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**POLICY GUIDELINES AND REGULATORY FRAMEWORKS  
FOR THE CONSOLIDATED NATIONAL STRATEGY ON  
CONSERVATION OF AQUATIC BIODIVERSITY AND  
ENVIRONMENTAL MANAGEMENT IN THE  
UNITED REPUBLIC OF TANZANIA**



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## FORWARD

Transboundary freshwater basins are important to world's population supporting over 800 million people. The Lake Victoria basin that is shared between Kenya, Uganda and Tanzania and extending to Burundi & Rwanda is equally an important resource to the EAC. With a rapidly expanding population, and the poor state characteristic of transboundary water resources, there is urgent need to develop Policy Guidelines and Regulatory Frameworks for the consolidated National Strategy on conservation of aquatic biodiversity and environmental management if we are to continue delivering on food security but at the same time doing so in a manner that is sustainable and avoids damage to the environment and the wider biodiversity resources.

The Lake Victoria Region is blessed with an abundance of high-quality water resources that offer opportunities for socio-economic development but with declining resources, it is becoming a potential source of conflict among resource users. Transboundary management of water resources, therefore, requires coordination across different political, legal, institutional, and technical settings. The study assesses transboundary freshwater ecosystems in the Africa Region to identify critical aquatic environmental issues affecting biodiversity and presents a framework for management of transboundary freshwater aquatic ecosystems for conservation and joint action plans.

Recognizing the importance of Lake Victoria basin resources and the biodiversity and environmental management challenges, a study was conducted by AU-IBAR to generate a general overview of transboundary freshwater bodies in Africa to identify critical aquatic environmental issues affecting biodiversity. This follows on study conducted by a constituted task team from the Lake Victoria Region offered further impetus by reviewing relevant National Instruments to identify existing gaps among the broad range of key relevant Blue Economy line Ministries, Departments and Agencies i.e. water, petroleum (gas and oil), fisheries, aquaculture, wildlife, tourism among others. This aims at enhancing the Policy environment, Regulatory Framework and institutional capacities of AU Member States and Regional Economic Communities to sustainably utilize and conserve aquatic biodiversity and ecosystems.

This Policy Guidelines and Regulatory Frameworks for the consolidated National Strategy on conservation of aquatic biodiversity and environmental management identifies the critical transboundary issues in conservation of aquatic biodiversity and environmental management in Lake Vitoria, Challenges relating to the identified in conservation of aquatic biodiversity and proposes priority actions and Policy options for addressing the identified challenges.

The Ministry of Livestock and Fisheries of the United Republic of Tanzania appeals to all stakeholders to use the harmonized guidelines to ensure sustainable Conservation of Aquatic Biodiversity and environmental protection in Lake Victoria Region.

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## ACRONYMS AND ABBREVIATIONS

AU	African Union
AU-IBAR	African Union Inter-African Bureau for Animal Resources
CoE	Centre of Excellence
EAC	East African Community
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
KPI	Key Performance Indicator
GIZ	German Agency for International Cooperation
GIZ-	German Agency for International Cooperation
IDA	International Development Association
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resources Management
LCBC	Lake Chad Basin Commission
LVFO	Lake Victoria Fisheries Organization
LVBC	Lake Victoria Basin Commission
MCS	Monitoring Control and Surveillance
MDAs	Ministries Departments and Agencies
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
PESTEL	Political, Economic, Social, Technological, Environmental and Legal
RBOs	Regional Basin Organizations
RFBs	Regional Fisheries Bodies
SIDA	Swedish International Development Cooperation Agency
SWOT	Strength Weaknesses Opportunities and Threats

## EXECUTIVE SUMMARY

Transboundary freshwater basin accounts for about 60% of Global freshwater flow and which affects more than 150 Countries, covers 46% of the World's land area and serves about 42% of the World's population. Of all the Continents, the African Continent has the largest number of transboundary basins and these support a population of over 800 million people. Poorly managed transboundary water supplies are projected to be potential sources of conflict and social strife among Countries. Their management is thought to be more complex than freshwater basins at the National level since the water management regime, priorities and cultures usually differ more between than within Countries. Transboundary management of water resources, therefore, require coordination across different political, legal, institutional, and technical settings. The study assesses transboundary freshwater ecosystems in the Africa Region to identify critical aquatic environmental issues affecting biodiversity and presents a framework for management of transboundary freshwater aquatic ecosystems for conservation and joint action plans.

Prior to development of this Policy Guideline, a study was commissioned by AU-IBAR to generate a general overview of transboundary freshwater bodies in Africa to identify critical aquatic environmental issues affecting biodiversity. The study/consultancy, conducted by Dr. Ruby Asmah, Dayspring Consult Ltd, Accra, Ghana, was undertaken through literature search and stakeholder engagements with Regional Economic Communities (RECs), Regional Basin Organizations (RBOs), Regional Fisheries Bodies (RFBs), Biodiversity and Freshwater Basin Organizations. The study proposed Regional Protocols and Strategies for the conservation of aquatic biodiversity and joint action plans in identified shared freshwater ecosystems for Regional Protocols in aquatic biodiversity conservation and environment. Key environmental stressors identified from the survey results were Illegal, Unreported and Unregulated (IUU) fishing, changing climate, over-exploitation of freshwater resources, pollution from point and non-point sources, destruction of habitats, invasion of exotic species and emergence of diseases that affect freshwater biota especially fish among others.

This Policy Guidelines and Regulatory Frameworks for the consolidated National Strategy on conservation of aquatic biodiversity and environmental management was developed through constitution of a task team composed of 2 members namely Technical and Ground Facilitator from LVFO and LVFO Desk Officer from the Republic of Uganda, Kenya and United Republic of Tanzania backed by the AU-IBAR Institutional Policy and Legal Expert. The team reviewed relevant National Instruments to identify existing gaps. The process was participatory through conduct of a Regional stakeholder consultative workshop, including group discussions with a broad range of key relevant Blue Economy line Ministries, Departments and Agencies i.e., water, petroleum (gas and oil), fisheries, aquaculture, wildlife, tourism among others.

The consultation results agreed with the earlier study by AU-IBAR on key environmental stressors as Illegal Unreported and Unregulated (IUU) fishing, changing climate, over-exploitation of freshwater resources, pollution from point and non-point sources, destruction of habitats, invasion of exotic species and emergence of diseases that affect freshwater biota especially fish among others. The study identified various legal and Policy documents with strategies for biodiversity conservation and environmental protection.

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Globally, transboundary freshwater basin accounts for about 60% of Global freshwater flow; affects more than 150 Countries; covers 46% of the World's land and serves about 42% of the World's population. Of all the Continents, the African Continent has the largest number of transboundary basins and these support a population of over 800 million people. Poorly managed transboundary resources can be a potential source of conflict and social strife among Countries and yet their management is thought to be more complex than freshwater basins at the National level since the water management regime, priorities and cultures usually differ more between than within Countries. Transboundary management of water resources, therefore, requires coordination across different political, legal, institutional, and technical settings.

Lake Victoria and its basin are highly valuable Regional and Internationally resource and is the 2nd largest Lake in the World & largest in Africa (68,800 km<sup>2</sup>), shared between Kenya, Tanzania, and Uganda with its catchment of 194,000 km<sup>2</sup> extending to Burundi & Rwanda. The Lake has at least 10 major Rivers, 7 large towns/cities along shore & 9 in basin. The Lake basin has great water uses mainly, agriculture, industry, domestic fishery, and hydropower generation among others.

Despite Lake Victoria basin harbouring a large and very productive fish stock that can generate high catches and good incomes on a sustainable basis, the fish stocks continue to decline mainly because the fishery is characterized by excessive fishing effort leading to depressed fish stocks hence low net incomes for the inhabitants of fishing communities. The existing transboundary fisheries management regime may be inducing detrimental competition for harvest resulting in overexploitation of the fish stocks, excessive fishing effort and fishing costs that depress the net incomes from the fishery and hence, combined with environmental degradation cannot promote sustainable conservation of the available aquatic resources.

Consequently, important aquatic resources are becoming increasingly susceptible to both natural and artificial environmental changes. Hence conservation strategies to protect and conserve aquatic life are necessary to maintain the balance of nature and support the availability of resources for future generations. The need to strengthen capacity of AU Member States and Regional institutions for protection and sustainable exploitation of living resources within their Exclusive Economic Zones (EEZs) is identified as priority in conservation of aquatic biodiversity to ensure sustainable contribution to food security, livelihoods, and wealth creation.

It is high time that effective action is taken to reduce biodiversity loss and ecosystem degradation, and long-term ecosystems functioning if the EAC community is to maintain a rich biodiversity with secured and contribution of biodiversity and other ecosystem services to the well-being and economic prosperity of the people guaranteed. To achieve this deliberate capacity building, knowledge management/sharing, sustainable funding and mainstreaming biodiversity across Government and society, and involvement of all stakeholders is very critical.

This Policy Guideline is in the context of the African Blue Economy Strategy (ABES) aimed at addressing some of the challenges and for the AU–Member States to sustainably harness the resources of aquatic ecosystems. The ABES envisioned an inclusive and sustainable blue economy that significantly contributes to Africa’s transformation and growth. The Strategy incorporates key critical vectors for promoting Blue Economy development of the Continent, including fisheries, aquaculture, and ecosystem biodiversity conservation; shipping, maritime safety and trade; climate change mitigation and environmental sustainability and ecotourism; sustainable energy and extractive mineral resources; governance, institutions and job creation.

The objective of the ABES is to guide the development of an inclusive and sustainable blue economy that becomes a significant contributor to Continental transformation and growth, through advancing knowledge on marine and aquatic biotechnology, environmental sustainability, marine ecosystem utilization, conservation and carbon sequestration, the growth of an Africa-wide shipping industry, the development of Sea, River and Lake transport, the management of fishing activities on these water bodies, and the exploitation and beneficiation of deep Sea mineral and other marine resources.

The ABES is consolidated based on the following five thematic technical areas:

- a) Fisheries, aquaculture, conservation and sustainable aquatic ecosystems;
- b) Shipping/transportation, trade, ports, maritime security, safety and enforcement;
- c) Coastal and maritime tourism, climate change, resilience, marine ecosystem, environment, infrastructure;
- d) Sustainable energy and mineral resources and innovative industries; and,
- e) Policies, Institutional and governance, employment, job creation and poverty eradication, innovative financing.

Accordingly, AU IBAR with support from the Swedish International Development Cooperation Agency (SIDA), is implementing a 3–year project on “Conserving Aquatic Biodiversity in African Blue Economy” whose overall objective is to enhance the Policy environment, Regulatory Frameworks and Institutional capacities of AU Member States and Regional Economic Communities to sustainably utilize and conserve aquatic biodiversity and ecosystems.

## 1.2 SECTOR CHALLENGES

World over, shared ecosystems face major threats, which include depletion of natural resources due to the rising population pressure, expansion in human activities, over-exploitation, unsustainable agricultural practices, over-fishing, pollution, rampant conversion, and destruction of wetlands ecosystems (Yeleliere, et al., 2018). Lake Victoria and its River basins, face major environmental challenges that are a threat to sustainability of freshwater resources and biodiversity conservation in East African Community. The challenges are related to changing climate (Climate variability and change affect catchment environment), over-exploitation of freshwater resources, water pollution, flow modification (water obstruction and reduced flows), destruction or degradation of habitats and invasion of exotic/alien species (animals and plants) and emergence of diseases that affect freshwater biota especially fish. It is already indicated that over 200 indigenous species are facing possible extinction due to overfishing, introduction of Nile perch

and eutrophication.

Poorly managed transboundary water supplies are projected to be potential sources of conflict and social strife among Countries. Transboundary water management is likely to be more complex than that at the National level since the water management regime, priorities and cultures usually differ more between than within Countries. Transboundary management of water resources therefore requires coordination across different political, legal, institutional, and technical settings (UNEP 2016).

### ***1.3 ROLE AND RATIONALE***

The above-named threats coupled with weak, sectoral based and co-ordination, if not well managed, may have significant negative ecological, environmental, and social impacts. This complicates management and development of these resources. Meeting the increasing demand will be further hampered by reduced water availability, due to unsustainable use, pollution, and climate change. People living in poverty, especially women and girls are disproportionately affected by water stress through reduced access to water and unstable energy and food prices. These pose a major threat to sustainability of aquatic ecosystems, biodiversity management, and conservation of aquatic resources and fair distribution of water resources in Africa.

### ***1.4 METHODOLOGY AND APPROACH - DEVELOPMENT PROCESSES OF THE STRATEGY***

This Policy Guideline and Regulatory Framework was developed starting with conducting of a comprehensive study commissioned by AU-IBAR that generated a general overview of transboundary freshwater bodies in Africa and identified critical aquatic environmental issues affecting biodiversity. The study was achieved through literature search and stakeholder engagements including Regional Economic Communities (RECs), Regional Basin Organizations (RBOs), Regional Fisheries Bodies (RFBs) and Biodiversity and Freshwater Basin Organizations.

To have a clear perspective of Lake Victoria basin, in-depth review of the AU-IBAR study was done to help in developing a framework for management of transboundary freshwater aquatic ecosystems for conservation and joint action plans. As part of the process a collaborative arrangement between AU-IBAR and LVFO was initiated, and a team that included 1 Technical facilitator, and 1 ground facilitator from LVFO Secretariat plus the LVFO Desk Officer from the United Republic of Tanzania was constituted.

The main elements of the Terms of Reference included:

- a) Identification of relevant Ministries Department and Agencies (MDAs) that have mandate on environmental management and aquatic biodiversity conservation, including fisheries, aquaculture, environment, water management and transport, coastal tourism development, mining, oil and gas exploration;
- b) Identification and sourcing for National Instruments relevant to aquatic biodiversity conservation and environment management;

- c) Conduct reviews on the identified Instruments, identify gaps vis a vis the study report on “Assessment of transboundary environmental issues affecting biodiversity conservation in selected shared freshwater ecosystems - towards formulating harmonized regional framework for conservation of aquatic biodiversity and joint action plan”;
- d) Developing Policy Guidelines and Regulatory Frameworks for a consolidated National Strategy on conservation of aquatic biodiversity and environment management in line with the transboundary consultancy study report; and,
- e) Supporting the convening, participation of stakeholders and facilitation of a Regional workshop including comprehensive reporting.

The National stakeholder consultations were also conducted in line with the MDAs including water, fisheries, aquaculture, fisheries, mining, shipping, tourism, oil, gas, mining and wildlife among others culminating into a Regional workshop held in Kampala Uganda to among others:

- a) To roll-out the joint Management Plans and Protocols and the Harmonized Regional Frameworks for conserving aquatic biodiversity for EAC;
- b) Enhancing awareness on the importance of conserving of aquatic biodiversity in African Blue Economy, and;
- c) Enhance awareness among EAC, AU Member States on priority issues for conservation of aquatic biodiversity, climate Change Mitigation and Adaptation and environment management.

## 2.0 SITUATIONAL ANALYSIS

This section reviews the existing legal and institutional frameworks with relevance to biodiversity conservation and environmental management in the Lake Victoria Region. It evaluates the impacts, considers a SWOT, PESTELE and stakeholder analysis in terms of expectations and envisaged benefits.

### 2.1 REVIEW OF EXISTING STRATEGIES

#### 2.1.1 EAST AFRICAN COMMUNITY LEVEL

There are several Policy Guidelines and Regulatory Frameworks on transboundary cooperation in environmental management and climate change mitigation and adaptation for conservation of aquatic biodiversity in the Lake basin and the EAC. The existing transboundary freshwater basin management Policies, initiatives and frameworks are intended to assist stakeholders and managers to implement Policies at the Regional, National, and transboundary level while addressing societal challenges and simultaneously providing human well-being and biodiversity benefits.

#### 2.1.2 TREATY FOR THE ESTABLISHMENT OF THE EAST AFRICA COMMUNITY, 1999

This was established by the East African Community as the Regional intergovernmental organization of the Republics of Kenya, Uganda, the United Republic of Tanzania, Republic of Burundi, and Republic of Rwanda with its headquarters in Arusha, Tanzania. According to the Treaty for the Establishment of the East African Community (1999), it aims at widening and deepening co-operation among the Partner States and other Regional Economic Communities, political and social fields for their mutual benefit.

The objective of the Treaty is to ensure sustainability of natural resources of Member States and to promote the sustainable utilization of natural resources like wetlands, Lakes forests and other aquatic and terrestrial ecosystems (East African Community, 1999). The East African Court of Justice is established under this Treaty as the judicial body of the community and is mandated with ensuring the adherence to Law in the interpretation and application of and compliance with the Treaty. The East Africa Community Treaty was signed on 30<sup>th</sup> November, 1999 in Arusha, Tanzania by the Heads of its five Member States – Burundi, Rwanda, Uganda, Kenya, and Tanzania – who are referred to in the Treaty as Partner States of the Community. The EAC has since grown to include South Sudan and DRC.

### **2.1.3 THE PROTOCOL ON ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT**

A report on the East African Community (2006), suggests that this Protocol was instituted to ensure cooperation among Partner States in the management of the environment and natural resources in their jurisdiction. The governance and management of transboundary resources are well defined in this Protocol. The Protocol is currently not in force and hence not a legally binding document pending ratification by all Partner States.

### **2.1.4 THE EAST AFRICAN COMMUNITY (EAC) REGIONAL ENVIRONMENT IMPACT ASSESSMENT GUIDELINES FOR SHARED ECOSYSTEMS**

Guidelines from East African Community assessment, (2006) are for application of environmentally sound approaches in the management as well as ensuring the sustainability and biophysical integrity of shared ecosystems within the East African Region. These guidelines provide procedures for conducting transboundary environmental assessment in shared ecosystems in East Africa and the roles for the key stakeholders and players during the implementation of the Transboundary Environment Assessment process in the Partner States.

### **2.1.5 LAKE VICTORIA FISHERIES ORGANIZATION (LVFO)**

The LVFO is a specialized East African Community Institution with contracting Parties being the Republics of Kenya, Tanzania, Burundi, and Uganda and established by a Convention in 1994 and registered by FAO as a Regional Fisheries Management Organization. Its main aim is to harmonize, develop and adopt conservation and management measures for the sustainable utilization of fisheries and aquaculture resources of Lake Victoria while optimizing the socio-economic benefits from the basin for the four Partner States (LVFO Convention 1994 Amended on 12<sup>th</sup> November, 1998 and on 29<sup>th</sup> January, 2016). The Convention states that LVFO guides, supports, and implements the building of the capacity of communities to participate in management and is making a real difference to their lives. The amendment of 2016 expanded the scope and mandate of the organization to cover all water bodies in EAC. The LVFO has developed harmonized guidelines, strategies and management plans for sustainable management and conservation of the fisheries resources including the LVFO Regional Plan of Action (RPOA) for the Management of Fishing Capacity in Lake Victoria whose purpose is to sustain the fisheries resource base for optimal economic growth, poverty reduction, food security, foreign exchange earnings, employment, gender equity and improved standards of living among fisheries dependent communities.



The Parties to this Regional Plan of Action (RPOA) on the Management of Fishing Capacity on Lake Victoria are the Governments of the Republic of Kenya, the United Republic of Tanzania and the Republic of Uganda which are the Contracting Parties of the Lake Victoria Fisheries Organization (LVFO). Its implementation calls for commitment of all key stakeholders - especially, the BMUs; Local Authorities; fish traders, Industrial processors and exporters, fish factory supply agents; Civil Society and Central Government. All the stakeholders must work together to achieve optimum fishing capacity corresponding to the sustainable fisheries resources.

### **2.1.6 LAKE VICTORIA BASIN COMMISSION (LVBC)**

The LVBC is an institution of the EAC established through the Protocol for Sustainable Development of the Lake Victoria Basin (the “LVBC Protocol”), which was signed on 29<sup>th</sup> November, 2003 and ratified in December, 2004 and is responsible for coordinating the sustainable development agenda of the Lake Victoria Basin. Its broad functions are “to promote, facilitate and coordinate activities of different actors towards sustainable development and poverty eradication of the Lake Victoria Basin”. The Member States include; Kenya, Uganda, Tanzania, Rwanda and Burundi. Its main include; Harmonization of Policies, Laws, Regulations and Standards; - Promotion of stakeholders’ participation in the sustainable development of natural resources; - Guidance on implementing sectoral projects and programs; - Promotion of capacity building and institutional development; - Promotion of security and safety on Lake Victoria; - Promotion of research and development; - Monitoring, evaluation and compliance with Policies and agreed upon actions; - Preparation and harmonization of the Member States’ negotiating positions against any other State on matters concerning the Lake Victoria Basin; - Receipt and consideration of reports from the Member States’ institutions on their activities relating to the management of the Basin under the LVBC Protocol; - Initiation and promotion of programs that target poverty eradication; and - Performance of any other functions that may be conferred upon the LVBC under the LVBC Protocol.

### **2.1.7 REVIEW OF NATIONAL POLICY GUIDELINES AND REGULATORY FRAMEWORKS ON AQUATIC BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MANAGEMENT**

The following Policies were reviewed, key provisions synthesized with respect to conserving of aquatic biodiversity and environment in Lake Victoria:

- a) National Environmental Policy, (2021);
- b) National Fisheries Policy, (2015);
- c) Forestry Policy (1998); Wildlife Policy, (2012);
- d) National Policies for National Parks (1994); Water Policy, (2002);
- e) Mineral Policy, (2009);
- f) Zanzibar Blue Economy Policy, (2020);
- g) Local Content Policy for Oil and Gas Industry (2014); The Deep-Sea Fisheries Act, CAP 388 RE (2002);
- h) Forest Act, No. 14 (2002);
- i) Environment Management Act, (2004); The Fisheries Act, No 22 (2003);
- j) Special Economic Zones Act, (2005);
- k) Fisheries Regulations, (2009);
- l) Merchant Shipping Act, (2003) and;
- m) Tanzania Shipping Agency Act, No. 14 (2017).

### **2.1.8 IDENTIFICATION OF NATIONAL PRIORITY ISSUES, CHALLENGES AND POLICY OPTIONS FOR ENHANCED CONSERVATION OF AQUATIC BIODIVERSITY AND ENVIRONMENT MANAGEMENT IN A SHARED FRESHWATER ECOSYSTEM**

The areas of concern, challenges therein and needed actions and Policy options were elaborated under key result areas namely: Environmental sustainability, ecological and Regional cooperation. Under Environmental sustainability the following were identified as critical challenges relating to conservation of aquatic biodiversity (Natural, social and economic factors) namely Climate variability (temperature, rainfall) and change, water pollution resulting from municipal wastes, industrial effluent Mining effluents, and agricultural waste, Land degradation, Limited capacity (human and financial resources and technology), Inadequate data and Research, Biodiversity Diseases; Severe water shortages; Over-abstraction of groundwater resources and land-use changes; Persistent drought; Siltation and sedimentation from poor land- use, illegal mining of sand, alluvial gold mining; and water front Infrastructure development near shoreline of the Lake (Hotels, industries, roads).

The following were presented as the priority actions for addressing the identified challenges: Enhance human resource and institutional capacity to address environmental management challenges; developing, acquiring, transferring and adapting relevant technologies and innovations for conservation and sustainable utilization of aquatic biological resources; improving water quality by reduce discharge of untreated waste materials to aquatic ecosystems and enhance research, monitoring and data sharing for proper aquatic environmental management. The Policy options and Regulatory Framework for harmonized strategies for environmental management and conservation biodiversity were elaborated as Policies reviews, awareness creation on the wise use of Biodiversity, development of Co – Management Plan, developing the Blue Economy Strategy and developing Strong Data information systems.

The ecological transboundary issue was reported to have the following critical challenges: Stock depletion, Biodiversity reduction, Hydrological changes, over exploitation of biological resources through Overfishing, Poaching, Invasive species, IUU fishing, Degradation of habitats including ecological niche; physical alteration and destruction of habitats; Unidentified and gazetted critical habitats and Deforestation and desertification. priority actions for addressing the identified challenges were given as Enhance research, monitoring and data sharing for proper conservation sustainable utilization of aquatic ecosystems; identifying, developing management plans and protecting key stone ecosystems and biodiversity taxa; enhancing human resource and institutional capacity to address ecosystems challenges, afforestation, developing and implementing spatial planning for Lake Victoria Basin and developing a strategy to combat Illegal Unreported and Unregulated (IUU) fishing and poaching. The Policy actions needed include reviewing of plans, Policies and Laws related to the protection and sustainable use of freshwater ecosystems, carrying out research, technology use and innovation, developing the plan to combat for IUU, developing Good Aquaculture Practices (GAP) and stock enhancement.

The Regional cooperation transboundary issue was reported to have the following challenges: unharmonized Laws and Regulations, weakness in institutional arrangement, domestication of international tools and Instruments; failure to implement the Agreements, Global shocks (Pandemics, Covid - 19, Wars) and cross cutting issues. Priority actions for addressing the identified challenges were given as: Reviewing and

harmonizing Legislations and Government Instruments related to Biodiversity; Establishing Early warning systems; Preparation of binding Agreements and contracts and ratification of International contracts, alternative livelihood to reduce the dependence on biodiversity.

The Policy actions needed include review of plans, Policies and Law related to the protection and sustainable use of freshwater ecosystems, carrying out research, technology use and innovation, developing the plan to combat for IUU, developing Good Aquaculture Practices (GAP) and Stock enhancement.

## 2.2 ANALYSIS OF ISSUES IN AQUATIC BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MANAGEMENT

### 2.2.1 STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT) ANALYSIS

<p><b>Strength</b></p> <ul style="list-style-type: none"> <li>a) Rich biodiversity: Tanzania has a high level of biodiversity, with a variety of ecosystems and species, including the famous Serengeti National Park</li> <li>b) Strong conservation Policies: Tanzania has established several Laws and Regulations to protect its environment and wildlife, including the Wildlife</li> <li>c) Conservation Act of 2009 and the Forest Act, of 2002</li> <li>d) Strong institutional framework: Tanzania has a well-developed institutional framework for conservation and environmental management, including the Tanzania National Parks Authority and the Tanzania Wildlife Research Institute</li> <li>e) Tourism revenue: Tanzania generates significant revenue from tourism, which provides an economic incentive for the conservation of its natural resources.</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>a) Poverty: Poverty remains a major challenge in Tanzania, and many people rely on natural resources for their livelihoods, leading to unsustainable exploitation of these resources.</li> <li>b) Illegal wildlife trade: Tanzania has been identified as a significant transit point for illegal wildlife trade, which threatens the conservation of many species.</li> <li>c) Weak Law enforcement: Despite the existence of strong conservation Policies, enforcement is often weak due to limited resources and corruption.</li> <li>d) Lack of public awareness: Many Tanzanians are not aware of the importance of biodiversity conservation and environmental management, which can hinder efforts to protect natural resources.</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>a) Ecotourism: Tanzania has significant potential for ecotourism, which can provide economic incentives for conservation and environmental management.</li> <li>b) Sustainable agriculture: Tanzania has significant potential for sustainable agriculture, which can reduce pressure on natural resources and improve food security.</li> <li>c) Renewable energy: Tanzania has significant potential for renewable energy, including solar and wind power, which can reduce reliance on fossil fuels and mitigate the impacts of climate change.</li> <li>d) International cooperation: Tanzania can benefit from International cooperation and support for biodiversity conservation and environmental management, including funding and technical assistance.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>a) Climate change: Climate change is a significant threat to Tanzania's biodiversity and ecosystems, with rising temperatures and changing rainfall patterns affecting many species and ecosystems.</li> <li>b) Habitat loss and fragmentation: Habitat loss and fragmentation due to human activities, such as deforestation and agricultural expansion, threaten many species in Tanzania.</li> <li>c) Population growth: Tanzania's rapidly growing population increases pressure on natural resources, particularly in areas where there is high population density.</li> <li>d) Poaching: Poaching for ivory, rhino horn, and other wildlife products continues to threaten many species in Tanzania, particularly elephants and rhinos.</li> </ul>

## 2.2.2 POLITICAL, ECONOMIC, SOCIAL, TECHNOLOGICAL, ENVIRONMENTAL AND LEGAL (PESTEL) ANALYSIS

<p><b>Political</b></p> <p>a) Political stability: Tanzania has experienced political stability in recent years, which has created a favorable environment for business and investment.</p> <p>b) Government Policies: The Tanzanian Government has implemented Policies aimed at promoting economic growth, including industrialization and increasing foreign investment.</p> <p>c) Corruption: Corruption is a significant issue in Tanzania, and it can hinder economic development and undermine public trust in the Government</p>	<p><b>Economic</b></p> <p>a) Natural resources: Tanzania has significant natural resources, including minerals, oil and gas, and wildlife, which provide opportunities for economic growth.</p> <p>b) Agriculture: Agriculture is the mainstay of Tanzania's economy, accounting for a significant portion of the Country's GDP and providing employment for a large percentage of the population.</p> <p>c) Foreign investment: Tanzania has attracted significant foreign investment, particularly in the mining sector, which has contributed to economic growth.</p>	<p><b>Social</b></p> <p>a) Population growth: Tanzania's population is growing rapidly, which can strain social services and infrastructure.</p> <p>b) Education: Tanzania has made progress in increasing access to education, but there are still significant disparities between urban and rural areas and between genders.</p> <p>c) Healthcare: Tanzania has made progress in improving healthcare, but there are still significant challenges, including inadequate facilities and limited access to healthcare in rural areas.</p>
<p><b>Technological</b></p> <p>a) Mobile technology: Tanzania has experienced rapid growth in mobile technology, with increasing access to mobile phones and the internet.</p> <p>b) Infrastructure: Tanzania has made significant investments in infrastructure, including roads, railways, and airports, which has improved connectivity and access to markets</p> <p>c) Innovation: Tanzania has a growing innovation ecosystem, with a focus on digital technology and entrepreneurship</p>	<p><b>Environmental</b></p> <p>a) Biodiversity: Tanzania has significant biodiversity, but it is threatened by habitat loss, poaching, and climate change.</p> <p>b) Natural disasters: Tanzania is vulnerable to natural disasters, including floods and droughts, which can cause significant economic and social impacts.</p> <p>c) Renewable energy: Tanzania has significant potential for renewable energy, including solar and wind power, which can reduce reliance on fossil fuels and mitigate the impacts of climate change.</p>	<p><b>Legal</b></p> <p>a) Business regulations: Tanzania has implemented Policies aimed at promoting foreign investment, including simplifying business registration, and licensing processes.</p> <p>b) Environmental regulations: Tanzania has established several Laws and Regulations to protect its environment and wildlife, but enforcement is often weak due to limited resources and corruption.</p> <p>c) Labor Laws: Tanzania has labor Laws aimed at protecting workers' rights, but there are still challenges, including inadequate enforcement and exploitation of migrant workers.</p>

## 2.2.3 STAKEHOLDER ANALYSIS

Stakeholder analysis is a tool used to identify and assess the interests, expectations, and potential impact of different stakeholders involved in a particular issue or project. In the case of biodiversity conservation and environmental protection in Tanzania, the following are the key stakeholders and their expectations and benefits. Overall, stakeholders in Tanzania have a shared interest in protecting the environment and conserving biodiversity but may have differing expectations and concerns about the methods and impact of conservation efforts. Effective stakeholder engagement and communication can help to address these concerns and ensure that all stakeholders benefit from biodiversity conservation and environmental protection in Tanzania.

Stakeholder	Expectation	Benefit
Ministries, Departments and Agencies	Protecting the environment is expected to contribute to the overall well-being of citizens by improving air and water quality and reducing the risk of natural disasters	Increased revenue generated through eco-tourism and sustainable use of natural resources.
Local communities	Increased access to clean water, and eco-tourism. However, they may also have concerns about restrictions on traditional land use practices and the impact of conservation efforts on their access to resources.	Livelihoods, including agriculture, fishing, and forestry.
Non-governmental organizations (NGOs)	Increased public awareness and support for their cause, as well as increased funding opportunities from donors and International Organizations.	Advocacy for the protection of endangered species and ecosystems.
Private sector:	Sustainable natural resources and eco-tourism	Use of natural resources such as mining, agriculture, and tourism, but may also face increased Regulations and restrictions on their operations.
International organizations:	Increased public awareness and support for their cause, as well as improved relations with the Tanzanian Government	Work on biodiversity conservation and environmental protection in Tanzania through funding and technical assistance

## 3.0 NATIONAL STRATEGIC MODEL FOR AQUATIC BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MANAGEMENT IN SHARED FRESHWATER ECOSYSTEMS

### 3.1 VISION, MISSION AND GUIDING PRINCIPLES / CORE VALUES

#### 3.1.1 VISION:

A rich aquatic biodiversity Lake Victoria Basin for the present and future generations

#### 3.1.2 MISSION:

To enhance management of aquatic living resources and protection of the environment for a sustainable Regional economic growth, social equity and environmental integrity

#### 3.1.3 GUIDING PRINCIPLES / CORE VALUES

- Participatory Approach - Implemented to serve all categories of stakeholder's, public, private, women, youth and other non-state actors in the enhancement of biodiversity conservation and environmental management in the Lake Victoria basin;
- Social and Equity - Beneficiary targeting will be based on the principles of equity and fairness with active participation of women, youth, orphans, disabled and any other vulnerable groups. There will be equitable benefits sharing, opportunity for representation and decision-making processes in a non-discriminatory manner;
- Serves to foster common and harmonized approaches and measures (with other countries bordering Lake Victoria) for the conservation aquatic biodiversity and environmental management;



- d) Ecosystem Approach to Fisheries Management considering the entire ecosystem of the species being managed. The goal shall be to maintain ecosystems in a healthy, productive, and resilient condition so they can provide the services humans want and need, and;
- e) User Pays Principle - Those who benefit from or use natural resources as fishers, fish farmers, miners, extractors etc., must contribute to the cost of managing the resource which will be levied as user charges by appointed authorities in line MDAs.

## **3.2 KEY RESULT AREAS AND STRATEGIC OBJECTIVES**

- a) Environmental sustainability;
- b) Ecological sustainability;
- c) Infrastructural and human capacity, and;
- d) Enabling environment for freshwater biodiversity conservation development.

### **3.2.1 STRATEGIC GOALS AND ACTIONS**

- a) To improve knowledge and understanding of the concepts of climate change and how it impacts life in the aquatic ecosystem;
- b) To reduce vulnerability to climate change and institute mitigation measures;
- c) To improve water quality and reduce discharge of untreated waste materials and enhance data collection;
- d) To manage and protect freshwater aquatic environments to minimize deleterious effects of any water and land use practice which might adversely affect aquatic habitats;
- e) To secure and maintain the habitat conditions necessary to protect significant species, groups of species, biotic communities, or physical features of the environment where these require specific;
- f) To minimize invasion of aquatic exotic species;
- g) To minimize Illegal, Unreported and Unregulated (IUU) fishing of aquatic living resources that contravenes National, Regional or International Laws and Frameworks;
- h) To maintain a sustainable and healthy aquatic freshwater basin and direct cross cutting aquatic biodiversity related health and conservation challenges (on biodiversity and resource users), and;
- i) To harmonize Laws and Regulations for all Institutions in biodiversity conservation.

### 3.2.2 PROPOSED MANAGEMENT STRATEGIES FOR CONSERVATION OF AQUATIC BIODIVERSITY

Key Result area	Strategic Objectives	Priority Actions	Outcomes/Deliverable	Targets
Enhanced environmental sustainability	Improvement of knowledge and understanding of the concepts of climate change and how it impacts life in the aquatic ecosystem.	Enhance human resource and institutional capacity to address environmental management challenges	<p>Integrated strategies for environmental management operationalized at Country level.</p> <p>Enhanced environmental management related data and information.</p> <p>Risk management frameworks developed, harmonized and operationalized.</p> <p>Improved financing for environmental management</p> <p>Enhanced risk management frameworks for environmental management developed.</p> <p>Improved financing for environmental management related data</p>	<p>Integrated strategies for environmental management operationalized in at least 13 Blue Economies MDAs.</p> <p>Baseline and updated databases on key biodiversity to guide environmental management across the 13 Blue Economy MDAs.</p> <p>Risk management frameworks across the 13 Blue Economy MDAs</p> <p>At least 20% increases in investments for environmental management</p> <p>At least 5 risk management frameworks for environmental management developed and implemented.</p> <p>Biodiversity conservation data and information in across the 13 Blue Economy MDAs</p>
	Reduce vulnerability to climate change and institute mitigation measures.	Develop, acquire, transfer and adapt relevant technologies and innovations for conservation and sustainable utilization of aquatic biological resources.	<p>Integrated strategies for relevant technologies and innovations</p> <p>Enhanced climate related data</p> <p>Climate change risk management framework developed, harmonized.</p> <p>Improved financing for climate change studies, mitigation, and adaptation measures</p> <p>Improved Regional modelling capacity for Lake Victoria</p>	<p>At least 5 integrated strategies for relevant technologies and innovations in the 13 blue economy MDAs</p> <p>Climate related data in at least 8 MDAs</p> <p>One National and Regional climate change risk management framework</p> <p>Sustainable financing mechanisms for climate change mitigation and adaptation</p> <p>LVFO Regional capacity for modelling on Lake Victoria</p>

Key Result area	Strategic Objectives	Priority Actions	Outcomes/Deliverable	Targets
	Improve water quality and reduce discharge of untreated waste materials and enhance data collection.	Improving water quality by reducing discharge of untreated waste materials to aquatic ecosystems	Harmonized environmental standards and monitoring Protocols.  Equipped National water quality information database and dissemination hubs created	Harmonized SoP for environmental standards and monitoring protocols in at least 6 MDAs  One National and 4 Regional water quality information database and dissemination hubs
Ecological	Manage and protect freshwater aquatic environments to minimize deleterious effects of any water and land use practice which might adversely affect aquatic habitats	Improve conservation and management of critical aquatic habitats.  Promote sustainable land use and catchment management practices	Identified gazzetted and protected critical aquatic habitats biodiversity hotspots.  Improved land use and catchment management practices in the Lake basin	At least 100 identified gazzetted and protected critical aquatic habitats biodiversity hotspots.  60% of the Lake Victoria catchment practicing improved land use and catchment management practices in the Lake basin
	Secure and maintain the habitat conditions necessary to protect significant species, groups of species, biotic communities, or physical features of the environment where these require specific	Habitat restoration and afforestation	Critical aquatic and catchment habitats identified and restored.  Database of species status in selected basin established.  Database of harvest inputs and outputs (harvest)  Public knowledge on critical habitats enhanced.  Habitat management controls established	At least 60 critical aquatic and catchment habitats identified and restored.  Databases on species status in selected basin areas established in at least 6 MDAs.  Database of harvest inputs and outputs (harvest) in at least 6 MDAs  Public knowledge on critical habitats enhanced in the 13 Blue Economy MDAs.  Habitat management controls established in the 13 Blue Economy MDAs
	Minimize Illegal, Unreported and Unregulated (IUU) fishing of aquatic living resources that contravenes National, Regional or International Laws and frameworks	Ratify International Instruments relating to IUU fishing.  Conduct Monitoring Control and surveillance Operations to combat IUU fishing	Improved enforcement actions against IUU fishing to enhance food and nutrition security.  Improved human and institutional; capacity for MCS operations	Eighty (80%) improvement in enforcement actions against IUU fishing  At least 5 MCS Zones/ institutions with enhanced capacity for MCS operations in terms of equipment, human capacity and institutional set up with both National and Regional mechanisms.

Key Result area	Strategic Objectives	Priority Actions	Outcomes/Deliverable	Targets
Infrastructural and human capacity development	Maintain a sustainable and healthy aquatic freshwater basin and direct cross cutting aquatic biodiversity related health and conservation challenges (on biodiversity and resource users).	Maintain health aquatic ecosystems through control of invasive species and proper wetland and catchment management.  Promote best Ecosystem approaches to Fisheries management	Coordination and cooperation of National and Regional programs on invasion of exotic species among stakeholders  Critical infrastructure for BES in all Blue Economy MDAs	National and Regional coordination and cooperation mechanisms for control of invasion of exotic species in Lake Victoria  At least 20 infrastructures for critical biodiversity conservation and environmental management in all Blue Economy MDAs  Infrastructural (spatial and physical) plans guiding aquatic ecosystem catchment investments in at least 6 MDAs
Enabling environment for freshwater biodiversity conservation	Harmonize Laws and Regulations for all Institutions in biodiversity conservation.	Regional review and harmonization of Policies, Laws and Regulations for biodiversity conservation	Coordinated Blue Economy engagements. Established platforms for the management of the Blue Economy.	At least 10 National and Regionally harmonized Laws, Regulations and Guidelines for biodiversity conservation and environmental management. At least 10 platforms (National and Regional) for the management of the Blue Economy.

## 4.0 IMPLEMENTATION AND COORDINATION FRAMEWORK

This section illustrates the proposed institutional and Regulatory Framework including capacity needs within the implementing institutions. The financial resources to implement the actions and risk analysis are required but will be detailed later.

The second step is political buy in that is critical to the implementation of the relevant national instruments for aquatic biodiversity conservation and environmental management. Capacity building will be needed to strength institutions and participation in freshwater management strategies for biodiversity conservation instituting management instruments. Institutional strengthening may include development and implementation of educational and training in basin-based prioritized programs and actions.

Some of the training programs may include; environmental sampling, monitoring and management procedures, climate change modelling, introduction of relevant data collection tools and technologies, Policy formulation, among others by identified specialized AU Centers of Excellence (CoE) or other well-resourced institutions.

Participation may involve engaging all stakeholders, starting at the Regional, to National (focal institutions) subnational, basin level and finally to local communities, to manage and protect freshwater ecosystems. In addition, there would be a need to encourage a Regional approach towards capacity-building, starting with existing partnerships and creating new ones as deemed appropriate; ensuring effective engage of

private sector and other stakeholder groups involved in aquatic biodiversity conservation. In effect good communication and networking among National and Regional institutions.

A third consideration is in ensuring monitoring programmes, financial incentives (through programs like carbon sequestration) and measures to protect and restore ecosystems tool. Data is important in establishing trends in climate change, biodiversity water quality, etc. The African Union through funding agencies would have to equip National institutions, Regional bodies, working together with the AU Centres of Excellence with relevant scientific tools and monitoring equipment to facilitate long term joint aquatic environmental data collection. Data collection could be enhanced further using remote sensing and geographical information systems. An African institution with relevant capacity could be identified and given additional support to obtain data at the Continental level and create databases for easy access by relevant National and Regional institutions. Finally, there must be scaled up financial resources for data collection and institution of biodiversity conservation management strategies.

The following the key stakeholder MDAs in the Lake Victoria basin and EAC that have mandate on environmental management and aquatic biodiversity conservation, including fisheries, aquaculture, environment, water management and transport, coastal tourism development. The following were identified as key MDAs involved in biodiversity conservation: Ministry of Livestock and Fisheries, Environmental Research and Coordination, National Environment and Management Council (NEMC), Tanzania National Parks (TANAPA), Western zone, Tanzania Biodiversity, Information Facility (TanBIF) – COSTECH, Mining Commission, Ministry of Minerals, Natural Wealth and Resources, Ministry of Constitution and Legal Affairs, Environment and Conservation, Tanzania Shipping Agency Corporation (TASAC), Tanzania Fisheries Research Institute (TAFIRI).

#### ***4.1 ROLE OF GOVERNMENT (MINISTRIES/SECTORS, INSTITUTIONS, AGENCIES, RESEARCH AND ACADEMIC INSTITUTIONS)***

The Government of Tanzania is responsible for developing Policies and Regulations that promote environmental protection and biodiversity conservation, manage biodiversity, conduct research and long-term monitoring initiatives in transboundary Lakes, mainstream biodiversity into all levels of education and promote Lake biodiversity related exhibitions, Institutionalize and develop methodology and tools for economic valuation of Lakes biodiversity and payment for ecosystem services, sensitize private sector to pay for Lake biodiversity and other ecosystem services, strengthen the enforcement of biodiversity related legislation, strengthen measures against illegal fishing, review and implement appropriate Policies, strategies and plans including invasive alien species (IAS) and review and enforce legislation to conserve aquatic resources.

#### ***4.2 ROLES OF PRIVATE SECTOR AND NON-STATE ACTOR***

The roles or Private sector include supporting management mandates, promoting biodiversity related exhibitions, promoting sustainable aquaculture technologies, strengthening measures against illegal fishing, promoting eco-friendly production and consumption methods Promote control pollution in in aquatic and



terrestrial ecosystems, conducting inventory of IAS and assess and controlling land and Sea-based sources of pollution.

The role of Non-State actor include promoting International relations, promoting participatory fishery management, promoting eco-friendly production and consumption methods, assessing and controlling land and Sea-based sources of pollution, promoting and implementing monitoring, conservation and recovery, promoting the establishment of National Red data Book (NRB) for flora and fauna and making it accessible to users, promoting programmes for endangered and threatened species and promoting use of traditional knowledge that enhances biodiversity conservation.

### 4.3 ROLES OF REGIONAL BODIES

There are two main Regional bodies relevant to biodiversity and environmental management namely LVFO and LVBC and coordinated by EAC Secretariat. Most of the transboundary freshwater basin organizations, in the various Countries serve as focal points for the Regional organizations and managed the water resource at the National level. The roles include Promote use of traditional knowledge that enhance biodiversity conservation Conduct inventory of IAS Promote Regional cooperation on management of trans-boundary water resources.

## 5.0 IMPLEMENTATION MONITORING AND EVALUATION

### 5.1 MONITORING AND EVALUATION INSTITUTIONAL FRAMEWORK

Various National Ministries, Departments, Agencies will adopt harmonised institutional M&E reporting framework using existing institutional reporting models. The framework will be used to enhance understanding and reporting of the aquatic biodiversity conservation programme goals and objectives to be achieved by each MDAs. It will institutionally define relationships between factors key to implementation and promotes and take into consideration internal and external challenges that could affect the aquatic biodiversity conservation implementation interventions and success. The framework basically works through pragmatic strategies, objectives, and planned activities and whether they are the most appropriate ones to implement by each MDAs as planned.

To enhance M&E intutional framework, MDAs will identify program goals and objectives; define indicators, define data collection methods and timelines, identify M&E roles and responsibilities, create an analysis plan and reporting templates and plan for dissemination and National and Regional reporting. The framework will allow MDAs to do process monitoring, beneficiary monitoring, compliance monitoring, financial monitoring, result monitoring, initiation, and planning. Coordination of these will be done by the State Department responsible for development, management and conservation of aquatic biodiversity resources including resources fisheries and aquaculture resources. Activities transboundary in nature will be implemented at LVFO level using LVFO structures.

The line MDAs will have M&E reporting framework that allows gathering information from the grassroots

to National central M&E unit through accountable reporting channels from respective institutions. Each institution will establish desk office for reporting purposes. The information gathered will then be shared structurally to the National desk office domiciled within the State Department for Blue Economy and fisheries.

## 5.2 MONITORING AND EVALUATION REPORTING

Reporting is an important part of Monitoring and evaluation of the progress of a programme and or a project. It will provide the link between data collected and analysis on the one hand and the data use on the other. The report will present information to different stakeholders namely the MDAs, local/county Government, National Government, and Regional bodies. This Policy guideline will be disseminated in a format that is easy to use (Popular version). M&E reporting will use tools such as key performance indicators (KPIs), MDAs dash boards, check lists and M&E plans. Both Aquatic biodiversity conservation quantitative and qualitative data will be reported. The type of tool used for gathering information and reporting will depend on type of information needed, resources available and specific monitoring goals and objectives.

The M&E reporting will be done in real time, daily, weekly, monthly, quarterly, bi-annually, and annually depending on the level of the institution doing and getting the report as planned.

M&E reporting will basically involve choosing the key performance indicators (KPIs), the KPIs will also be defined, measurement of the baselines and setting the targets, identification, and allocation of responsibilities and where the results will be reported and having a well-structured template for filling the information being reported.

The final M&E reports will be presented in a National and Regional forum for validation and adoption. The Regional reporting and information sharing will follow the LVFO M&E reporting format.

## 6.0 CONCLUSION

Although the process to have this Policy Guideline was participatory, the solution to conservation requires dedicated research, science, technology innovation and data for making right Policy decisions. There is need to review, update and harmonize Policies and Laws to suit the current situation within the Region to speak to each other. National Border Stakeholder consultation are needed to streamline biodiversity conservation and environmental management measures in the Lake Victoria Region. All MDAs and non-state actors need to establish platforms Nationally and Regionally for dissemination and understanding of biodiversity conservation and environment management. Global and National Instruments relevant to aquatic biodiversity conservation should be domesticated and popularized so that they are understood by the resource users.

## 7.0 RECOMMENDATIONS

- a. There is need to come up with a Regional Spatial Plan for Lake Victoria as a result of increased population characterized by increased uncoordinated/unplanned development within the catchment and basin around Lake Victoria, and the effects of unprecedented climate change variability and its effect on the livelihood of humanity;
- b. There is need to benchmark the good Policy and practice on marine litter / plastic and for adoption in the strategies for biodiversity conservation and environmental management;
- c. The solution to conservation lies with research, science and technology innovation which calls for processing large volumes of data and information and the need to have a depository of data and information improving capacities for research;
- d. The need to review, update and harmonize Policies and Laws to the current situation within the Region to speak to each other for better biodiversity conservation and environmental management;
- e. The need to work together with all MDAs and non-state actors in established platforms Nationally and Regionally for dissemination and understanding biodiversity conservation and environmental management;
- f. The need to domesticate Global Instruments relevant to aquatic biodiversity conservation so that they are understood by the resource users involved in biodiversity conservation and environmental management
- g. The need to involve Rwanda and Burundi considering the Lake Victoria extends to those countries and biodiversity conservation and environmental management is a transboundary matter.

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