



Republic of Zambia

Ministry of Lands and Natural Resources

NATIONAL POLICY ON WETLANDS



September 2018

FOREWORD



Wetlands are important sources of food (fish, game, rice) materials (papyrus, grass), fresh water and also play various ecological functions. There are various socio-economic and cultural services derived from wetlands and these include: pasture for livestock grazing; and traditional ceremonies such as the Kuomboka. Wetlands also provide other ecosystem services such as maintaining good water quality by acting as filters, recharging ground water, storage of carbon, recycling of soil nutrients and preventing soil erosion by acting as soil control. They are also important habitats for biological diversity.

However, all these benefits provided derived from wetlands are threatened due to weak coordination of wetland management activities. It is against this background that the National Policy on Wetlands has been developed to provide a framework for coordinated action for sustainable wetland management. The policy is a product of extensive consultations between government and other stakeholders across sectors in Zambia.

The National Policy on Wetlands provides the vision, objectives and strategies for promoting the conservation and wise use of wetlands and wetland resources for the benefit of present and future generations.

A handwritten signature in black ink, appearing to be 'Jean Kapata'.

Honourable Jean Kapata, MP
MINISTER OF LANDS AND NATURAL RESOURCES

ACKNOWLEDGEMENTS



The development of the National Policy on Wetlands for Zambia was achieved through a wide consultative process involving all key stakeholders across all sectors. Against this background I wish to extend my appreciation and gratitude to all stakeholders who participated in the formulation of this Policy. These include, but not limited to the following:

- a) All Government line Ministries and Departments whose staff immensely contributed to the process;
- b) The Members of Parliament for their contributions provided during the validation of the policy;
- c) Provincial Permanent Secretaries and their delegates for their contributions towards the refinement of the Policy ;
- d) Private sector institutions and Civil Society Organizations;
- e) Academicians, individual climate change experts and consultants who were involved in the development of this Policy;
- f) All media institutions who contributed to the development of this Policy;
- g) The Technical Working Group, who expeditiously and professionally executed their duties according to their terms of reference ascribed to them for the purpose of drafting this policy; and
- h) Members of staff in the Ministry, particularly the Natural Resources Management Unit who provided secretarial services;
- i) Last but not the least, I wish to thank any organizations or individuals, who, in one way or another contributed to the formulation process of this Policy but not specifically mention. The omission has not been intentional but purely due to constraints of space.

A handwritten signature in black ink, appearing to be 'T. Kaunda', written in a cursive style.

Trevor Kaunda
Permanent Secretary
MINISTRY OF LANDS AND NATURAL RESOURCES

WORKING DEFINITIONS

1. **Wetlands:** “Wetland “as defined under Environmental Management Act No.12 of 2011 means a transitional area of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salty, including areas of marine water the depth of which at low tide does not exceed six meters;
2. **Natural Resource Accounting (NRA)** – refers to a system that deals with stocks and stock changes of natural assets, comprising biota whether produced or wild, subsoil assets, water and land with their aquatic and terrestrial ecosystems;
3. **Payment for Ecosystem Services (PES)** – also known as payments for environmental services (or benefits), refers to the appropriate incentives that are offered for the management of wetlands which provide ecosystem goods and services;
4. **Development by design** - The theory and practice of management which involves efforts aimed at avoiding the avoidable degrading activities by setting priorities; minimizing impacts by accurate projections, blending landscape planning with mitigation hierarchy; restoring degraded wetlands using best options and measuring progress by application of best estimated offsets.
5. **Access and benefit sharing (ABS)** – refers to the way in which genetic resources and associated traditional knowledge may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers).
6. **Climate Change Resilience:** means the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation
7. **Wetlands Classification System:** is the scientific basis for classifying wetlands, review some common classification schemes, and discuss their implications for establishing biological and nutrient criteria for wetlands.
8. **Land Degradation Neutrality:** refers to a state whereby the amount of healthy and productive land resources, necessary to support ecosystem services, remains stable or increases within specified temporal and spatial scales.

LIST OF ABBREVIATIONS AND ACRONYMS

ABS	-	Access and Benefit Sharing
ADMADE	-	Administrative Management Design
CSO	-	Central Statistical Office
CSO's	-	Civil Society Organisations
CBO	-	Community-Based Organisation
CRB	-	Community Resource Board
DNPW	-	Department of National Parks and Wildlife
DWRD	-	Department of Water Resources Development
ECZ	-	Environmental Council of Zambia
EPPCA	-	Environmental Protection and Pollution Control Act (1990)
EMA	-	Environmental Management Act no 12 of 2011
GMA	-	Game Management Area
GMO's	-	Genetically Modified Organisms and
IUCN	-	International Union for Conservation of Nature
LIRDP	-	Luangwa Integrated Resource Management Project
LMOs)	-	Living Modified Organisms
MTA	-	Ministry of Tourism and Arts
MTENR	-	Ministry of Tourism, Environment and Natural Resources
MLNR	-	Ministry of Lands and Natural Resources
NBSAP	-	National Biodiversity Strategy and Action Plan
NHCC	-	National Heritage and Conservation commission
NRMU	-	Natural Resources Management Unit
NEAP	-	National Environmental Action Plan
NGO	-	Non-Governmental Organisation
SOE	-	State of the Environment Report
SADC	-	Southern African Development Community
NCS	-	National Conservation Strategy
WARMA	-	Water Resources Management Authority
WWF	-	World Wide Fund for Nature
ZAWA	-	Zambia Wildlife Authority
ZESCO	-	Zambia Electricity Supply Corporation
ZEMA	-	Zambia Environmental Management Agency
ZRA	-	Zambezi River Authority

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1.0 INTRODUCTION

Zambia's wetlands which cover is estimated at about 14 to 19% of the total land area of the country and contributes to economic development through supporting various economic sectors such as tourism, agriculture, fisheries, forestry among others. They also support livelihoods and provide ecosystem services such as reducing the impacts from storm damage and flooding, maintaining good water quality in rivers, recharging groundwater, storage of carbon and nutrient cycling, thereby helping to control pests and stabilise climatic conditions. They are also important sites for biodiversity and prevention of soil erosion. Wetlands in Zambia also play a key role in providing habitat to many species of mammals and birds. Additionally, they are a rich source of fish as well as grazing ground for rural pastoralists.

However, degradation of wetlands through various causes such as disturbance in the flow regimes of rivers that drain wetlands, spread of invasive species and encroachment of shrubs, fires, overfishing and poaching as well as increase in human settlements threatens their ability to offer the outlined goods and services. As a result, the immense socio-economic, ecological and cultural potential of the wetlands may not be fully exploited. The inherent damages from pollution due to effluents from mines coupled with unsustainable land use practices in general threatens the ability of the wetlands to provide goods and services to the Zambian people especially those living in and around the wetlands. This situation may worsen in the absence of a policy on sustainable management of wetlands which should guide a coordinated approach in their use and management.

This National Wetlands Policy therefore, aims to address this situation by promoting a coordinated approach to management and conservation of wetland ecosystems in Zambia. Through the implementation of this Policy, it is anticipated that wetlands will be able to contribute much more than now to the sustainable development of the nation. When this policy is implemented the following are expected among others:

- a) Enhanced biodiversity conservation i.e. both flora and fauna.
- b) Promotion of tourism.
- c) Enhanced potential for fisheries and pastoralism,
- d) Provision of water to support agricultural activities.
- e) Provision of clean water free of pollutants and harmful chemicals to communities.
- f) Provision of abundant freshwater (surface water) for domestic use.
- g) Flood storage and protection
- h) Provide carbon sequestration.

This Policy is divided into eight chapters starting with introduction in Chapter I. Chapter II presents the situation analysis, highlighting critical analysis and review of the situation on Zambian wetlands. Chapter III highlights the overall Vision of the policy while chapter IV presents the rationale. Chapter V outlines the Policy's guiding principles. The Policy Objectives are outlined in Chapter VI and the policy measures are presented in Chapter VII. Finally Chapter VIII presents the implementation framework.

2.0 SITUATION ANALYSIS

Wetlands are among the earth's most productive systems. Globally, they are particularly significant in water supply and sanitation; food resource; timber and thatch production; recreation and tourism; sediment trap and carbon sink, research and education and aesthetic value. It is in this regard that the Ramsar Convention on Wetlands of International Importance was adopted in 1971 to promote the conservation of wetlands and sustainable management of wetland resources. Zambia is a Party to the Ramsar Convention, an international treaty focusing on conservation of wetlands of international importance. The major obligation under the Convention on wetlands is the implementation of principles of "wise use" of wetlands.

Zambia, which is a landlocked country located in Southern Africa covering an area of about 752,614 km² between the latitudes 8 and 18 degrees south and the longitudes 22 and 32-degree east, has numerous wetlands of various expanses. Large rivers and alluvial plains of the Kafue, Zambezi and Chambeshi, which form expansive wetlands, incise the central African plateau whose altitude ranges between 1000m and 1600m above sea level. Wetlands in Zambia include swamps, floodplains, flats, dambos, pans and shallow lakes, of which the dambos are the most widely spread wetland types covering nearly 75,260 km² of the country, while swamps, marshes and floodplains cover about 30,104km². The Bangweulu swamps, Zambezi Floodplain, Kafue flats, Luangwa Floodplains, Lake Tanganyika, Mweru-Wantipa, Busanga Swamps, Lukanga swamps and Luapula-Mweru are the major wetlands in Zambia. Eight of these except for Luapula-Mweru are Ramsar Sites i.e Wetlands of international importance as classified by the Ramsar Convention on Wetlands.

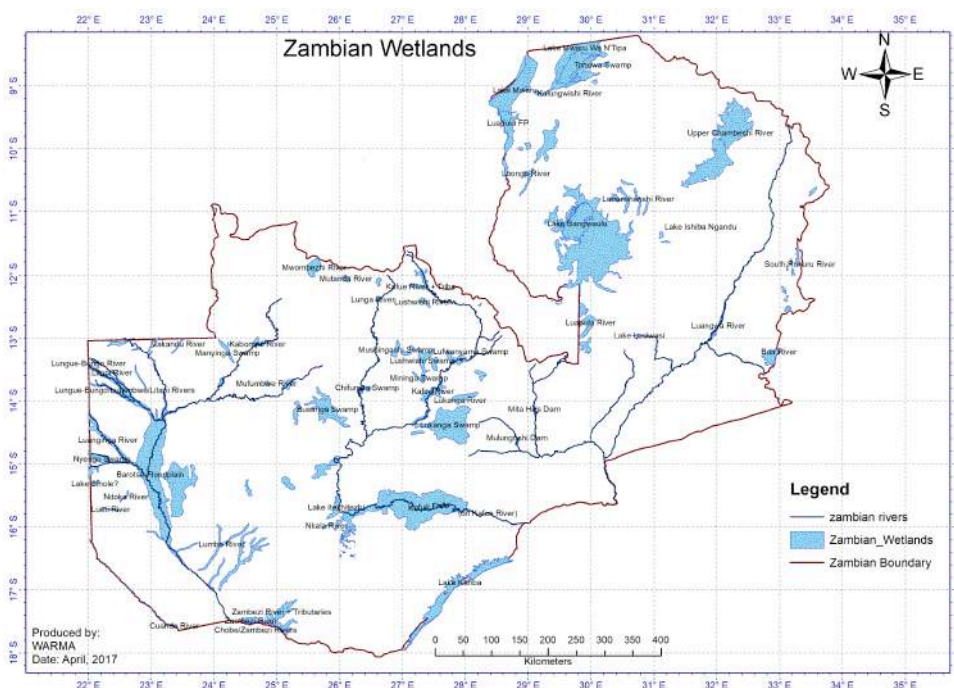


Figure 1: Map showing distribution of wetlands in Zambia

2.1 Functions and Uses of Wetlands

Functions and uses of wetlands in Zambia can be divided into ecological, socio-economic and cultural. Ecological functions refer to those that are natural and independent of human manipulation, whereas Socio-economic functions refer to uses of wetlands that contribute to the economic well-being of local communities and the nation. Wetlands may be of religious, historical, archaeological or other cultural significance at local or national level. For example, the Barotse plains are of cultural significance from the point of view spiritual beliefs and worship through ancestral association. The Itzhi itezhi flats which is part of the Kafue flats have archaeological resources.

2.1.1 Ecological Functions of Wetlands

Zambian wetlands are rich in biodiversity and provide habitat to a wide range of birds and mammal species. Of note, wetlands support large numbers of mammals such as the three subspecies of Lechwe antelopes, large numbers of wildebeest, plain Zebra and many others. All wetlands in Zambia are considered important bird areas due to the wide range of waterbird species. One of the most iconic bird species found in wetlands is the Wattled Crane. A rare and wetland dependent bird species. Half the global population of this bird is found in mostly on the Kafue Flats, Liuwa Plains, Bangweulu and Busanga Swamps. Furthermore, they are important in sustaining ground water recharge and discharge, sediment trapping and in flood and erosion control through their capacity to store and release water slowly. The seepage of water from wetlands through the underlying soils plays an important role in purification and water quality control and in waste water treatment through the microbial biodegradation of organic matter in water entering wetlands through industrial, mining, domestic and municipal effluents.

2.1.2 Socio-Economic Services of Wetlands

Wetlands have several major socio-economic services. These include agriculture, water supply, fibre harvesting and livestock grazing. Due to the abundance of wildlife and the scenic beauty, wetlands are a major attraction for tourism and recreation in Zambia. Wetlands are also permanent and temporary homes of various human communities who engage in farming, livestock production and fishing.

2.1.3 Cultural functions of wetlands

In many parts of the country the cultures (spiritual, religious and traditional) of wetland communities have become closely intertwined with wetland ecosystems and their associated processes. Cultural ceremonies such as the Kuomboka Ceremony of the Lozi People of Western Zambia, Shimunenga Ceremony of the Ila in central Zambia, and the Kusefya Pa Ngwena ceremony of the Bemba of Northern Zambia depend on wetlands and their flood cycles. The Barotse Plains and their culture and the natural associated wetlands are a National heritage site due to the exceptional interaction of with environment. These signify the intricate connection between wetlands and Zambian peoples' culture.



Figure 2: The Nalikwanda boat used during the Kuomboka Ceremony of the Lozi People of Western Zambia

Table 1: Functions and Uses of Wetlands

SERVICES		COMMENTS AND EXAMPLES
Provisioning	Food	Production of fish, wild game, fruits and grains
	Fresh water	Storage and retention of water for domestic, industrial and agricultural use; supply of drinking water
	Fibers and Fuel	Production of logs, fuelwood, peat and fodder
	Biochemicals	Extraction of medicines and other materials from flora and fauna
	Genetic material	Genes for resistance to plant pathogens, ornamental species etc
Regulating	Climate regulation	Source and sink for greenhouse gases, including carbon; influence on local and regional temperature, precipitation and other climate processes
	Water regulation (hydrological flows)	Groundwater recharge/discharge
	Water purification and waste treatment	Retention, recovery and removal of excess nutrients and other pollutants
	Erosion regulation	Retention of soils and sediments
	Natural hazard regulation	Flood control and storm protection
	Pollination	Habitat for pollinators
Cultural	Spiritual and inspirational ecosystems	Source of inspiration; many religions attach spiritual and religious values to aspects of wetlands
	Recreational	Opportunities for recreational activities such as wildlife tourism
	Aesthetic	Many people find beauty or aesthetic value in aspects of wetland ecosystems
	educational	Opportunities for formal and informal education and training
Supporting	Soil formation	Sediment retention and accumulation of organic matter
	Nutrient cycling	Storage, recycling, processing and acquisition of nutrients

	Biodiversity	Wetlands are highly productive and provide a wide range of ecological niches, supporting extensive biodiversity
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2.2 Current status of wetlands in Zambia.

Wetlands in Zambia occupy approximately 14 to 19% of the country's total area and either periodically wet and periodically dry or permanently flooded with a water layer not exceeding several meters. They include permanent swamps, floodplains, and dambos. Swamps are vast, usually inundated, depressions that essentially are characterized by floating vegetation and wet peaty land. Swamps consist of an outer belt, which is flooded annually, and the main swamp, which is permanently flooded and covered with floating vegetation. The major swampy areas of Zambia are Busanga, Lukanga, Bangweulu swamps, and Lake Mweru - Wantipa and Lake Mweru marshes. Floodplains are broadly defined as zones along major river systems that are low-lying and seasonally flooded. Major floodplains with several kilometers wide occur along stretches of the Kafue, Zambezi, and Chambeshi rivers. These are made up of a complex pattern of lagoons, oxbow lakes and cut-off river channels. The major floodplains of Zambia include the Kafue Flats, Barotse Floodplains and the Chambeshi Plains. Dambos are seasonally or permanently wet grassy valleys, depressions, or seepage zones on slopes. The first two often show a catenary sequence of soils, being well drained on the upper slopes and poorly to very poorly drained in low-lying areas. Dambos are characterised by grasses, rushes and sedges, contrasting with surrounding woodland such as Miombo woodland.

Generally, wetlands in Zambia are currently threatened with degradation. There are several degrading factors identified, which include poor management, as indicated by over cultivation, indiscriminate digging of drains, and overgrazing leading to permanent drying up of certain wetlands, mining, invasive species and encroachment.

The functions and uses of wetlands and the threats highlighted below justify the need for policy direction to guide prudent utilization of the wetlands to ensure services provided by wetland are optimized and sustained.

Table 2: Threats to wetlands by ranks and of areas at risk in Zambia (*rank 1 = highest*)

THREATS	RANKS	EXAMPLES OF AREAS AT RISK
Dams	1	All dam areas especially - Lower Zambezi (below Kariba) and below Itzhi tezhi dam, around Lusiwasi and backwater flooding around Kafue gorge
Irrigation	1	River basins and floodplains, a good example is Kafue Flats & Barotse floodplains
Vegetation destruction	1	Most parts of Zambia
Overgrazing	1	Most parts of Zambia; floodplains increasingly face localised over grazing
Poaching	1	Nationwide
Overfishing	1	Most rivers, small lakes and flood plains due to illegal, unregulated and unreported fishing as well as

		uncontrolled numbers of fishers
Water extraction	1	Potentially Zambezi river
Human settlements	2	Dambo areas - throughout the country, with Eastern province dambos widely converted for horticulture
Siltation	2	Luangwa
Pollution (Pesticide, industrial, etc)	2	Common in all parts with high potential in Kafue Flats due to levels of commercial farming
Pollution (agro chemicals)	2	Common in all parts
Pollution (Industrial)	3	Urban areas and mining sites
Eutrophication	3	Kafubu river , Kafue River – downstream Mazabuka

1 = a wide spread problem which is seriously disrupting ecological and hydrological processes and causing irreparable damage; 2= causing serious damage but which can be repaired and is not yet wide spread; 3=present but not yet widespread.

2.2.1 Threats to Zambian Wetlands

The wetlands in Zambia are threatened by a wide range of issues that include the spread of Invasive Alien Species, encroachment of shrubs, expansion of human settlement, pollution, mining, river damming for hydropower generation, draining, climate change, genetically modified organisms and channelization. It was only until the approval of the Environmental Management Act No. 12 of 2011 that wetlands were recognized as deserving of special protection. The Act provides for the declaration of identified wetlands as protected areas but very little has been achieved since this legal provision. The National Wetlands Policy is long overdue and as a result, there is no integrated policy direction on wetlands management. Without prioritization, the major threats facing Zambian wetlands, which this Policy seeks to address include the following:

2.2.1.1 Invasive species

The spread of invasive species in wetlands ecosystems poses a threat to biodiversity. For example on the Kafue Flats, the invasive plant *Mimosa pigra* has spread and occupies significant proportions of the floodplains resulting in the displacement of animal species, blocking of water ways and reducing the availability of food for wildlife and domestic animals as well as impeding access to fishing grounds. The spread of invasive species has also negatively affected breeding grounds of waterbird species of global conservation concern such as Wattled Cranes. Furthermore, the spread of invasive *Mimosa pigra* has occupied significant proportions of habitat for large herbivores such as the endemic Kafue lechwe (*Kobus leche kafuensis*) contributing to the rapid population decline of this endemic antelope species. Other invasive plants species include water hyacinth (*Eichhornia crassipes*), commonly referred to as Kafue weed, Kariba weed (*Salvinia molesta*) and *Azolla* (*Azolla pinata*). Water hyacinth, in particular, has affected the generation of power resulting in the expenditure of millions of dollars by power utility companies in clearing the weed to prevent it from damaging their turbines.

The red-clawed crayfish (*Cherax quadricarinatus*) has spread in many wetlands ecosystem including the Kafue flats and Zambezi Floodplains. The red-clawed crayfish has resulted in increased fish post-harvest loss and destruction of fishing gear. The biodiversity of the

native fish stock is compromised by these invasive species. The obscure snakehead (*Parachanna obscura*) is a freshwater fish native to western central Africa and it is invasive in Mweru-Luapula system. This predatory species fish may compete with native species for food and habitat. If left uncontrolled, this invasive species is likely to expand its range and could permanently alter the balance of aquatic ecosystems throughout Mweru-Luapula.



Figure 3: Large areas of grassland invaded by *Mimosa pigra* on the Kafue Flats

2.2.1.2 Expansion of human settlement in wetland areas

There is an increase in the number of unplanned and uncoordinated settlements and an increase in human population in these wetlands caused by the lack of landuse plans in the wetland ecosystems, which has resulted in;

1. Habitat destruction (unsustainable agriculture practices and extensification, deforestation, wildlife displacement, mining)
2. Overharvesting of wetland resources (overfishing resources, poaching, damning etc)
3. Uncoordinated developments resulting in greater pressure on wetlands.



Figure 4: Permanent settlement and fishing village on the Kafue Flats

Runoff and effluents from agriculture, mining and industrial activities contribute to the pollution of wetlands. The levels of chemical fertilizers, pesticides and herbicides influence water quality and nutrients increase the rate of eutrophication.

(i) Health problems

When people come into increased contact with static and unpurified water, as in rice-growing or many other farming practices, an increase in the incidence of bilharzia infections can be expected. This would have a grossly debilitating effect on the community using the wetland calling for unnecessarily heavy investment in health facilities that would have otherwise been avoided.



Figure 5: Temporal fishing village on the Kafue Flats

(ii) Restricted ownership of the resource

Although conversion to cash agriculture may yield a great amount in the short term, such production tends to be restricted to one or few investors, while reducing or eliminating the various type of production which previously went to many individuals in the community.



Figure 6: Conversion structure restricting ownership and usage of water resources

2.2.1.4 Mining

Mining activities in many wetland areas all pose great threats to the health of wetlands, for example, draining of water from wetlands for mining and release of mining waste into the wetlands. Mining also leads to destruction of wetlands, loss of wildlife habitat and habitat destruction.



Figure 7: Draining of water from wetlands for mining and release of mining waste into the wetlands

2.2.1.5 Damming, Draining and Channeling

Damming, draining and channeling impact negatively on the hydrology and health of the wetlands. For example, the Itezhi-tezhi reservoir has negatively impacted the Kafue flats. Reduced water flows have resulted in changes in the flood regimes. These have impacted negatively on the habitat and vegetation. It has led to encroachment of shrubs and in some cases invasive plants species. Further, this has reduced the carrying capacity of wetlands to support wildlife and livestock.

2.2.1.6 Climate change

Climate variability and change has become a major threat to sustainable development in Zambia. The country is already experiencing climate induced hazards which include drought and dry spells, seasonal and flash floods and extreme temperatures. Some of these hazards, especially the droughts and floods have increased in frequency and intensity over the past few decades and have adversely impacted food and water security, water quality, energy and livelihoods of the people, especially in rural communities.

Recent climate trends based on records from 1960 to 2003 indicate that mean annual temperature has increased by 1.3°C, since 1960, an average rate of 0.34°C per decade. On the other hand, the mean rainfall over Zambia has decreased by an average rate of 1.9 mm/month (2.3%) per decade since 1960. The future trends in the country are towards a higher average temperature, a possible decrease in total rainfall, and some indication of heavy events of rainfall. An assessment of potential climate impacts shows that they will seriously undermine the efforts to improve the livelihoods of Zambians if left unaddressed. The assessment further analyzed the negative impacts of climate change on key economic sectors including water. This way, climate change impacts may be a threat to the survival of wetlands.

2.2.1.7 Genetically Modified Organisms and Living Modified Organisms (LMOs)

Use of Genetically Modified Organisms and Living Modified Organisms in wetland areas if uncontrolled and regulated have the potential to alter the natural biological structure of the wetland biological resources and this in turn may overwhelm the capacity of the wetland to survive.

Wetlands have the highest species diversity of all ecosystems. Genetically modified crops therefore, pose a potential threat of hybridization with wild relatives thereby reducing the genetic diversity of the wild relatives, in turn reduced genetic diversity contributes to weak adaptation to changing environment within and around the wetland.

2.3 Challenges in the management of wetlands

There are several challenges faced, which arise from the current approaches to the use and management of wetlands. These issues are grouped into the following main clusters:

- a) Fragmented sectoral approach to natural resources management,
- b) Inadequate community - level participation and incentives for wetland conservation and sustainable use.
- c) The socio-economic dimension of wetlands conservation, including gender related issues
- d) Inadequate financing towards wetland management

2.3.1 Fragmented sectoral approach to natural resources management

Conservation and management of specific natural resources operate under specific institutions, mandates, policies and Acts. This approach to the management of natural resources such as forests, fisheries, water, land and wildlife is fragmented. This sectoral approach to natural resources management has, however, its strengths such as:

- a) A more focused approach to work,
- b) The representation of most line ministries at community level,
- c) The targeting of specific funds from government, and
- d) Promotion of specialisation in various natural resources management and conservation fields.

However, the negative consequences of the current arrangements include:

- a) Inter-sectoral conflicts in the management of natural resources.
- b) The lack of an adequate legal framework for wetlands management.
- c) Poor inter-sectoral coordination of natural resource management activities, leading to ineffective implementation of relevant sectoral laws and programmes especially in the absence of adequate human and financial resources.
- d) Proliferation of non-holistic conservation programmes, leaving many environmental issues inadequately attended to.
- e) Duplication of efforts by different Ministries, Departments and the Civil Society.

Various institutions have specific mandates in the management of natural resource but there is no overall or specific institution managing wetlands. Conflicts have tended to arise among

these departments when it comes to the overall management of the natural ecosystems of the wetlands, as each Department wants to carry out only its mandate in the wetlands.

The Environmental Management Act No12 of 2011, section 25 provides for the declaration of a wetland as an ecologically sensitive area imposing limitations on development in or around wetlands. The act further prohibits reclaiming or draining, disturbing a wetland by drilling or tunneling in a manner that has, or is likely to have, an adverse impact on the wetland or adversely affect the ecosystem. It also prohibits introduction of exotic animals or plants. There are at least 33 pieces of legislation, which are directly or indirectly related to the environment in Zambia. However, the Water Resources Management Act No 21 of 2011, section 8 (2b) does mandate Water Resources Management Authority to protect preserve and conserve wetlands, dambos and marshlands. Each sector has its own piece of legislation regarding components of the environment. This therefore implies that wetlands are perceived differently by different stakeholders (i.e., fisheries, agriculture, wildlife, and water) who focus on institutional functions. These issues raise the need for a more holistic national policy on wetlands.

2.3.2. Inadequate community - level participation and incentives for wetland conservation and sustainable use

The formal governance structures at district level include the District Commissioner's office, the District Council, and Departments of major line Ministries operating at District level. In addition, there are a wide range of Non-Governmental Organisations (NGO's), which operate in the Districts. These institutions work hand in hand with the traditional leadership within the District.

Although Sectoral Community Resource Boards exist under sectoral policies there are no formal structures, which directly address wetland conservation at community level, and the relationship between government institutions and the traditional leadership is apprehensive in some wetland areas. The policy has addressed these issues and appropriate structures have been proposed. The need for local game-based cottage industries are some of the areas of concern that the policy objectives have sought to address in order to create adequate incentives for local communities to engage in sustainable practices in the use of wetland resources.

Despite having all these policies and initiatives, the management of wetlands has been through sectoral efforts leading to fragmentation of efforts, hence the need to have a specific policy to guide the implementation of plans and programmes for sustainable management of wetlands.

2.3.3 The socio-economic dimension of wetlands conservation, including gender related issues

Wetlands play very important roles in the socio-economic development of the country. They are a means of livelihood for many communities through fishing, hunting and agricultural activities. Fish trading has particularly continued to be a major activity between wetland areas and the towns along the line of rail. In recent times, tourism has also begun to play an important role in the economies of communities around national parks and game management areas in wetland areas. This has been made possible through community

participation in the management of wildlife and other resources in game management areas and National Parks and the ploughing back of income from game - related activities into the local communities. Meat, fish and agricultural produce from wetlands are important sources of food for local communities.

It is, however, important to note that any increase in levels of rural poverty and general deprivation resulting either from a decrease in rural productivity or the lack of meaningful economic activities will always negatively impact upon any measures for the conservation of wetland resources. Furthermore, the approach to any rural development planning should be inclusive of sustainable use of wetland resources and the empowerment of local communities.

Wetland areas are predominantly inhabited by communities with strong traditional values, customs and practices that, to a large extent, influence the relationships between men and women and the roles in which both men and women play in such communities. While most forms of hunting, for example, are preserves of men, both men and women do shallow water fishing and agricultural activities. The harvesting of wood fuel and grass for thatching and fish trading are other examples of activities in which both men and women, including the youth, play a major role.

The value of wetlands and the responsibility for their sustainable utilisation are therefore of equal importance to both men and women. Because of the dominance of men in the traditional setting, women currently play a peripheral role in the wetland management activities. The policy objectives aim at mainstreaming gender-related issues in order to set on equal basis the rights and obligations as well as the needs and visions of both women and men. Furthermore, the policy seeks to promote gender equality and equity within the management and sustainable use of wetland resources, including the empowerment of women so that they can also play a central role in decision - making over the management of wetlands and the resources therein.

2.3.4 Inadequate financing towards wetland management

Wetlands are unique resources and are extremely important as they perform hydrological, ecological and socio-economic functions. Despite this significance of wetlands, there is paucity of data on the financial and economic value of wetlands, which could be used to adequately assess the performance of the sector. This is due to the difficulty of calculating market values for environmental goods and services and limited capacity in the field of resource economics in the country. There is limited financial resources to carry out all the restoration and rehabilitation of degraded wetlands. Financial resources are being sought for this purpose in order to sustain ecological and socio-economic functions of wetlands for the benefit of present and future generations

3.0 VISION

A functional, productive and resilient wetland system that will contribute to addressing climate change maintenance of biodiversity, provision of ecosystem goods and services and sustainable livelihoods.

4.0 RATIONALE

Wetlands in Zambia have over many years been a source of livelihood for the majority of rural populations and have been contributing to industrial activities as a source of inputs. However, the contribution of wetlands to the economy as well as the wellbeing of communities and the ecosystem, is currently below potential. There has been uncoordinated and fragmented approaches in the management of wetlands by different agencies based on their different mandates. In the process, the management of wetlands in the country has not been effective. With the rising population and climate change, this problem will be further exacerbated.

Implementation of the policy will also help Zambia to meet international wetlands conservation responsibilities as well as meet other global targets such as the post 2015 Sustainable Development Goals (SDG's). Further, the Policy promotes natural resources' accounting and vies to achieve Land Degradation Neutrality through wetland remediation, abating further wetland loss and encouraging rehabilitation of degraded wetlands in order to protect, preserve and conserve the genetic diversity of these wetlands.

This policy is intended to act as an overarching policy for the coordinated and sustainable management of Zambia's wetland ecosystems by addressing the threats and challenges to wetlands in order to sustain ecological and socio-economic functions of wetlands for the benefit of present and future generations. Implementation of the National Policy on Wetlands, is premised on integrated approaches ensuring that any programmes formulated under it, are linked to other sectoral policies such as those on land, water, air, wildlife, tourism, fisheries, forestry, agriculture, water and the economy.

This policy is intended to address the above threats and challenges in order to sustain ecological and socio-economic functions of wetlands for the benefit of present and future generations. Implementation of the National Policy on Wetlands, is premised on integrated approaches ensuring that any programmes formulated under it, are linked to other land, soil, water, air, wildlife conservation and economic development policies in order to secure the sustainable utilization Zambia's wetlands and meet international wetlands conservation responsibilities. Further, the Policy promotes natural resources' accounting and vies to achieve Land Degradation Neutrality through wetland remediation, abating further wetland loss and encouraging rehabilitation of degraded wetlands in order to protect, preserve and conserve the genetic diversity of these wetlands and ensure that the enjoyment and economic use of wetlands are sustainable.

5.0 GUIDING PRINCIPLES

The management of wetlands under this Policy will be guided by the following principles:

1. *Commonality Principle –. Property rights to land do not confer property rights to wetland resources sitting wholly or in part on that piece of land. They are a vital*

element of the national and global ecosystems and the economy, making them a common asset for Zambians to collectively own, use and sustain.

- 2. Intergenerational equity – wetland resources and assets will be managed for the benefit of present and future generations. Development and utilization of the Wetland shall not lead to degradation of the wetland resources.*
- 3. Ecosystem approach – The wetlands will be managed in an integrated manner as a part of a catchment or system.*
- 4. Holistic approach – Wetlands will be managed taking into account their social, economic and ecological functions. Both Indigenous and science based knowledge and value systems will inform the management of wetlands*
- 5. Participatory Principle– The management of wetland resources and services will involve broad stakeholders’ consultation and involvement including local communities, women, men and the youth (gender);*
- 6. Polluter Pays Principle– a person or institution responsible for pollution of the wetland will bear the cost of restoration and clean-up of the affected area to its natural and acceptable state.*
- 7. Precautionary Principle – lack of scientific evidence should not be used as a reason to postpone measures to prevent wetland degradation.*
- 8. Preventative Principle– measures need to be undertaken to avoid degradation of the wetlands ecosystem instead of focusing on restoration after wetlands are degraded;*
- 9. International best practices – The management of wetlands shall embrace internationally accepted best practices of wetlands management.*
- 10. No net loss principle – ‘that conservation/biodiversity losses in one geographically or otherwise defined area are balanced by a gain elsewhere provided that this principle does not entail any impairment of existing biodiversity as protected by nature legislation’.*
- 11. Payment for Ecosystem Services – ‘That investors have a duty to pay for the management of wetlands which provide ecosystem goods and services which they derive’.*

6.0 OBJECTIVES

In order to achieve the vision, the overall objective of this Policy is:

To preserve and conserve wetland resources and protect the wetland environment in order to ensure sustainable utilization of Zambia’s wetlands.

In pursuit of this overall objective, the two thematic areas of focus for this policy are Wetland Conservation and Protection and Sustainable Socio-economic utilisation. The following are the specific objectives.

6.1 Wetland conservation and protection

- Objective 6.1.1: To conserve wetland ecosystems so as to ensure their integrity, productivity and sustainability.
- Objective 6.1.2: To Protect the wetlands and their catchment areas and improve the resilience of wetland systems to natural and anthropogenic shocks.
- Objective 6.1.3: To promote research, inventorying and monitoring of wetland resources to inform effective management.

6.2 Sustainable Socio-economic use

- Objective 6.2.1: To promote and support sustainable livelihood options in order to ensure productivity while protecting wetland resources
- Objective 6.2.2: To promote stakeholder participation in effective management of wetlands and ensure equitable sharing of benefits.
- Objective 6.2.3: To regulate investments and promote sustainable management of wetlands so that they are maintained for the foreseeable future.

7.0 MEASURES

The measures that shall be put in place will be in line with the specific objective stated in this Policy. To achieve the objectives of this Policy the following measures shall be put in place

In order to conserve wetland ecosystems so as to ensure their integrity, productivity and sustainability, the following measures will be taken:

- i. Strengthen the legal framework on wetlands management that seeks to prevent pollution, over- exploitation, and degradation and enhance biodiversity conservation.
- ii. Develop and implement conservation plans, programmes and guidelines for sustainable management of wetlands.
- iii. Promote implementation of Initial Environmental Assessments as a basis for informed decision on developments and investments in wetlands ecosystems.
- iv. Promote the development of green technologies for utilisation and value addition of wetland resources.

In order to protect the wetlands and their catchment areas and improving the resilience of wetland systems to natural and anthropogenic shocks, the following measures will be undertaken:

- i. Review existing information on wetlands, where necessary, undertake further studies in order to develop guidelines for their proper utilization.
- ii. Define wetlands management areas and develop a wetlands classification system.
- iii. Strengthen the Inter-Agency coordination for wetlands management through the development and implementation of an integrated wetlands management system.
- iv. Establish, implement and maintain wetland eco-systems restoration mechanisms.
- v. Put in place mechanisms and infrastructure to enhance wetland eco-systems protection and resilience.

In order to promote research, inventorying and monitoring of wetland resources to inform effective management, the following measures will be undertaken:

- i. Promote and finance research and monitoring programmes on sustainable wetlands management.
- ii. Develop and implement an Integrated Wetlands management information system
- iii. Establish an accessible central wetlands information Centre.
- iv. Develop environmental and socio-economic modeling and forecasting system for wetlands.
- v. Promote education and public awareness on wetlands.

In order to promote and support sustainable livelihood options to ensure productivity while protecting wetland resources, the following measures will be undertaken:

- i. Promote sustainable livelihood programmes and projects within wetlands catchments at all levels.
- ii. Promote and provide technical support towards wetlands based eco-tourism.

In order to promote stakeholder participation in effective management of wetlands and ensure equitable sharing of benefits, the following measures will be undertaken:

- i. Support traditional leadership and communities to develop local level rules and regulations to facilitate effective management of wetlands.
- ii. Develop mechanisms for value addition to wetlands resources for both local and foreign investments.
- iii. Encourage the participation of micro, small and medium enterprises in the sustainable utilisation of wetlands resources.
- iv. Promote the documentation and incorporation of Indigenous knowledge on wetlands utilisation and management and practices in decision making.

In order to promote and regulate sustainable investments in wetlands, the following measures will be undertaken:

- i. Develop and implement standard operating procedures for extraction, processing, transporting and management of waste relating to wetland resources.
- ii. Ensure equity in benefits, define roles and responsibilities for women youths and people with special needs in wetlands management.
- iii. Investors to uphold the principle of corporate social responsibility.
- iv. No drainage of wetlands unless more important environmental management requirements supercede.

8.0 IMPLEMENTATION FRAMEWORK

8.1 Institutional Arrangements

This Policy will be implemented through a strong stakeholder collaboration. The following key institutions will perform leading roles:

8.1.1 The Ministry responsible for Natural Resources

The Ministry responsible for Natural Resources will be the lead institution in overseeing the implementation of this Policy and will lead the inter-agency coordination on the management of all wetlands in the Country. The Ministry will have the following responsibilities:

- a) Developing and/or reviewing in consultation with other stakeholders, appropriate policies, and legislation to facilitate the implementation of the National Wetlands Policy;
- b) Developing, in collaboration with other stakeholders, the Wetlands Policy Implementation plan;
- c) Monitoring and evaluating implementation of the Policy in line with its mandate;
- d) Coordinating the implementation of international agreements on wetlands; and
- e) Coordinating the sectoral monitoring and evaluation of activities in wetlands.

8.1.2 The Ministry responsible for Water Development

The Ministry responsible for Water Development shall preside over wetlands under international shared water courses. The Department of Water Resources Development (DWRD) shall be responsible for water resources infrastructure development in wetlands.

8.1.3 The Ministry responsible for Environment

The Ministry responsible for Environment shall be responsible for formulation and analyzing policies on the management of the environment in order to contribute to better environmental management of wetlands.

8.1.4 The Ministry responsible for Meteorological information

The Ministry responsible for Meteorological information shall be responsible for providing meteorological data for effective, climate-change orientated conservation and adaptation strategies in wetlands management and conservation as climate change has already been recognised as a challenge for wetlands, with regard to their hydrology, ecology, agriculture and even tourism, the management of protected wetlands still faces a fusion of problems.

Climate change impacts to wetlands can be defined as direct (climate change influences the environment: less rain – less flooding – habitats induced) and indirect (climate change entails the reaction of managers and stakeholders, which consequently induce habitats: more rain – flooding mitigated by the drainage – declining groundwater levels challenge the wetlands). Both levels of impacts should be anticipated in climate-adapted environmental management.

8.1.5 The Ministry responsible for Lands

The Ministry responsible for lands shall be responsible for mainstreaming of the wetlands conservation principles in land administration and titling.

8.1.6 The Ministry responsible for Forests

The Ministry responsible for forests shall be responsible for the management of forests within wetlands. The Ministry will have the following responsibilities:

- a) Use conservation orders to ensure that the forests are conserved in open forest;
- b) Use management plans to conserve the forests in protected areas.

8.1.7 The Ministry responsible for Finance

The Ministry responsible for Finance will be responsible for resource mobilization in line with its mandate. Its key responsibilities in this regard include:

- a) Providing Policy guidance on resource mobilization; and
- b) Facilitating the acquisition of resources for wetlands programmes through innovative financial instruments.

8.1.8 The Ministry responsible for Mines

The Ministry will be responsible for coordinating the implementation of remediation and rehabilitation of the wetlands in mine areas.

8.1.9 The Ministry responsible for National Planning

The Ministry will be responsible for coordinating the implementation and mainstreaming of the wetlands policy into national development planning.

8.1.10 Ministry responsible for Local Government

The Ministry will be responsible for formulation and enforcement of by-laws in the management of wetlands.

8.1.11 The Ministry responsible for Fisheries

The Ministry responsible for Fisheries will be responsible for coordinating the conservation of wetlands in fisheries management areas.

8.1.12 The Ministry responsible for Agriculture

This Ministry responsible for Agriculture will ensure sustainable agricultural activities in wetlands.

8.1.14 The Ministry responsible for National Parks and Wildlife

The Ministry responsible for National Parks and Wildlife will be responsible for the operationalization of the Ramsar convention on wetlands in the Wildlife Protected Areas. The Ministry through the department of National Parks and Wildlife shall be responsible for:

- a) Ensuring the protection of wildlife resources in the wetland ecosystems that are within the protected area network;
- b) Undertaking research and monitoring and inventory of wetlands resources; and
- c) Conducting restoration of degraded wetland ecosystems within the protected area network.

8.1.15 The Ministry responsible for Chiefs and Traditional Affairs

The Ministry responsible for Chiefs and Traditional Affairs shall ensure traditional leaders and community participation in the formulation of by-laws governing wetlands.

8.1.16 The Ministry responsible for Energy

The Ministry responsible for Energy shall be responsible for:

- a) Providing support in the management of hydropower development through sustainable resource use by power utilities;
- b) Providing support through reforestation of water sources throughout the country

8.1.17 National Heritage Conservation Commission

The National Heritage and Conservation Commission (NHCC) Act No 173 of 1989 provides for the conservation of the Cultural and Natural heritage sites in the country. Some heritage sites encompass wetland area. NHCC shall be responsible for the declaration of sites as heritage and also the management and conservation of the heritage values associated with wetlands. NHCC will promote the use of traditional management systems that protect the wetlands resources.

8.1.18 Water Resources Management Authority (WARMA)

The Water Resources Management Act No 21 of 2011, section 8 (2b) has mandated WARMA to protect preserve and conserve wetlands, dambos and marshlands. The WARMA will be responsible for the Management of all surface and groundwater resources in wetlands. They will be responsible for managing and regulating all water resources including wetlands. They will be responsible for measuring the inflow and outflow of water on key water courses, issue water rights, keep records of groundwater points, registration of all boreholes in wetlands as well as regulating underground water once ground water legislation is in place.

8.1.19 Zambia Environmental Management Agency

The Zambia Environmental Management Agency shall work in consultation with relevant stakeholders to provide for the conduct of Strategic Environmental Assessments of proposed policies, plans and programmes as well as Environmental Impact Assessments of projects that are likely to have an impact on wetlands

8.1.20 Civil Society Organizations (CSOs)

Civil Society shall work with local authorities and local communities in the management of wetlands; develop platforms and coalitions for environmental governance and monitoring; lead innovative projects to build political participation of civil society in support of sustainable development, empowering women and promoting youth leadership and promote equity in benefit sharing and equitable participation of stakeholders in management and utilization of wetland resources; create awareness; lobby for allocation of resources for wetland management; provide technical advice and promote advocacy on the developmental role of wetlands with the ultimate goal of ensuring sustainable development, economic equity, and natural resource stewardship.

8.1.21 Private Sector

The Ramsar Convention has only recently formally addressed wetland tourism, recognizing the increased demands for tourism expansion and the potential negative impacts on the health of wetlands, but also understanding that, if managed sustainably, tourism can bring many benefits, environmental, social and economic. Wetlands have a great contribution to tourism. Residents living around the wetlands are able to earn income by selling handicrafts and other products such as fish. Wetlands are also being harnessed through eco-tourism and have great potential to turn round the lives of communities in the neighborhood.

The private sector shall participate in wetlands conservation by practicing sustainable wetland tourism that:

- a) Protects the environment and helps conserve wildlife
- b) Respect host communities and cultural heritage
- c) Provide socio economic benefits to host communities
- d) Contributes to investment in eco-tourism infrastructure

8.2 Legal Framework

The government will ensure an integrated management of wetlands through various enabling Acts. Ministries and Agencies of government will be expected to review their legislation in order to effectively contribute to sustainable management of wetlands. The enabling Acts are as follows:

ENABLING ACT	PURPOSE
Water Resources Management Act No. 21 of 2011	The Act provides for the protection, preservation and conservation of wetlands and headwaters.
Environmental Management Act No. 12 of 2011	The Act provides for declaration of wetlands as ecologically sensitive areas and for their protection.
Fisheries Act No.22 of 2011	The Act provides for sustainable fisheries and aquaculture development and management.
Agriculture Act No. 13 of 1994 Cap 226	The Act provides for sustainable agricultural practices and development, investment and management.
Lands Act Cap 184	The Act provides for the management and administration of land in Zambia on which wetlands are located.
The Forest Act No.4 of 2015	The Act provides for protection and conservation of forests and trees which in turn protects wetlands.
The Wildlife Act No. 15 of 2015	The Act provides for wildlife ecosystem's management.
Agriculture (Fertilizer and Feeds) Act No. 13 of 1994 Cap 226	The Act provides for regulation and control of manufacture, processing, importation and sell of agriculture fertilizers.
Zambia Development Agency Act No. 11 of 2006	The Act provides for trades, investments and industrial developments in Zambia.
National Heritage Conservation Commission Act No 173 of 1989	The Act provides for the conservation of the Cultural and Natural heritage sites in the country
Disaster Management Act No. 13 of 2010	The Act provides for disaster preparedness and response.
Biosafety Act No. 10 of 2007	The Act provides the regulation research, development, application, import, export, transit, contained use, release or placing on the market of any genetically modified organism.
Public Finance Act No.15 of 2004	The Act provides for the control and management of public finances.
Mines and minerals Act No. 11 of 2015	The Act provides for minerals and mines development.
Local Government Act No.9 of 2004	The Act provides for an integrated three tier local administration system; to define the functions of local authorities; to repeal the Local Administration Act and certain related laws; and to provide for matters connected with or incidental to the foregoing.
The Urban and Regional Planning Act No. 3 of 2015	The Act provides for development, planning and administration principles, standards and requirements for

	urban and regional planning process and systems, provide for framework for administering processes for urban and regional planning for the Republic, establish procedures for an integrated urban and regional planning in a devolved system of governance
Tourism Act No 13 of 2015	The Act provides for the sustainable development of the tourism industry through effective tourism planning, management, promotion and coordination to ensure sustainable tourism.
The National Policy on Climate Change of 2016	The Act provides a framework for coordinated response to Climate Change issues. It gives guidance on how the Zambian economy can Grow in a sustainable manner and thereby fostering a smooth implementation of the Revised National Development plans Including the achievement of the Vision 2030

The Policy will be reviewed periodically to take on board emerging issues related to wetlands management.

8.3 Resource Mobilisation and Financing

Government will continue mobilising resources with the support of Development Partners and other stakeholders for the implementation of the National Wetlands Policy. The implementation of the policy will be funded from the following sources:

- a) Government's national budget;
- b) Funding from bilateral and multilateral sources;
- c) Private sector finance; and
- d) Any other alternative funding sources.

8.4 Monitoring and Evaluation

The Ministry responsible for Natural Resources shall develop a comprehensive M&E Framework in order to effectively monitor and evaluate the implementation of the National Wetlands Policy.

To ensure that the expected outputs, outcomes and impacts are achieved in line with the National M&E System, the framework will emphasize on regular monitoring of progress and periodic in-depth evaluation.

The M&E Framework will be reviewed periodically to take on board emerging issues related to wetlands management.

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