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Kenya Wetlands Governance and Management Profile

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Document Sheet

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1.0 INTRODUCTION

1.1 Kenya and its Wetlands

Kenya is a country in Africa which over lays the East African Rift and lies on the Equator. Its terrain coverage is expansive as it extends all the way from Lake Victoria through to Lake Turkana in the North and then further extends south east to the Indian Ocean. Kenya is bordered by 5 countries, Uganda to the west, Sudan to the North West, Ethiopia to the North, Somalia to the North East and Tanzania to the South. Kenya experiences a tropical climate with seasonal rainfall. Wetlands are essential in sustaining ecological and human life.

They provide a myriad of ecosystem goods and services such as water for domestic use (Drinking, agriculture, flood control, supporting biodiversity, provision of food, reeds, craft, raw materials for building and basket weaving, climate regulation, carbon sequestration, , erosion, control, sediment transport, and they are essential in promoting resilience to climate related hazards like drought and floods.

1.2 The Nile Basin and Associated Wetlands in Kenya

The Nile is the Longest River in the world which has a drainage area of approximately 3.2 million sq Km which accounts for nearly 10% of the Land Mass of Africa. The Nile Basin is endowed with rich and diverse wetlands that provide a myriad of ecosystem goods and services that support the livelihood of people, wildlife and the environment. Among the Nile Basin Wetlands, there are some which have been designated Important Bird Areas, World Heritage Sites, Protected Areas, Birds Flyways and Wetlands of international importance by the Ramsar Convention.

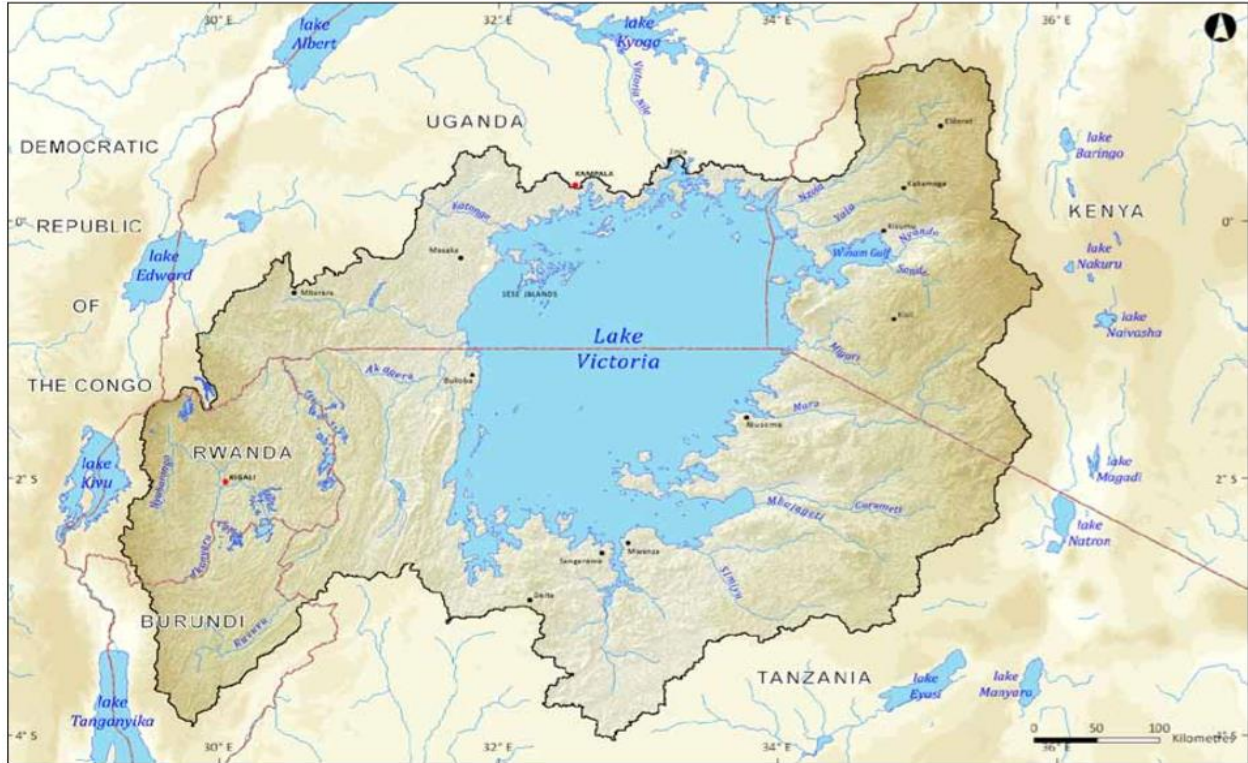


Photo 1: Lake Victoria Basin (Kenya Wetlands Atlas)

The Nile Basin covers Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, South Sudan, Tanzania and Uganda all with numerous Wetlands Associated with them. In Kenya, the wetlands which are associated with the Nile Basin include the Winam Gulf Swamps (Kusa, Dunga, Yala and Koguta) found on the shores of Lake Victoria which is the largest Lake in the Nile Basin, The Lake Victoria East Shore and The Sio Siteko Wetland System which are also found within the Lake Victoria. The Lotakipi Swamp in Lake Turkana, The Mara River Basin Wetlands of River Mara, The Lake Jipe Wetlands and the Lake Chala Wetlands both found in Voi.

2.0 POLICY AND LEGAL FRAMEWORK

2.1 Policy Framework

2.1.1 National Wetlands Conservation and Management Policy 2015

This policy was established through a rigorous multi-stakeholder consultative process with the main objective of integrating expert and local knowledge while upholding the public

participation principle as established in the constitution. It seeks to ensure that the benefits of wetlands are well protected. The policy also aims to provide a legal framework to address the adverse challenges which affect the wise use and conservation of wetlands in Kenya. It also fulfills the obligations of Kenya under the Ramsar Convention as well as those of the East Africa Community.

Its set objectives are to enhance and maintain the values of wetlands for the main purpose of maintain the goods and services of this ecosystem, preserving biological diversity and improving Kenya livelihood. It also aims at improving scientific information as well as knowledge base on the wetland ecosystems of Kenya.

2.1.2 National Environment Policy, 2013

The main objective of this policy is to improve life quality for the current generation without necessarily compromising that of the future generation through sustainable practices of environmental and natural resources. One of the principles of this policy is the right to a clean and healthy environment which is also entailed in EMCA and the Kenyan constitution, ecosystem approach, sustainable use of resources and the principle of inter and intra-generational equity among other principles.

This policy identifies the significance of wetlands and freshwater ecosystems as the key providers of goods and services which come from the environment. These services include; sequestration of pollutants from water, flood control, soil formation as well as habitats for a wide variety of species. It recommends the government to harmonize the responsibilities of regulatory agencies whose mandate is the management of these natural and environmental resources. The same policy also recommends for the rehabilitation of those wetlands that have been degraded.

2.1.3 National Land Policy, 2009

The National land policy looks to address matters concerning environmental problems including unsustainable agricultural practices, pollution, soil erosion and degradation. The vision of this policy is to lead Kenya efficient, equitable and the sustainable use of land for the purpose of posterity and prosperity. Among the policy principles is that of management and conservation of natural resources on land, the protection and management principle of critical and fragile

ensure the restoration of grabbed land so that it can be used for its intended purpose. In cases involving wetlands, the declaration of protected areas for the purpose of ensuring that they are put to their main use.

2.1.4 Integrated Coastal Zone Management Policy, 2015

The main purpose of this framework is to guide actions and policies which are related to the management and use of Kenya's coastal zone resources. This also covers the restoration of the degraded areas and the protection of the resources. Human influences on the Deltas and Estuaries at the coast of Kenya are the major contributing factor to their degradation. This policy seeks to address the challenges faced by these wetland areas through the development of strategies for equitable distribution and utilization of water resources so as to reduce the occurrences of resource use conflicts; The development a legal framework for the purpose of ensuring sustainable conservation and management of the deltas and estuaries; and Development of comprehensive research information to aid in the proper conservation and management of said ecosystems.

2.1.5 Wetland Monitoring and Assessment Strategy for Kenya

This strategy recognizes the vast importance of wetland resources in Kenya and this is what formed the basis for its formulation. It was developed to enhance and make wetlands monitoring in the country easier. It's also geared towards ensuring the development of reliable ways of monitoring the health and integrity of wetland ecosystems especially since most of them have been severely degraded. This assessment is also essential in informing the initiation of restoration measures for degraded wetland ecosystems in the country.

2.1.6 Integrated Coastal Zone Management Plan for Action

The goal of this action plan is the conservation of the coastal and marine ecosystems, ensuring that the resources they provide are utilized sustainably for the benefit of the local communities, biodiversity and the economy of the country. The development of this action plan was inspired by the need to find a balance between Environmental management and Economic development. It therefore seeks to foster an integrated approach towards wise use of resources and their management for sustainable development.

2.1.7 Lake Jipe Integrated Management Plan

This management plan provides a description of the Lake Jipe Ecosystem and its main aim is to guide the sustainable and wise use of natural resources in the ecosystem.

2.1.8 Shoreline Management Strategy

This strategy outlines a plan for shoreline management in Kenya in line with supporting overall planning and decision making in the coastal zone. It works to ensure that all issues associated with coastal ecosystems are identified and national and regional policies are taken into account when it comes to conservation and management.

2.2 Kenya's Vision 2030

A vision that aims at transforming Kenya into a newly industrializing, middle income country providing a high quality of life to all its citizens in a clean and secure environment by 2030. The vision 2030 has a strong case on the sustainable management of wetlands. The vision has the target of a growth rate of approximately 10% per year which will greatly rely on the exploitation of natural and environmental resources that wetlands are part of. Despite this, it is important to note that the expected growth in the field of manufacturing will as a result increase effluent discharges to the environment, negatively impacting the wetlands.

All the initiatives of the vision on sustainable development have either a direct or indirect link to wetland ecosystems. Waste management as well as controlled pollution will minimize the amount of effluents discharged and as a result enhance wetlands' air and land quality. It points out environmental degradation among the key issues to be addressed and it also identifies the proper projects for the achievement of the goals of this particular section. These projects have implications on those who use wetlands as well as the wetlands themselves. Some of these projects include; irrigation and drainage, improved water resource management and information and improved water harvesting and storage.

2.5 Legal Framework

2.5.1 *The Constitution of Kenya*

The constitution does not specifically refer to wetlands but it has a number of novel environmental provisions which can be useful in the management of wetlands. The preamble which is established on the basis of respect for the environment upholds the commitment and determination of Kenyans to sustainable development.

The constitution of Kenya recognizes the environment as a National Heritage and promotes its sustainable management for the benefit of present and future generations. Article 2 (5) and (6) provides that international law shall form part of the laws of Kenya and that any treaty or convention that Kenya has ratified shall be part of the laws of Kenya. Kenya having ratified the Ramsar Convention has to ensure that there is wise use of wetlands within her boundaries.

Article 42 entitles everyone to a clean and healthy environment while Article 70 provides for redress in case of right infringement. According to article 64, the sustainable management of land resources together with sound conservation and protection of ecological sensitive areas are among the principles which govern land management. Article 66 further empowers the state to regulate land use while article 68 of the constitution mandates the parliament on revising, consolidating and rationalizing the land use laws which are already in existence.

Article 69 obligates the state and people to ensure sustainability in the use of environment and natural resources as well as establishing environmental impact assessments, environmental audits and environmental monitoring processes. In addition to this, article 72 also obligates the parliament to enact legislation to give full effect to the Constitution's land and environment stipulations while the Fifth Schedule enumerates the laws that need to be enacted.

2.5.2 *Environment Management and Coordination Act, 2015*

EMCA has a number of general provisions which well state the sustainable use of wetland resources of Kenya in addition to some specific provisions. Section 42 encompasses a wide range on the stipulations of wetlands. The section prohibits a number of activities like excavation and drilling in wetlands as well as construction unless an approval of such activities had earlier

been made by the NEMA Director General. It secondly empowers the environment minister to declare wetlands as protected areas. It thirdly gives an authorization to the minister for the issuances of specific orders, regulations or standards for the sustainable management of wetlands even those which face degradation. The objectives of the wetland regulations of EMCA include, among others, to provide the sustainable use and conservation of wetland resources and the wetlands, to protect wetlands as habitats of many species, to control and prevent siltation and pollution in addition to providing a framework of public participation in the management of these ecosystems.

2.5.3 Fisheries Act (CAP 378)

Section 8(1) states that without the prejudice to those regulations under this act, no person apart from those fishing for their personal consumption shall assist in catching or catch fish in Kenya fishery waters including wetlands unless issued with a valid license under this act.

2.5.4 Water Act 2016 (CAP 372)

This Act operates under a number of institutional frameworks that offer guidance to water and sanitation management. These institutions include; Water Resources Management Authority, Catchment Area Advisory Committees, Water Resource Users Association, Water Appeal Board and the National Water Conservation and Pipeline Corporation in addition to NEMA. WARMA together with NEMA are the institutions which protect one resource, wetlands. WARMA under section 36 of the act provides that a permit is a requirement for the drainage of any swamp. NEMA on the other and requires that an approval be made before any wetland activities are carried out under section 42 of EMCA. Under EMCA'S third schedule, a number of government representatives are nominated in accordance to the Standards and Enforcement Review Committee which is established under section 70 of EMCA. This committee gives a representation of all government forms. Section 71 of EMCA states that the committee should advice the Director General of NEMA on matters concerning water quality and the environment.

2.5.5 The Wildlife Conservation and Management Act, 2013 (CAP 376)

This act gives a description of wetlands in the interpretations section, section 2. Section 33 of this states that the cabinet secretary recommended by the Kenya Wildlife Service and National lands commission through a gazette notice declare those wetlands important for habitats or ecosystems for the conservation of wildlife as protected wetlands. The Kenya Wildlife Service has an establishment of wildlife corridors which have been encroached on by farmers. These corridors are for the migratory species, it has also made efforts of fencing and also putting up buffer zones between communities and wildlife to stop encroachment. The Kenya Wildlife Service together with other stakeholders planed the development of the 10 year Amboseli Ecosystem Management Plan which intends to look at issues touching on human wildlife conflicts, water pollution and the unsustainable use of natural resources in areas like wetlands.

2.5.6 Wetlands, River Banks, Lake Shores and Sea Shores Regulation, 2009

This regulation was formulated for the purpose of exercising powers which are conferred by Section 42(3) and 147 of EMCA. Conservation is known as the management and care of a resource for it to maintain its ability to sustainably accomplish its functions. Regulation 3 does apply to both private and public wetlands. This establishes a conflict aspect with the private land owners who believe that wetlands found in private lands belong to them because of their interests in the land. Regulation 5 (2) establishes that the obligations under these Regulations will at all times take into consideration the provisions of the other statues. Regulation 5 (1) (d) states that sustainable use of wetlands shall be integrated into the national and local land use plans for the purpose of sustainable use and management environmental resources.

2.5.7 Physical Planning Act, 1996

Section 5(1) of this act provides that no one is allowed to construct a public building on any site including wetland sites unless recommended by the director of physical planning by the use of a preparation of a development plan that is relevant or also an advisory plan depending on the case and the same has to be approved by the minister or a local authority that is relevant in such matters. This act ensures the safe protection of wetland site ecosystems as it prevents human encroachment to this important ecosystems.

3.0 INSTITUTIONAL FRAMEWORK

3.1 Institutional Framework

3.1.1 Ministry of Environment and Forestry

This ministry aims to facilitate good governance in the conservation, protection, restoration, management and development of the environment and natural resources which wetlands are a critical part of, for sustainable development. To achieve this, it follows the Environment Management and Coordination Act as its legal instrument with support from institutions like the National Environment Council; the National Environment Trust Fund, The National Environment Tribunal and the Public Complaints Committee.

3.1.2 National Environment Management Authority

It is the institution mandated to coordinate the management of the environment in Kenya, it provides guideline on the development of wetland management plans and ensures the compliance of the public, private sector, institutions and other organizations with environmental laws.

3.1.3 Kenya Wildlife Service

KWS works to conserve wetlands and their habitats. It runs a wetlands programme which was started in 1991 and has since been instrumental in spearheading wetlands conservation initiatives in the country. It works to promote conservation and wise use of wetlands and also promotes education and awareness about wetlands in Kenya. KWS is also the National Ramsar Administrative Authority

3.1.4 The Ramsar Centre for East Africa

This centre aims to strengthen the collaboration between the East African countries in an effort to better conserve and protect wetland ecosystems and their resources.

3.1.5 Water Resources Management Authority

They protect water catchment areas, research gather and maintain information on water resources in the country and they collaborate with other relevant actors to ensure proper management of water resources in the country.

3.1.6 National Museums of Kenya

They promote and protect the heritage of Kenya. NMK runs a marine and wetlands section which was started in 1994. It focuses on the conservation of genetic resources, the dynamics of wetlands landscape use, wetlands ecology, sustainable harvesting of wetland resources, wetlands destruction and human use interactions with wetland ecosystems.

3.1.7 Civil Society Organizations

They are responsible for the implementation of government, community and grassroots projects and programmes, mobilization of financial and technical support for projects and programmes. The CSOs are also instrumental in lobbying and advocacy actions for policy and legal reforms on environmental protection issues.

4.0 WETLANDS RELATED INTERNATIONAL AND REGIONAL TREATIES TO WHICH THE COUNTRY IS A SIGNATORY

4.1 The Ramsar Convention

This convention on wetlands is a treaty between different governments. Its mission is the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world. The convention works on three pillars and the parties contracted to it are mandated to ensure wise use of all their wetlands; designate suitable wetlands as wetlands of international importance and; foster international cooperation on transboundary wetlands, shared wetland systems and species.

4.2 Convention on Conservation of Migratory Species of Wild Animals (The Bonn Convention)

This is a global convention whose main areas of focus are terrestrial, aquatic and avian migratory species of animals, their habitats and migratory routes. Wetlands are among the most important habitats to this species. Migratory Water birds for instance, use wetlands as layover sites for feeding, protecting themselves from harsh weather and nesting.

4.3 UNESCO World Heritage Convention

This convention was created in 1972 and is one of the most important global conservation instruments. Its primary mission is the identification and protection of the world's natural and cultural heritage which are considered to be of outstanding value. It links together concepts of nature conservation and preservation of cultural property. It recognizes the interaction of people with nature and the need to preserve the balance between humans and nature.

4.4 The United Nations Convention to Combat Desertification

This convention was established in 1994 and it is the only legally binding international agreement which links environment and development to sustainable land management. It works to restore the productivity of degraded land, improve the livelihoods of millions of people and reduce the impacts of drought on vulnerable populations.

4.5 Convention on Biological Diversity

It entered into practice in 1993 and its main objectives are ensuring the conservation of biological diversity; the sustainable utilization of the components of biological diversity and; the fair and equitable distribution of the benefits which arise from the utilization of genetic resources

from biological diversity. One of its priorities is the protection of ecosystems (like wetlands) which are rich in species diversity of both endemic and threatened species.

4.6 African Eurasian Water birds Agreement

This is an intergovernmental treaty which is dedicated to the conservation of migratory water birds and their habitats across the world over. It was developed under the Convention on Migratory Species. Migratory birds are highly dependent on wetland ecosystems and therefore wetlands are singled out and their conservation and protection is one of the priority areas of the AEWA.

4.7 Convention of International Trade in Endangered Species of Wild Flora and Fauna (CITES)

The main aim CITES is to ensure that international trade in the species of wild plants and animals does not threaten their survival. There are many endangered and threatened species of wild plants and animals found in wetlands and so the protection of these crucial habitats in a critical area of concern for CITES.

4.8 Regional Environmental Agreements

Nairobi Convention and East African Community protocol on Environment and Natural Resource Management that provide opportunities for Kenya to cooperate with other member states on management of transboundary wetland resources.

5.0 MAIN CHALLENGES AND OPPORTUNITIES

5.1 The Challenges

5.1.1 Reclamation and Encroachment

The main reasons behind the conversion and reclamation of wetlands are human settlement, agricultural development and industrial development. Wetlands have been known for years to be ‘wastelands’, a factor that made people to believe that they could be converted for economic purposes. This has led to wetland degradation in terms of loss of ground water recharge, loss of breeding grounds and extinction of vulnerable species in Kenya as these productive ecosystems are being converted to other alternative uses. During dry seasons, the seasonal wetlands are the most affected. The Lake Victoria basin is an example of wetlands facing this threat.



Photo 2: Human Settlement and Social Amenities in Dunga Wetland

5.1.2 Pollution

This comes as a result of industrial and agricultural discharges as well as increased loads of nutrients which cause Eutrophication that is harmful to aquatic life. All these have negatively impacted upon biodiversity and the quality of water in wetland ecosystems.

5.1.3 Industrial activities and urbanization

The growth of towns has had a negative impact upon wetlands. Wetlands have been drained for the establishment of industrial sites. This has taken place as a result of lack of knowledge on the productivity of wetlands.

5.1.4 Agricultural activities

Agricultural activities lead to the production of nitrates and phosphates which emanates from the fertilizers used during these activities. These nutrients cause eutrophication, a process which leads to the overgrowth of both plants and algae. When these organisms die particularly algae, they decompose and the nutrients which are contained in that organic matter are converted into inorganic form by microorganisms. As a result, the decomposition process consumes oxygen which then reduces the concentration of dissolved oxygen. Oxygen depletion may lead to fish kills as well as loss of biodiversity in wetland ecosystems. The effects can also be economical, affecting both the fisheries and tourism industry.

5.1.5 Overexploitation of wetland resources

This occurs due to over utilization of plant products, fishing, water abstraction as well as timber. This has also been brought about by the increase in human population and the change from subsistence exploitation to commercial exploitation of the wetland resources. This has over the years reduced water levels in these wetlands and also a decline of fisheries.



Photo 3: Wetlands Burning in Yala Wetland

5.1.6 Climate change

An increase in temperature has the effect of melting polar ice and rising sea level. This has the effect of submerging shallow wetlands and the mangrove tree species being submerged and in turn drowned. On the other hand, drought destroys those wetlands like estuaries, marshes and flood plain.

5.1.7 Alien and invasive species

Wetlands are more susceptible to alien and invasive species. Their introduction has negatively impacted upon wetlands by altering biodiversity balance and decreasing wetland services. Some of these invasive species include the water hyacinth which is common in many wetlands and the Nile perch which eradicated indigenous fish species of the Lake Victoria. These species bring about diseases and competition in these ecosystems which brings ecological changes, extinction of the endemic species and loss of biodiversity.

5.2 Causalities for the Challenges Facing Wetlands in Kenya

5.2.1 Lack of Awareness and Sufficient Information

Until recently, there was a large insufficiency in information concerning the status of wetlands in Kenya. This was as a result of the wetland ecosystems not being given the level of priority that should have been attributed to them. Local communities living in proximity to wetland

ecosystem were and still are unappreciative of the goods and services provided by the wetlands. In addition to this, they are also not aware of the conservation measure which they should take. As a result, the challenges discussed have a limited chance of being prevented.

5.2.2 Poverty, Over Population and Lack of enough land

The population of Kenya has been significantly increasing and this has put a strain on natural resources. Local communities living in proximity to wetland ecosystems are highly dependant on wetland resources to support their livelihood and being that they do not have enough pieces of land to support their families, they end up encroaching into the wetlands. This leads to massive destruction of the wetlands.

5.2.3 Climate Change

Climate change results into high prevalence of drought and floods. These lead to damage to property, animals and even loss of human lives. The lack of resources leads to local communities encroaching into the wetlands to exploit the resources.

5.3 Potential Measures for Addressing the Challenges

5.3.1 Encouraging Co-management

This is a practice that entails the collaboration between different government institutions and agencies, civil society as well as members of the community.

5.3.2 Fostering Environmental education

The production of citizenry which is knowledgeable on matters concerning the environment together with the problems associated to it and the methods of solving these problems. Education is a key tool in the long term conservation of biodiversity.

5.3.4 Development of Laws and policies

The formulation of coherent policies will help in coming up with feasible plans and programmes for wetlands conservation. This also needs to be followed by laws and regulations to ensure proper implementation and enforcement.

5.3.5 Enhancement of Public participation

Public Participation occurs at different levels, for instance during putting up development projects that have the potential of affecting wetland ecosystems, in the formulation of policies and development of plans and programmes. It is wetland communities who are instrumental in their conservation and therefore enhancement of their participation at every level should be encouraged.

5.3.6 Indigenous Knowledge in Wetlands Conservation

Indigenous knowledge has the potential to make a large contribution to the management of natural resources. Incorporating Indigenous knowledge in development and conservation issues contributes to ensuring economically, socially and environmentally sound wetlands management.

6.0 ONGOING WETLANDS MANAGEMENT PROGRAMMES AND ACTIVITIES IN KENYA

6.1 Development of Awareness and Education Materials by institutions on Wetlands

One of the main challenges which inhibit the proper conservation of wetlands and the ample participation of the public and local community members in doing the same is the insufficiency in information that exists in the country. Wetlands are an area which for a very long time had not been given a priority in the country which resulted into this and therefore a lot of information gaps still exist. In order to fill these gaps in both the provision of this information to local communities and technical experts organizations such as the National Museums of Kenya, Kenya Wildlife Service, the National Environmental Management Authority and both National and International NGOs working in Kenya constantly develop Awareness and Education Materials for dissemination at all levels.

6.2 Population Genetics and Sustainable Harvesting of Papyrus

Population genetics is an area of research which determines the distribution of genetic variation and the levels of genetic diversity within and between populations. This information is important because it gives insights into the way populations are connected throughout the range of a species and can be essential in the identification of populations which are unique and/or those which have a low levels of genetic diversity.

The National Museums of Kenya in collaborating with partner organizations like the United Nations Environmental Programme set up a biodiversity centre which is also essential in their Wetlands and Marine section. The main aim of establishing this centre was to help fulfill national obligations of biodiversity conservation by developing a research and action programmes. The Centre works to satisfy international conventions like the Convention on Biological Diversity, The Ramsar Convention and the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). They gather, analyze and disseminate this information which is widely adopted and applied in the conservation of wetlands throughout the country by both state and non state actors who deal with wetlands conservation and management issues.

One of the key challenges facing wetlands in Kenya is the over exploitation of its resources. Papyrus reeds are one such resources which provide raw materials for the crafts industry, it can be used in the production of fuel and can also be used in thatching of the roofs of houses by the local communities. Papyrus reeds are important wetlands vegetation and therefore the promotion of sustainable harvesting is one of the priority areas worked on in wetlands conservation in Kenya.

6.3 Development of Wetlands Integrated Management Plans

The Environment Management and Coordination (Conservation and Management of Wetlands) Amendment Regulations, 2017 provides for the development of Integrated Wetlands Management Plans to prevent and control further degradation of wetlands in Kenya. Both Government and Non Governmental Organizations in Kenya, including the Nile Basin Initiative are therefore involved in the development of wetlands management plans for different wetlands in Kenya.

7.0 ACHIEVEMENTS AND GOOD PRACTICES IN FOR WETLANDS MANAGEMENT IN KENYA

7.1 Achievements

7.1.1 Identification of wetlands of international importance

The identification was done through the Ramsar convention which entered in Kenya in the year 1990. Kenya has a total of 6 sites that are designated as wetlands of International Importance covering a total surface area of 265, 449 hectares. The six sites include; Tana River Delta River Ramsar site, Lake Nakuru, Lake Naivasha, Lake Elmentaita, Lake Bogoria and Lake Baringo.

7.1.2 Development of Kenya Wetlands Atlas

The Atlas was produced by the Kenyan Government through the ministry of Environment, Water and Natural Resources. The atlas maps the wetland resources of the country. It gives a visual evidence of the changes which take place in wetlands as a result of anthropogenic activities. The publication enables planners, decision makers and managers with visual information on the state of wetland resources in the country by the use of graphics, satellite images and ground photos.

7.1.3 Development of a Master Plan for the conservation and sustainable management of water catchment areas in Kenya

This plan has been developed for the purpose of guiding practical and transformative actions for the main objective of sustainable development through wise use and conservation of these ecosystems.

7.2 Good Practices

7.2.1 Designation of Ramsar Sites

The overall goal of the Ramsar Convention is related to the effective conservation and wise use of wetlands globally as a basis of biodiversity conservation and Sustainable development. Contracting parties to the Ramsar Convention are required to designate suitable wetlands within their territories for inclusion in the list of wetlands of international importance. Kenya has been an active participant in this and has to date designated Lake Nakuru, Lake Naivasha, Lake Elementaita, Lake Bogoria, Lake Baringo and the most recent designation is of the Tana River

Delta. Wetlands which have been included in this list acquire a new status at the national level and are recognized by the international community as being of significant value to humanity as a whole.

7.2.2 Wetlands Valuation Studies by Non State Actors

Wetland have been subjected to degradation by both anthropogenic and climatic factors over many decades and despite the evolution in information on their importance to humanity and the environment, the degradation still continues. This can be attributed to the lack of sufficient information on the true value of wetlands especially in Kenya. As such numerous institutions in Kenya, both in academia and otherwise, have been involved in the economic valuation of wetlands in the country.

7.2.3 Wetlands Inventory and Data Base Management by Kenya Wildlife Service

The Kenya Wildlife Service is one of the bodies mandated to manage and conserve wetlands in Kenya. As part of their activities in achieving this, they conduct inventory on all the wetlands of Kenya, including their location and capacity in terms of population diversity and goods and services provision.

7.2.4 Supporting Wetlands Education Awareness by both State and Non State Actors working in Kenya

Education and awareness on the importance of and the challenges facing wetlands in Kenya are some of the major ways of ensuring a change in behavior towards wise use and proper management of wetlands in Kenya. This has been done and is still continuing to be conducted at both grass roots and higher levels.

7.2.5 Building Collaborations for Wetlands Conservation in Kenya

The Management of wetlands in Kenya falls under the purviews of different government institutions like the Kenya Wildlife Service, The National Environment Management Authority, National Museums of Kenya, and the Water Resources Management Sectors among others. It has therefore become essential that such institutions work together so as to achieve better results with pulled resources. In addition to this, Non Governmental Organizations and the Private Sectors working in Kenya have also fostered collaborations.

7.2.6 Training of Wetland managers, researchers, developers and users

Institutions and Organizations in Kenya have tailor made their curricular in their environmental program to give focus on knowledge and skills advancement in Wetlands Conservation and Protection. Kenya has also partnered with International institutions for the same. An example is Kenya's partnership between IHE Delft and Egerton University for the limnology course.



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