant to the Act, be the basis for protection, conservation and use of the water resources within the Protected Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

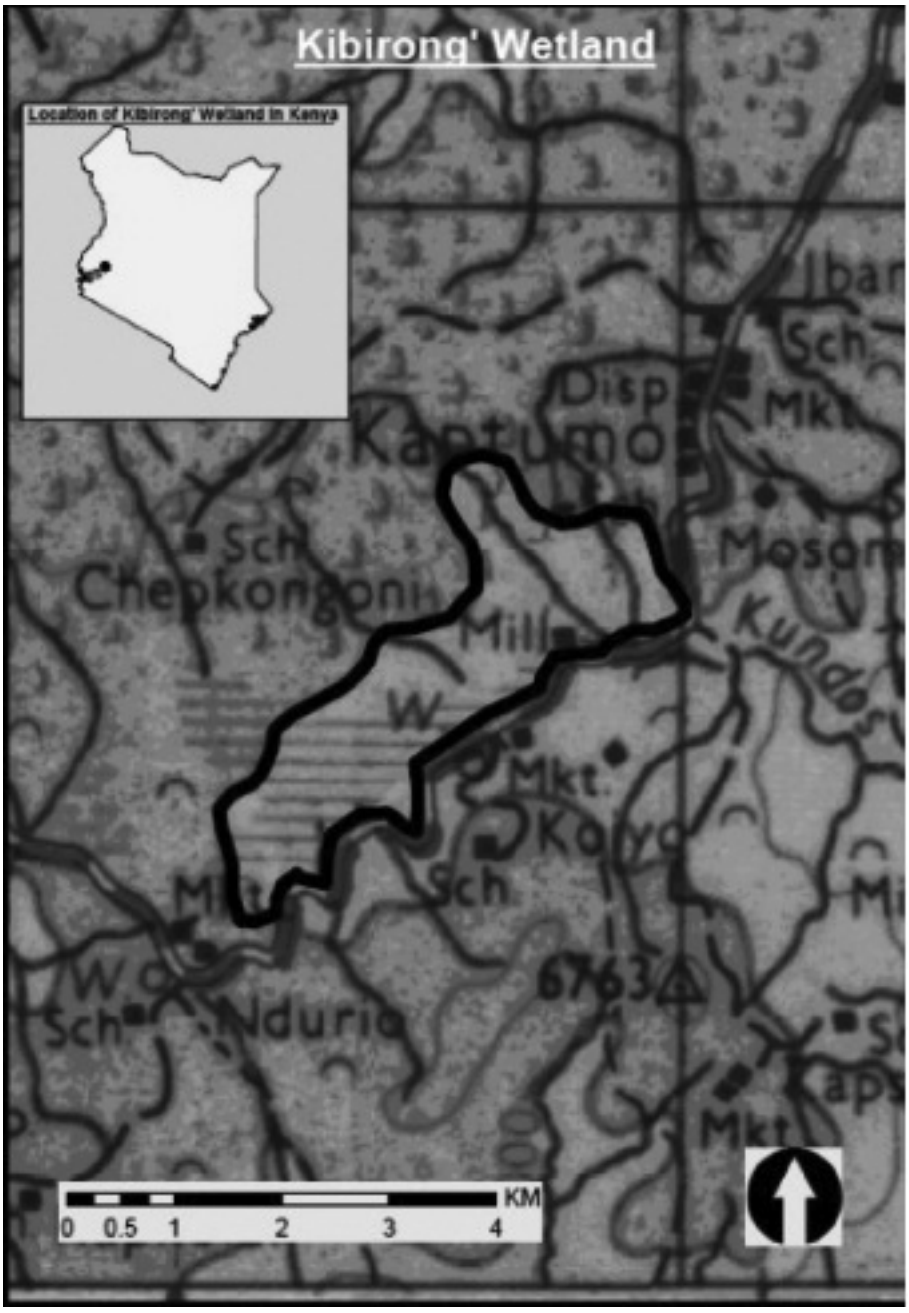
Offence.

6. A person who contravenes this Order commits an offence and shall, on conviction, be liable to the penalty prescribed under section 147 of the Act.

FIRST SCHEDULE

THE KIBIRONG' WETLAND PROTECTION AREA

(p. 4(2))



SECOND SCHEDULE

THE KIBIRONG' WETLAND CATCHMENT MANAGEMENT PLAN

(p.2,5(1))

PART I: INTRODUCTION

1.1 Citation

This plan may be cited as the Kibirong' Wetland Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

LVSBA	Lake Victoria South Basin Area
AG	Attorney-General
Ha	Hectares
KFS	Kenya Forest Service
Km	Kilometer
Km^2	Square Kilometer
KWS	Kenya Wildlife Service
mm	Millimeters
NEMA	National Environment Management Authority
NGAO	National Government Administration Officer
^oC	Degrees Celsius
WDC	WRUA Development Cycle
WRA	Water Resources Authority
WRUA	Water Resources Users Association

1.3 Objective

1.3.1 The general objective of the Management Plan shall be to:

(a) ensure sustainable management and use of water resources within the sub catchment while promoting equitable sharing of water resources; and

(b) ensure the conservation of the catchment area to improve the water quantity and quality.

1.3.2 The specific objective of the Management Plan shall be to:

(a) enhance implementation of existing regulations to protect the rights of all users;

(b) promote hydrologically and economically efficient water use for both socio-economic and environmental benefits;

(c) identify funding sources for implementation of Kibirong' Wetland Catchment Management Plan and conservation programs; and

(d) provide framework for undertaking legally acceptable and sustainable activities within the conservation area.

1.4 Background information catchment area protection

In the context of water resources, a catchment area is an area of land from which water naturally flows into a water course. A catchment area provides a natural water storage mechanism or facility. During rainfall, the vegetation cover allows the water ample time to infiltrate through the soil and form sub-surface flow that recharges the rivers, springs and groundwater aquifers. Often, sub-surface flow is a relatively slow process, which explains the existence of permanent (perennial) rivers in various areas.

The environmental status and conditions of a catchment influences the quantity and quality as well as sustainability of its water resources; for instance, rivers in a well-maintained catchment often have higher base flows even during the dry season with boreholes in such areas recording good or high yields. However, in poorly maintained and degraded catchments, poor infiltration of rainwater results into rapid surface run-off flowing into the river courses. This often causes flash-floods and large volumes of suspended solids which may aggravate siltation of water infrastructure. Furthermore, rivers in degraded catchment have unsustainable base flows during the dry season, hence prevalence of seasonal rivers.

From the foregoing, catchment areas are vital components in water resource management whose protection is imperative. Particularly, vulnerable catchment areas or water resources such as wetlands and those which serve critical purposes such as groundwater recharge areas require more targeted conservation and protection interventions. Such areas need to be formally and legally delineated and protected from encroachment, pollution, overexploitation and destruction to ensure sustainable management, exploitation and ecological integrity.

1.5 Legal and Policy framework for catchment and wetland protection

1.5.1 The Constitution of Kenya, 2010

Article 66 of the Constitution provides that the State may regulate the use of any land, or any interest in or right over any land, in the public interest, or land use planning. Furthermore, Article 69 (1) obligates the state to, interalia, ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and equitable sharing of the accruing benefits; encourage public participation in the management, protection and conservation of the environment; and eliminate processes and activities that are likely to endanger the environment.

Article 69 (2) on the other hand places responsibility on every person the duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources. Further, Article 70 provides a legal framework through which any person may seek redress in case of violation of their environmental rights.

1.5.2 The Water Act (Cap. 372)

The Water Act provides a framework for the regulation, management and development of water resources, water and sewerage services. The Act establishes the Water Resources Authority (WRA) to regulate the management and use of water resources. The Act defines Catchment Area as an area that is part of a basin designated as such under the Act. In particular, section 22 and 23 provides for protection of catchment areas and conservation of ground water. Regulations relating to water resources addresses the management and use of water resources including the manner of identification and protection of vulnerable catchment areas.

1.5.3 The Environmental Management Coordination Act (Cap. 387) Generally, this Act provides for sustainable management and exploitation of wetlands. Specifically, section 42 of the EMCA proscribes certain activities from wetlands and empowers the Minister responsible for environment to declare wetlands as protected areas and issue specific orders and standards for sustainable management of wetlands.

1.5.4 The Sustainable Development Goals (SDGs)

The Sustainable Development Goals were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. Different countries including Kenya have adopted the SDGs as part of its international obligation, prioritizing the SDG targets as integral part of its development agenda. With regard to water resources, SDG 6 which aims to ensure availability and sustainable management of water and sanitation for all is critical by 2030 in catchment protection agenda.

1.5.5 The Ramsar Convention on Wetlands

The Ramsar Convention on Wetlands is the international Convention that focuses on development of the wetlands policy. Kenya ratified the Convention in 1990. Since then, six Kenyan wetlands have been listed as wetlands of international importance. The convention provides a framework for national action and international cooperation for the conservation and prudent use of wetlands and their resources.

1.5.6 National Policies

The water and wetland resources management and use is also guided by various policies including:

(a) The National Water Policy, 2021 (Sessional Paper No.1 of 2021) which provides a framework for sustainable management and financing of water resources; water harvesting and storage; and for equitable, efficient, and universal access to water supply and reasonable standards of sanitation, for domestic, economic use and ecosystem sustenance.

(b) The National Wetlands Conservation and Management Policy, 2014 (Sessional Paper No.12 of 2014) whose goal is to ensure wise use and sustainable management of wetlands in order to enhance sustenance of their ecological and socio-economic functions for the present and future generations of Kenya.

PART II: BACKGROUND INFORMATION ON KIBIRONG' WETLAND

2.1 Kibirong Wetland

Kibirong' Wetland covers an estimated area of five hundred acres within Kaptumo and Koyo wards in Aldai Sub-County, Nandi County. It forms the source of River Kundos and other smaller streams which is a key tributary of the Nyando River. It's also an important groundwater recharge area for the local aquifer system. Over the years, the Wetland has been degraded due to anthropogenic activities which are carried out in the area. The activities include land reclamation for subsistence agriculture, human settlement, clay and sand harvesting, over grazing and deforestation.

Additionally, in some sections of the Wetland, wetland unfriendly tree species such as *Euacalyptus spp* (blue gum) have planted within the Wetland boundaries. Consequently, the degradation of the Wetland has led to pollution of the water resources,

reduction of water level hence reduced water availability, episodes of flooding downstream and depletion of soil fertility. Cognizant of the challenges facing the Wetland, WRA, WRUA, Nandi County government have made significant effort to protect and conserve the Wetland including tree planting and partial fencing. However, the effort has not borne much of the intended goal partly due to lack of a clear framework to concentrate the effort for impactful outcome. As such, this Management Plan has been developed through stakeholders' participation for Gazettement to mitigate further degradation and restore the Wetland to its optimal ecosystem functioning for environmental and socio-economic sustainability.

2.2 Rationale for Kibirong' Wetland protection

Kibirong' Wetland is beneficial for sustainability of the ecosystem and livelihood of the local community. The benefits are both direct (goods or products) and indirect (services). The services include water recharge and storage, water purification, carbon sink, ecosystem habitat, fish spawning and breeding grounds, nutrient cycling and flood control. From the services, the local community accrue increased water quantity and improved quality, reduced siltation and flooding downstream, source of food (fishing) enhancing food security, conserved biodiversity and source of income.

Despite the critical role played by the swamp in sustainability of the ecosystem and the socio-economic benefits derived from it by the local and downstream riparian communities, the rapid increase in population and need for resources have exerted a lot of pressure on the swamp, threating its survival. There is increasing encroachment into the Wetland with people settling in sections of the Wetland, overgrazing, uncontrolled farming and cutting down trees among other factors. Beside population increase, the rapid degradation of the Wetland is driven by high poverty levels, inadequate awareness of the importance of Wetland conservation, urbanization, increasing demand for agricultural and grazing land, overstocking, lack of clear Wetland boundary and land reclamation practices.

Consequently, the area has experienced low water levels, pollution of the water resources, reduced biodiversity, unprecedented soil erosion, reduced soil fertility hence poor agricultural yields and flooding. Cognizant of the importance of the Wetland and the threats to its sustainability, WRA in collaboration with the Nandi County has made effort to conserve the Wetland including tree planting and awareness creation through WRUAs and fenced off section of the Wetland. However, the limited control over the human activities carried out in the Wetland has impeded the success of the conservation effort made.

In this context, to achieve impactful results from the conservation interventions in the area, it is imperative not only to gazette the Wetland but also develop its management plan to provide a comprehensive framework within which the conservation interventions can be implemented and desired results achieved. Particularly, identifying the Wetland for protection, its gazettement and implementation of the management plan will enhance groundwater recharge and ensure sustainable management and exploitation of the Wetland for all the communities who depend on it directly and indirectly. Indeed, the need for protection and gazettement of the Wetland has been recognized by the local community, the WRUAs and other key stakeholders following consultations.

Protection and conservation of Kibirong' Wetland will be achieved through the implementation of the following strategies:

(a) Creating awareness among the local community on the importance of conserving the Wetland.

(b) Development of an action plan to protect the catchment and their rehabilitation.

(c) Participatory mapping of the protection zones around the wetlands with the community and other stakeholders.

(d) Where necessary and legally acceptable, compensate and relocate settlers from the protected zones.

(e) Adequate enforcement of the relevant laws for protection of wetlands, riparian and springs.

2.3 Location and size of area to be protected

Kibirong' Wetland covers an area of five hundred acres within Kaptumo and Koyo wards in Aldai sub-county, Nandi County.

2.4 Water shed

Kibirong Wetland falls within upper River Kundos sub-catchment (which is under the operation of Kundos Water Resources Users Association). It receives much of its waters from the surrounding high grounds with River Kundos being its main outlet.

2.5 Physiography, climate and rainfall

2.5.1 Physiography

The area constitutes an undulating landscape typified by rolling hills. They are chiefly flat-topped ridges with identical summits that may be remnants of an eroded plain. River Kundos flows from the Wetland and eventually draining into the Nyando River, forming its important tributary.

2.5.2 Climate

Generally, the area receives an average rainfall of about 1,200 mm to 2,000 mm per annum. The long rains start in mid-March through to end of May. The short rains start in around mid-September towards the end of November. Notably, however, often some level of rainfall is recorded in each of the months across the year. Sometimes, dry spell is experienced from end of December to mid-March. The area is generally warm with the mean temperature of about 18°C to 22°C. However, lower temperature of about 14°C and higher temperatures of about 26°C can be experienced.

2.5.3 Vegetation

There area is covered by both indigenous and exotic vegetation particularly Eucalyptus trees. However, mixed farming is practiced in the area, thus food crops dominate the area.

PART III: SITUATIONAL ANALYSIS

3.1 Kibirong' Wetland faces existential threats which needs to be adequately mitigated to ensure its sustainability. This section analyses the current situation of the Wetland with respect to vulnerability, resource quality and threats.

3.2 The vulnerability of the water resource

Kibirong' Wetland is vulnerable to anthropogenic activities which expose to rapid degradation. The Wetland has no clear demarcated boundary, thus is open to invasion by illegal settlers who consider it as a "wasteland" that is free for occupation. Consequently, people have encroached into the Wetland, establishing various structures for their

habitation. Furthermore, as pressure for agricultural land increases in the area, the Wetland becomes a natural virgin vacant option. As such, sections of the Wetland have been turned into farmlands to provide food supply for the local community as well as trading for economic gain.

Moreover, indigenous trees have been cleared to make way for farmlands while exotic trees which are perceived to have higher economic value with fast maturity such as Eucalyptus trees have been adopted despite the damage that they cause to the water resources. Growing such tree species in the Wetland is likely to cause reduction in groundwater recharge, water table and drying of the surround streams and rivers (e.g. R. Kundos) whose source is the Wetland or are fed by tributaries of the wetland. Being an open land, the Wetland is vulnerable to overgrazing particularly during dry period when availability of pasture is limited.

3.3 Current water resource status and the resource quality objectives

Section 20 of the Water Act requires WRA to prescribe criteria for classifying water resources for the purposes of determining Water Resources Quality Objectives (RQOs) for each class of water. The RQOs represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota and differ for different classes of water source.

Generally, the resource quality objectives relate to the extent to which the water body can deviate from its natural state as a consequence of water use impacts. In summary, RQOs provide a "target" optimal water resources condition below which such resources are considered significantly impacted negatively. The RQOs provide clear goals relating to the relevant water resources that can be monitored and thereby give effect to the desired water resource classes in the catchment. Water resources management strategies should be geared towards progressively achieving and sustaining RQOs. The status of the resource is a measure of how far the condition of the resource is from the RQO. Development of RQOs is a multisectoral, consultative and holistic process which takes into consideration the uses and needs of local communities to ensure inclusivity, sustainability and implementation success.

The overall goal of water resources management to is to protect the natural ecological characteristics for socio-economic development. Key water resources issues include:

(a) Water scarcity.

(b) Catchment degradation.

(c) Legal settlement in riparian areas and Swamp and the land tenure around the swamp.

(d) Human activities in Kibirong' Wetland affecting its natural functions in the ecosystem.

(e) Illegal and over abstraction.

Sustainable management of Kibirong' Wetland will include the cooperation and collaboration of key stakeholders within the Wetland including related government state departments and agencies, WRUA, community members and other stakeholders. Moreover, recently, WRA developed guidelines for the establishment of RQOs. As it embarks on the implementation of the guidelines vulnerable catchments areas such as Kibirong' Wetland will be given priority for piloting of the process.

3.4 The class of water resource

The sub-catchment water demand can be categorized as largely ecological and livelihood. Due to degradation of the Wetland, the sub-catchment resource status can be described (classified) as "Alert". The available water may not be adequate with respect to quantity and quality to meet the demand. Nevertheless, the area receives regular rainfall, thus rainwater harvesting might be of significant complementary source of water in the area.

3.5 Land use types and their impacts on Kibirong' Wetland

Various land use activities are undertaken in Kibirong' Wetland which impacts it in diverse ways. To ensure protection and conservation of the Wetland, the strategic interventions have to be executed to control the activities and mitigate their impacts. The current status of such activities and impacts are described in the subsequent subsections.

3.5.1 Human settlement

Kibirong' Wetland lies within a predominantly rural setting where the local economic main stay is agriculture and livestock production. Due to rapid population growth, there is rising demand not only for arable land but also settlement and land subdivision in the area. This also comes with pressure for economic survival, thus uncontrolled and overexploitation of wetland resources including the water resources. The vegetation is cleared to create room for construction of houses day by day. Human settlements come with related demand for sanitary infrastructure, which is poor in the area, thus exposing the Wetland to pollution from domestic waste. Consequently, the Wetland is experiencing threatening degradation which necessitates immediate mitigation measures.

3.5.2 Agriculture and livestock production

There is continuous land reclamation in the Wetland to create space for subsistence agriculture. Clearing of the vegetation through cutting and burning leaves the area bare, thus exacerbating soil erosion which in turn exposes available water resources and water infrastructures to siltation and flooding downstream. Furthermore, application of pesticides and fertilizer to the farms exposes the water resources to pollution. Additionally, there is over-abstraction of water from the Wetland for irrigation, damming of rivers at the source and diversion which reduces water levels and groundwater aquifer recharge. Poor farming practices which do not take into consideration water and soil conservation practices is a regular practice in the area. Uncontrolled grazing and overstocking of livestock not only degrade the Wetland but also poses human conflict over grazing land.

3.5.3 Exploitation of natural resources

In pursuit of economic survival, the local community exploit the natural resources in the Wetland to satisfy their economic needs. There is unsustainable soil harvesting for brick making, wood harvesting for timber and firewood and sand harvesting. These activities catalyse the Wetland degradation and jeopardise the conservation effort invested to protect the Wetland.

3.5.4 Plantation of exotic plant species

Clearing of the indigenous plants species in the Wetland has given way for cultivation of exotic tree species (e.g. Eucalyptus spp) which are perceived to be early maturing and of good economic value. However, these exotic tree species are not suitable

and unsustainable in riparian zones and wetland as they have been shown to have negative impact on the water resources.

PART IV: MEASURES FOR CONSERVATION AND REHABILITATION OF THE AREA

4.1 Restricted and Proscribed activities

According to the applicable legal framework, protected areas can be used in a sustainable manner. The activities to be undertaken within the Protected Area are those with zero impact on its ecological status and integrity. Unless specifically approved in writing by the Authority following an application in the prescribed form, the following activities shall not be undertaken within the Protected Area:

(a) Clearing of indigenous trees or vegetation.

(b) Building of permanent structures, especially houses.

(c) Disposal of any form of waste.

(d) Excavation of soil or development of quarries.

(e) Planting of exotic species that may have adverse effect to the water resource.

(f) Settlement in section of the Wetland that may be declared public land.

Parties that intend to do such activities shall seek approval from the authority before commencement of the activity.

4.2 Conservation Plan

The overall goal of the conservation plan is to attain the long-term environmental sustainability of the catchment for enhanced ecosystem service provision and functioning. Particularly, the plan aims to control water pollution and increase the water quantity, reduce soil erosion and siltation, control encroachment, increase biodiversity, control floods, improve community health, and regulate natural resources exploitation within the Wetland. The goal and objectives will be achieved through:

(a) demarcation of the Wetland and its riparian zone and fencing off;

(b) gazettement of the swamp as a protected water catchment area;

(c) compensation and relocation of land owners from the catchment area;

(d) enforcement of the Kibirong Wetland Catchment Management Plan; and

(e) control water resources abstraction from the swamp.

Table 1: Activities relating to Conservation Plan

Activity	*Sub-activity*	*Timeframe*	*Estimated Cost (KSh.)*	*Responsible*
Demarcate the Wetland and its riparian zone	Undertake cadastral survey of the area and place beacons along the boundary	1 Month	900,000	WRA, SoK, land owners & Committee
	Develop the PDP for the demarcated swamp area	1 month	450,000	CGL, MoLS, WRA
	Liaise with NLC for Valuation and Compensation before revocation of the Title.	3 Months	700,000	WRA, NLC, land owners

Activity	*Sub-activity*	*Timeframe*	*Estimated Cost (KSh.)*	*Responsible*
	Liaise with NLC for the revocation of any privately held title deeds and acquire a title deed (in trust) for the swamp	6 months	2,000,000	WRA, NLC, land owners
	Fence off the demarcated area	1 Month	7,000,000	WRA, Kundos WRUA
	Place signs and notices to warn the public that the Wetland is a Protected Area			
	Carry out a comprehensive baseline assessment of the Kibirong' Wetland	1 month	1,000,000	WRA
Gazette the Kibirong Wetland as a protected water catchment area	Create awareness on the importance and status of the of the Wetland	Continuous	600,000	WRA, stakeholders
	Develop guidelines and conservation plan through stakeholders' engagement	2024	3,500,000	WRA with all stakeholders
	Submit gazettement instrument to the Office of the Attorney General	2024	150,000	WRA
Enforce Kibirong Wetland Catchment Management Plan	Create awareness to stakeholders on the management guidelines and conservation plan	2024	1,200,000	WRA
	Enforce the Kibirong' Wetland Management Plan and other relevant legislation	Continuous	6,000,000	WRA, NEMA, Nandi County Government
	Regulate clay and sand harvesting	Continuous		WRA, Nandi County Government
Control water resources abstraction	Enforce permit requirements for water abstractions	Continuous	1,000,000	WRA, WRUA
	Carryout water abstraction and pollution survey		1,500,000	WRA, WRUA
Sub-Total			26,000,000	

4.3 Rehabiliation plan

Rehabilitation of the wetland is necessary to restore it to its (near) natural (pristine) state. The objective of the rehabilitation plan is to ensure the Wetland achieves its optimal ecosystem functioning and service provision. This will be achieved through:

(a) Removal of all inappropriate/invasive species of plants.

(b) Planting and reforestation of the Wetland with water friendly and indigenous tree species.

(c) Development of alternative livelihoods to discourage farming within the swamp.

(d) Promotion and adoption of sustainable agricultural practices and zero grazing.

(e) Development of flood and soil erosion control infrastructure.

Table 5: Activities related to rehabilitation plan

Activity	*Sub-activity*	*Timeframe*	*Estimated Cost (KSh.)*	*Responsible lead*
Removal of all inappropriate and invasive plants species	Exotic plants species control	Continuous	400,000	WRA, KFS, WRUA, Committee, Nandi County government
Planting and reforestation of the Wetland with water friendly and indigenuous tree species	Establishment of indigenous trees nursery	Continuous	700,000	WRUA, WRA, KFS, Nandi County Government
	Grow live fence on the boundary of the swamp	Continuous	2,000,000	WRA, KFS, WRUA, Committee
	Planting and growing of propagated seedlings	2 year	4,000,000	WRUA, Committee
Development of alternative livelihoods to discourage farming within the swamp	Promote adoption of alternative sources of livelihood through training of the local community	1 Year	6,000,000	WRA, WRUA
	Provide technical assistance for funding proposal development to adopt alterantive sources of livelihood	Continuous	3,000,000	WRA
Promote sustainable agricultural methods and practices	Train farmers on best and sustainable agricultural practices and methods	3 years	5,000,000	WRA, MoAL
Promote adoption of zero grazing and de-stocking	Empowering farmers to adopt zero grazing through training	2 years	4,000,000	WRA, MoAL

Activity	*Sub-activity*	*Timeframe*	*Estimated Cost (KSh.)*	*Responsible lead*
Develop flood and soil erosion control infrastructure	Construct check dams	3 years	6,000,000	WRUA, WRA, KFS, Nandi County Government
	Terracing	3 years	4,000,000	WRUA, WRA, KFS, Nandi County Government
	Construct gabions	3 years	8,000,000	WRUA, WRA, KFS, Nandi County Government
Sub-Total			43,100,000	

4.4 Catchment and Water Resources Monitoring plan

Understanding the status of water resources is critical for decision making with respect to sustainable management interventions. Therefore, the objective of the water resources monitoring plan is to provide a clear framework for collection and analysis of catchment and water resources data within Kibirong Wetland. The data include information on water discharge, water quality and catchment health as a response to human activities within the Wetland and its environs. Such information would be useful in evaluating the impact and effectiveness of the conservation measures implemented and inform decisions thereof. The water resources monitoring plan will be achieved through:

(a) Upgrading of the weather station nearby to a fully telemetric hydro-meteorological station.

(b) If feasible, establishing a miscellaneous river gauging station a long River Kundos to monitor discharge levels.

(c) Regular monitoring of water quality of River Kundos.

4.5 Establishment and operationalization of management structure

To realize the objectives of Kibirong' Wetland protection and conservation measures presented in this Management Plan, a management structure comprising a management committee will be established. The objective of the management committee will be to ensure that Kibirong' Wetland Catchment Protected Area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of the Water Resources Authority's Lake Victoria South Basin Area. The Management Plan envisage a budget of Ksh. 69.1 million for its implementation in the medium term. This subcomponent will be achieved through:

(a) Setting up the management structure with defined ToRs and mandates;

(b) Development and implementation of resource mobilization strategies to raise funds for the management and conservation of the Protected Area.

4.5.1 Terms of reference (ToR) and mandate of the Management Committee

The terms of Reference (ToR) of the Committee will include but not limited to the following:

(a) To manage the catchment prudently on behalf of other stakeholders.

(b) To submit quarterly reports to WRA – Athi on all planned and implemented activities.

(c) To develop by - laws and submit a copy to WRA – Athi for approval before implementation.

4.5.2 Mandate and responsibilities

(a) Promote the conservation and protection of the catchment.

(b) Promote equitable distribution of the resources within the catchment.

(c) Promote socio-economic and environmental sustainability of the catchment.

(d) Mapping of stakeholders and potential donors.

(e) Development and marketing of resources mobilization strategies.

4.5.3 Source of funds

The Committee will be a not-for-profit, non- commercial venture. Therefore, to realize its objectives and execute its mandate, the Management Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in the Protected Area. The envisaged sources of funds include:

(a) Bee keeping.

(b) Tree Nursery.

(c) Eco-tourism.

(d) Sponsors and well-wishers.

(e) Development partners.

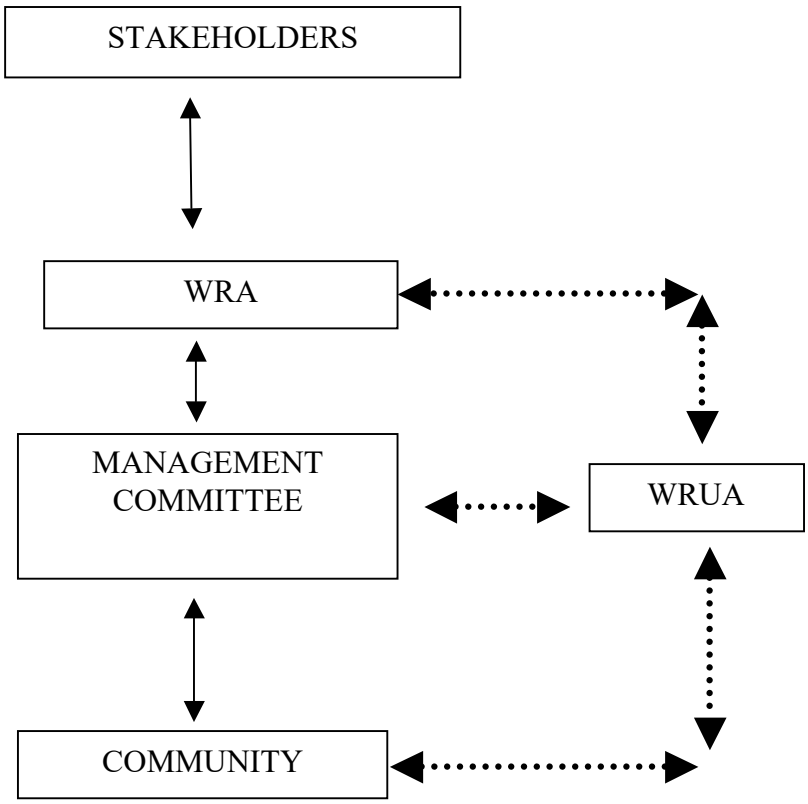
(f) WRA/WRUA - (WDC).

(g) Cultural/sports events.

4.5.4 Committee linkages and coordination

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the Management Committee. The members of the Management Committee will serve on honorary basis as the Committee is a non-commercial venture. Figure 1 presents the proposed linkages between various stakeholders and the Committee. The arrows indicate the information flow direction. The dotted lines indicate the WRUA can communicate directly to all the stakeholders and vice versa.

Figure 3: *Reporting Linkages for the Management Committee*



4.1 Monitoring and Evaluation

To track the implementation progress of the management guidelines, the action plan will therefore be evaluated regularly on the basis of information, data and knowledge generated during its implementation. The matrix which will be used for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities is presented in Table 3.

Table 3: Monitoring and Evaluation matrix template

Activity	*Key Performance Indicators (KPIs)*	*Implementation schedule*		*Completion status (%)*	*Budgeted cost (KSh.)*	*Current total expenditure (KSh.)*	*Source of funds*	*Output*	*Comments*
		Start	End						
Demarcate the swamp and its riparian zone	Area surveyed								
	Number of titles deeds evaluated								
	Length of the demarcated area fenced								
	Comprehensive baseline assessment completed								
Gazette the Kibirong' Wetland as a Protected Water Catchment Area	Number of community members trained								
	Level of compliance with the Management Plan								
Enforce Kibirong' Wetland Management Plan	Number of creation campaigns held								
	Level of compliance with the Management Plan								
Regulate water resources abstraction	Enforce permit requirements for water abstractions								
	Carryout water abstraction and pollution survey								
Removal of all inappropriate and invasive plants species	Exotic plants species control								
Planting and reforestation of the Wetland with water friendly and indigenous tree species	Number of indigenous trees nurseries established								
	Length of live fence grown round the Wetland								

Activity	*Key Performance Indicators (KPIs)*	*Implementation schedule*		*Completion status (%)*	*Budgeted cost (KSh.)*	*Current total expenditure (KSh.)*	*Source of funds*	*Output*	*Comments*
	Number of trees planted and grown								
Development of alternative livelihoods to discourage farming within the swamp	Number of community members trained and adopted alternative sources of livelihood								
	Number of proposals developed and submitted for funding								
Promote sustainable agricultural methods and practices	Number of farmers trained								
Promote adoption of zero grazing and de-stocking	Number of farmers trained								
	Number of farmers practising zero grazing								
Develop flood and soil erosion control infrastructure	Number of check dams constructed								
	Length of terraces constructed								
	Length of gabions constructed								
Upgrading of the weather station nearby to a fully telemetric hydro-meteorological station	Number of operational meteorological station established								

Activity	*Key Performance Indicators (KPIs)*	*Implementation schedule*		*Completion status (%)*	*Budgeted cost (KSh.)*	*Current total expenditure (KSh.)*	*Source of funds*	*Output*	*Comments*
Establishing a miscellaneous river gauging station a long River Kundos	Number of river water level data sets								
Regular monitoring of water quality of R. Kundos	Number of water quality data sets								
Establishing and operationalizing a management committee	Management committee established								

Made on the 12th August, 2024.

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