



THE UNITED REPUBLIC OF TANZANIA
NATIONAL AUDIT OFFICE



**PERFORMANCE AUDIT REPORT ON THE MANAGEMENT OF
CONSERVATION AND PROTECTION OF WETLAND ECOSYSTEMS IN
TANZANIA**

CONTROLLER AND AUDITOR GENERAL
MARCH, 2022



About National Audit Office

Mandate

The statutory duties and responsibilities of the Controller and Auditor General are given under Article 143 of the Constitution of the URT of 1977 and in Sect. 10 (1) of the Public Audit Act, Cap 418.

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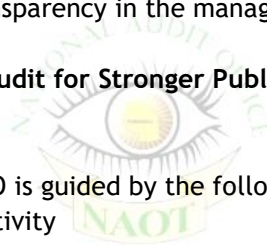
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PREFACE



and other Bodies.

Section 28 of the Public Audit Act CAP 418 mandates the Controller and Auditor General to carry out Performance Audit (Value for-Money Audit) for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources in Ministries, Departments and Agencies (MDAs), Local Government Authorities (LGAs), Public Authorities

I have the honour to submit to Her Excellency, Hon. Samia Suluhu Hassan the President of the United Republic of Tanzania, and through her to Parliament of the United Republic of Tanzania, the Performance Audit Report on the Management of Conservation and Protection of Wetland Ecosystems in Tanzania.

This report contain findings of the audit, conclusions and recommendations that focused mainly on the conservation and protection of wetland ecosystems.

Vice President's Office (VPO), President's Office - Regional Administration and Local Government (PO-RALG), and the Ministry of Natural Resources and Tourism (MNRT) have been given the opportunity to scrutinize the factual contents and comment on the draft report. I wish to acknowledge that the discussions were very useful and constructive.

My Office intends to carry out a follow-up audit at the appropriate time regarding the actions taken by VPO, PO-RALG, MNRT and LGAs in relation to the recommendations given in this report.

In completion of the assignment, the Office subjected the report to the critical reviews of Dr. Abubakary Kijoji - Manager at the Worldwide Fund

for Nature (WWF), and Dr. Catherine Masao - Senior Lecturer at University of Dar es Salaam who came up with useful inputs for improving this report.

This report has been prepared by Mr. Frank Mwalupale -Team Leader, Mr. Denis Andrea Charle and Mr. Hiram Kisamo - Team Members under the supervision and guidance of Mr. Michael Malabeja - Chief External Auditor, Mr. James G. Pilly - Assistant Auditor General and Mr. George Haule - Acting Deputy Auditor General.

I would like to acknowledge the commitment of my staff and cooperation accorded to my audit team by all the respective Accounting Officers and their staff which has facilitated timely completion of this audit report.



Charles E. Kichere
CONTROLLER AND AUDITOR GENERAL
UNITED REPUBLIC OF TANZANIA
March, 2022.



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LIST OF ACRONYMS AND ABBREVIATIONS

BWBs	: Basin Water Boards
CAG	: Controller and Auditor General
CBO	: Community Based Organization
CC	: City Council
CSO	: Civil Society Organizations
DC	: District Council
DDP	: District Development Plan
DoE	: Division of Environment
DSC	: Division of Sector Coordination
EMA	: Environmental Management Act
EPA	: Environmental Protection Agency
FAO	: Food and Agriculture Organisation
GDP	: Gross Domestic Product
INTOSAI	: International Organization of Supreme Audit Institution
ISSAIs	: International Standards for Supreme Audit Institution
KPI	: Key Performance Indicators
KVRS	: Kilombero Valley Ramsar Site
LGAs	: Local Government Authorities
MLF	: Ministry of Livestock and Fisheries
MNRT	: Ministry of Natural Resources and Tourism
MoA	: Ministry of Agriculture
MoW	: Ministry of Water
MTEF	: Medium Term Expenditure Framework
NCAA	: Ngorongoro Conservation Area Authority
NEAC	: National Environmental Advisory Committee
NEMC	: National Environmental Management Council
NEP	: National Environmental Policy
NGOs	: Non-Governmental Organizations
PO-RALG	: President's Office - Regional Administration and Local Government
SAGCOT	: Southern Agricultural Growth Corridor of Tanzania
SOER	: State of Environment Report
SUA	: Sokoine University of Agriculture

SWP	: Sustainable Wetland Management
TANAPA	: Tanzania National Parks
TAWA	: Tanzania Wildlife Authority
TBS	: Tanzania Bureau of Standards
TFS	: Tanzania Forest Services
UDSM	: University of Dar es Salaam
UNEP	: United Nations Environmental Programme
URT	: United Republic of Tanzania
VLUP	: Village Land Use Plan
VPO	: Vice President's Office
VPO-DoE	: Vice President's Office - Division of Environment
WHO	: World Health Organization
WMA	: Wildlife Management Areas



EXECUTIVE SUMMARY

In Tanzania, millions of poor people depend on wetlands for fishing, agriculture, livestock keeping and collection of a variety of minor wetland products. The wetlands further provide essential services in the form of purifying water, flood control and ensuring year round flow of water for human consumption, irrigation and hydropower generation. Wetlands finally provide important eco-tourism destinations and contain significant biodiversity values¹.

Despite their significance to human life and socio-economic development, there is a trend of wetland loss over the years. In the year 2015, the Wildlife Division collected data on various parameters of wetland and noted that wetland coverage countrywide fell from 37,346.3 sq. km in 1994 (15.5% of the total national land cover) to 31,411.4 sq. km in 2015 (13%), representing a permanent loss of 5,934.9 sq. km of wetlands equivalent to 2.5% of the total national land cover.

This loss of the wetland ecosystems is mainly due to uncontrolled encroachment and increased human activities into wetland ecosystems. The decline has denied the government revenues since about USD 1.3 billion of the economy (33% GDP) depends on wildlife and wetlands tourism. Also, it increased risk of reduction of water for Hydroelectric Power generation in Ruaha basin and Kilombero Valley Flood Plain, including water for irrigation.

Due to these problems, there have been debates and concerns by the parliamentarians, among environmental experts and the public on the need for effective implementation of control measures to conserve, restore and protect wetlands in Tanzania.

¹ State of Environment Third Report, 2019

The audit objective was to determine whether the VPO, PO-RALG and MNRT have effectively implemented measures for conserving and protecting wetland ecosystems. The main audited entities were VPO, PO-RALG and MNRT since these are the key entities responsible to ensure sustainable wetlands management in Tanzania. The audit covered three financial years from 2018/19 to 2020/21.

The audit was conducted in accordance with the International Organization of Supreme Audit Institution's (INTOSAI) performance auditing standards. The standards require the audit team to plan and perform the audit in order to obtain sufficient and appropriate evidence. The rationale is to have a reasonable basis for establishing the findings and drawing the conclusions based on the audit objective (s).

Main audit Findings

The Extent of Reduction in Wetland Coverage Countrywide

Uncontrolled human activities such as commercial farming, teak plantations, animal grazing and development of urban settlements² have been the key driver to the reduction of wetland coverage in the country. For example, for Kilombero Valley Ramsar Site (KVRs) alone, the wetland ecosystem has been reduced from 7,950 to 2,193 square kilometers (about 72%) in 20 years.

Based on physical observation conducted to the visited wetlands, the audit noted that, the reduction in wetland coverage in the country is likely to have an impact on the decrease in water volume.

² Degradation of Kilombero Valley Ramsar Wetlands in Tanzania.

Drivers of Wetlands Degradation and Extent of Degradation Countrywide

The audit assessed the state of wetlands degradation in the visited LGAs and found out that, to a large extent, wetlands in the country are severely degraded. The driving pressure of wetlands degradation is linked to increased human activities in the wetland ecosystems. Largely, intensive agriculture, settlements and grazing were the major causes of wetland degradation in all visited LGAs. The combination of these driving forces to wetland degradation has, to a large extent, affected the quality and quantity of wetlands.

In all visited sites namely; the general wetlands under LGAs and major wetlands (the Ramsar sites), the audit noted that there has been weak control of access to wetland areas. Most people, who forcefully and illegally enter these areas, are attracted by conducive and fertile soil for agriculture, including the available water for animals and farming. Given the limited size of wetland area and its carrying capacity (estimated size of wetland/people), the scramble for resources in wetland area is inevitable. This has been noted in all visited areas where the fights for resources between farmers and pastoralists were witnessed. On the other hand, the carrying capacity of wetland size against animal increased.

Overgrazing has impact on land degradation which, contributes to the soil erosion and siltation in lakes and rivers. The vivid example of this problem has been witnessed in Lake Sagara, Lake Nyamagoma and Malagarasi River as well as in other water bodies.

The audit noted that coordination among the government entities in the wetland ecosystems was inadequate. This situation triggered the unlawful establishment of settlements. Eventually, these settlements grew and got registered as formal villages. An example of such settlements was Ng'ombo village in Kilombero district, which was registered in Ulunga District on 27th September 1993. This village existed for 14 years, until it was de-registered in 2007 after the pressure from TAWA and other environmental related entities.

Performance of Prevention of Encroachment into Wetland

In eight visited wetland ecosystems, the audit noted that each wetland was encroached to various degrees. Largely, the encroachments were due to inadequate prevention by the responsible entities, including the LGAs, TAWA, and TFS. Being open access in nature, wetlands needed co-management strategies to ensure that they are conserved.

Not All Patrols were Conducted

The audit noted that, the achievement of patrols conducted at RUMAKI Ramsar Site ranged from 69 to 98%.

Generally, apart from good performance of TFS in conducting patrols, other wetland and LGAs patrol performance was poor. As a result, the areas were largely encroached. It was noted that the reason for the encroachment of wetlands, which was associated with increased livestock migration, was searching for green pastures for livestock. This subsequently resulted into establishment of settlements. Another noted reason for wetlands encroachment was Global Warming, being the outcome of the environmental changes. For example, long drought period that resulted into shortage of water and high temperature which forced people to encroach the reserved areas for their survival.

According to interviews with officials of the visited Local Government Authorities, it was informed that encroachment accounts for land degradation. This in turn contributed to the problem of soil erosion and siltation in lakes and rivers.

Pollution within the Wetland Ecosystem

It was found out that solid waste pollution ranged from 25 to 80%, whereby Lake Natron Ramsar Site had 0 percent while Kilombero Valley Ramsar Site (KVRS) had 80%. The reason for Lake Natron Ramsar Site to have no pollution was due to the presence of TAWA camps close by. This enabled TAWA to conduct close monitoring and patrols to Lake Natron

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Ramsar Site, while the reason for KQRS to have the highest solid waste pollution was due to the presence of development of urban area (towns) namely; Ifakara, Mlimba and Lupiro.

The audit noted that, there was no wastewater pollution at Usangu wetland (Ihefu), and the highest wastewater pollution of 30 percent was noted at RUMAKI (Rufiji) Ramsar Site. The reason for Usangu wetland (Ihefu) to have no wastewater pollution was that this wetland was far from people's surroundings, however, there were no strategies to obtain exactly percentage of pollution caused by solid waste.

The reason for RUMAKI (Rufiji) Ramsar Site to have the highest pollution was due to establishment of settlements close to wetland, from which wastewater was closely discharged to wetlands. However, the audit noted that, there were no strategies made to improve drainage and sewerage systems.

The analysis of collected data also showed that, the pollution due to Industrial effluents ranged from 3 to 5 percent with high pollution at Kilombero Valley Ramsar Site (KQRS). The reason for KQRS to have high industrial effluents compared to other areas was due to the presence of small industries for rice milling.

LGAs did not Conduct Inventories for Status for Wetland in the Area under their Jurisdiction

The audit team noted that, although all LGAs were documenting various incidences occurring in the wetlands, none of these addressed the issues of status and trends of wetlands within their respective areas.

Therefore, the LGAs did not know exactly the status of reduction in wetland coverage and the extent of wetland degradation in their respective areas. The data whether the wetlands were degrading, reducing or that of existence of biodiversity within the areas could not be readily established.

However, based on interviews with officials of the visited LGAs, it was established that the responsible personnel did not develop environmental database or environmental information management system that included the information of the status of wetlands at the time of this audit. Therefore, no LGA had a plan on how to manage wetland in their areas. The applied management strategies were more reactive, and they based only on managing incidences as they occurred. The reactive management approach limited LGAs to budget for the activities related to management of wetlands.

LGAs did not Integrate National Wetlands Management Strategies into their Plans

Six out of eleven visited LGAs did not include National Wetlands Management Strategies in their Annual Work Plans. Two out of eleven visited LGAs, each in the duration of four years, included issues of National Wetlands Management Strategies in their Annual Work Plans for only one year. On the other hand, three out of eleven LGAs included issues of National Wetlands Management Strategies in their Annual Work Plans in all four financial years under review.

These noted results suggested that the National Wetlands Management Strategies were not adequately implemented in LGAs. Among all surveyed LGAs, only Longido and Ngorongoro had minimally addressed the issues of National Wetlands Management Strategies in their plans. The two LGAs had also reflected these issues in their annual budget. Both Longido and Ngorongoro were found to be covered by the wetlands of international and national significance namely; Lake Natron and Ngorongoro Conservation Area.

Inadequate Planning for Awareness Campaigns

All eleven (11) visited LGAs did not have a well-designed community awareness plan. The plans for awareness reviewed were not clear on how the plans could be implemented. For example, the plan did not show how often the program should be carried out - weekly, monthly, bi-annually, or

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annually. It was not clear also who were the targeted audience, and in which form, awareness would take place (through advertisement or notice on TV or radio, consultation, training, pamphlets, internet, etc.).

Since the targeted audience was not identified, the implementation of these plans was to fail or be ineffective. Failure to have adequate awareness plans also led to frequent degradation of wetlands in all eleven visited LGAs, as people considered resources in the wetland to be for open access as well as being the common goods for everyone. Therefore, the notion of sustainability was not in the minds of the communities in these areas.

Ineffective Coordination between NEMC and LGAs

The audit noted that, one of the factors that contributed to inadequate conservation and protection of wetland ecosystems was weak coordination between NEMC and LGAs. There was no established system for sharing of statistical data on restoration, protection, and management of wetlands among these entities. It was further revealed that, NEMC was not well informed on statistical data on restoration, protection, and management of wetlands. Due to this, therefore, planning and identifying the risk areas for inspection and urgent actions were affected.

Despite the fact that it is the requirement of the EMA No. 20 of 2004 for LGAs to report to NEMC on any environmental activity, there were no reports submitted to NEMC for the whole period under review. Lack of sharing information among them limited NEMCs' ability to know the challenges facing LGAs on the management of wetlands.

Inadequate Coordination between MNRT and VPO

It was expected that, MNRT as one of the key sector ministries to submit the completed report to VPO on regular basis as per requirement of Section 32 of the Environmental Management Act, 2004. However, based on the interview with MNRT official, submission of reports to VPO is based on VPO request, other than the mandatory legal requirement. Although

EMA states that, the sector ministries are to furnish report to VPO, this was not done. For effective management of wetlands, VPO and MNRT would have the Memorandum of Understanding (MoU) for Ramsar report.

Lack of coordination between MNRT and VPO resulted into disintegration of effort to deal with management of wetland in the country. Some of cost were due to the duplication of similar actions.

VPO had not Facilitated Adaptation (Implementation) of the Guideline for Sustainable Management of Wetlands

The audit noted that VPO, being the custodian of this guideline, did not ensure the document was distributed and implemented across all levels. The follow up to ensure whether all key stakeholders got and used the guideline was inadequate. Although VPO uploaded it in its website, all visited LGA were not aware of the presence of this document. The reason for this was that VPO did not put more emphasis on awareness to LGAs to ensure its effectiveness. Furthermore, review of correspondences from the Vice President's Office (VPO) showed that, there were no efforts in terms of planning and trainings made to facilitate adaptation of the developed guideline. Also, the audit did not find any commitment by VPO, including the activity of distribution of the guidelines in its annual work plans.

VPO did not Adequately Monitor Status of Management of Wetlands in the Country

VPO neither systematically planned nor implemented activities for monitoring the status of wetlands management countrywide. This is due to the fact that VPO lacked Plans for Monitoring the Status of Management of Wetlands in the Country. The monitoring was more based on ad hoc when information was needed. Lack of planning for monitoring of the status of wetlands happened because VPO did not properly arrange its resources to ensure this activity was included in its priority activities. Lack of planning for monitoring was, therefore, likely to affect monitoring activities and financing and might have an impact on decision making on negative

wetlands undertakings such as wetland encroachment, pollution, and livestock grazing.

VPO did not have an Updated Information on the Status of Wetlands in the Country

VPO neither identified nor documented the degraded wetlands. The reason behind this situation was that VPO did not have an established mechanism to govern the receipt of regular reports from other stakeholders. For example, there were no regular formal reports received from LGAs and MNRT (TAWA and TFS) for provision of information on the implementation of national targets in the implementation of wetland ecosystems.

VPO did not Adequately Get Support from Key Sector Ministries on Monitoring the Status of Management of Wetlands in the Country

VPO did not adequately receive data and other key information from sectorial ministries. Other than information on Ramsar Sites from MNRT requested by VPO; there was no other information on management of wetlands from other sector ministries such as Ministry of Agriculture (MoA), Ministry of Water (MoW), and Ministry of Livestock and Fisheries (MLF). As a result, VPO could not assess the impacts of wetland degradation from activities under these ministries. For example, agriculture and livestock keeping have been intensively linked to degradation of wetlands, but the level of degradation by these activities is not documented.

VPO did not Address the Indicators that Targeted the Level of Threatened Wetlands Abundance for Rehabilitation

There were no indicators that directly addressed the rehabilitation of threatened wetland abundance such as restoration and protection of wetlands. In this regard, VPO did not have effective plans for dealing with issues of monitoring directed to the management of wetlands.

PO-RALG did not Monitor and Evaluate the Performance of LGAs in the Management of Wetlands

PO-RALG did not monitor and evaluate the performance of LGAs in the management of wetlands. It was shown that, the reason for PO-RALG not to conduct monitoring and evaluation on the performance of LGAs was due to Lack of Effective Coordination between VPO and PO-RALG. This was the case because VPO could not effectively coordinate the implementation of Sustainable Wetlands Management Programs (SWMP) in the LGAs in collaboration with PO-RALG.

Lack of Budget for Monitoring and Evaluating the Performance of LGAs in the Management of Wetlands

There was no budget for monitoring the management of wetlands to LGAs. PO-RALG did not consider wetland information as part of reports from LGAs. Therefore, the environmental reporting system in which LGA report to PO-RALG excluded wetland issues. Wetland information was voluntarily reported in case there were critical problems in LGAs. From this situation, therefore, PO-RALG could not compile the information to develop wetland status report.

Conclusion

Despite the fact that the Government of Tanzania has undertaken some interventions to prohibit human activities in wetlands, the efforts so far are ineffective. The rate of encroachment and wetland degradation is appalling and if left unattended may lead to increased loss of important wetlands in the country. There is a lack of combined effort to ensure our national wetland heritage is restored, through putting more strategies to re-assess and monitor the extent of wetland encroachment, population growth, coverage reduction and pollution.

Based on the facts presented in the findings chapters, the audit concludes that the Vice President's Office (VPO), President's Office-Regional Administration and Local Government (PO-RALG) and the Ministry of

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Natural Resources and Tourism (MNRT) have not devised mechanisms to ensure effective protection of wetlands in Tanzania. As a result, most of the visited LGAs neither implemented the National Strategy for Wetland Management nor prepared plans for managing wetlands.

Furthermore, VPO, being the institution that is supposed to spearhead the environmental management in the country, did not effectively collaborate with PO-RALG, MNRT and LGAs in coordinating the management of wetlands in the country.

Recommendations

In order to improve the management of conservation and protection of wetland ecosystems, the recommendations are issued to the VPO, PO-RALG, MNRT and NEMC.

Recommendations to the Vice President's Office

The Vice President's Office should:

- i. Develop a formal mechanism to involve PO-RALG and MNRT on implementing the National Strategy for Sustainable Wetlands Management;
- ii. Develop mechanisms to supervise and monitor the performance of LGAs through PO-RALG on the implementation of the National Strategy for Sustainable Wetlands Management and ensure the aforesaid mechanism is effectively funded, implemented, and reported;
- iii. Strengthen the strategies to ensure effective collaboration with regional and international bodies to address the issues of management of conservation and protection of wetland ecosystems; and
- iv. Plan and implement the dissemination of the guideline for sustainable management of wetlands (2014) to key stakeholders including the MNRT, PO-RALG, LGAs, TAWA TFS, Ministry of Agriculture, Livestock and Fisheries, Southern Agricultural Growth

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Corridor of Tanzania (SAGCOT), TANAPA and the National Environmental Advisory Committee (NEAC).

Recommendations to the President's Office - Regional Administration and Local Government

The President's Office - Regional Administration and Local Government should:

- i. Prepare short- and long-term plans that align with National Strategy for Sustainable Wetlands Management with clearly defined targets and timelines for the achievement of targets;
- ii. Ensure that LGAs carry out, periodically, a comprehensive assessment of the status of wetlands in their areas of jurisdictions and take develop a database for guiding effective management of wetlands;
- iii. Develop and implement awareness campaigns to the communities in order to educate them about the benefits of conservation and protection of wetland ecosystems; and
- iv. Develop performance indicators for regularly monitoring LGAs' performance towards implementing National Strategy for Sustainable Wetlands Management;

Recommendations to the National Environment Management Council (NEMC)

NEMC should:

Improve inter-sectoral coordination, information sharing and communication among players by strengthening means of information sharing in the environment sector to ensure wetlands are highly protected.

Recommendations to the Ministry of Natural Resources and Tourism

The MNRT should:

- i. Through its agencies, TAWA, TANAPA and TFS jointly strengthen efforts in dealing with the encroachment problem in their area of jurisdiction and integrate their data with those from other wetlands stakeholders; and.
- ii. Monitor pollution levels and sources thereof within their areas of jurisdiction for effective management of the wetland areas and put the strong measures to address the solid waste, wastewater, and industrial effluents within the wetlands.



CHAPTER ONE

INTRODUCTION

1.1 Background

In Tanzania, millions of poor people depend on wetlands for fishing, agriculture, livestock keeping and collection of a variety of minor wetland products. The wetlands further provide essential services in the form of purifying water, flood control and ensuring year round flow of water for human consumption, irrigation and hydropower generation. Wetlands finally provide important eco-tourism destinations and contain significant biodiversity values³.

Despite their significance to human life and socio-economic development, there is trend of wetland loss over the years. In the year 2015, the Wildlife Management Division collected data on various parameters of wetland and noted that wetland coverage countrywide fell from 37,346.3 sq. km in 1994 (15.5% of the total national land cover) to 31,411.4 sq. km in 2015 (13%), representing a permanent loss of 5,934.9 sq. km of wetlands, equivalent to 2.5% of the total national land cover.

The loss of wetland countrywide has been associated with increased human activities into wetland ecosystems. Reported human activities include agriculture, livestock keeping, poor fishing mechanisms and sedimentation resulting from upstream activities. The decline has denied the government revenues because about 1.3 USD billion economy (33% GDP) depends on wildlife and wetlands tourism. Also, it increased risk of reduction of water for Hydroelectric Power generation in Ruaha basin and Kilombero, including water for irrigation. On the other hand, in recent years,

³ State of Environment Third Report, 2019

research indicates the alarming high rate of degradation of ecology in the prominent National Parks and Conservation areas. For example, the ecology of the Ngorongoro Conservation Area has been affected by climate change and increased human development activities, the key ecological hotspot which used to host wildlife has been to a large extent degraded.

Because of these problems, there have been debates and concerns from the parliamentarians, among environmental experts and the public on the need for effective implementation of control measures to conserve, restore and protect wetlands in Tanzania.

1.2 Motivation for the Audit

Pressure on wetlands has recently been increasing due to growing population and, consequently, growing demand for utilizable land and water. For instance, in Lake Victoria, there is a total area of 42,000 ha covered by wetland of which 30,800 ha, dominated by seasonal swamps/flood plain. Due to land use changes associated with population increase, approximately 75% of the wetland area has been affected as of year 2016, 13% out of them are severely degraded⁴.

Also, according to State of Environment Report (2019), wetlands are currently under pressure from encroachment especially from various human activities including agriculture and livestock keeping.

Acoording to Weldemichel, T. G. (2021)⁵, human development activities within NCAA have increased drastically. This refers to uncontrolled increased Maasai population, uncontrolled increased number of domestic

⁴ United Republic of Tanzania (2019) State of the Environment report page 114

⁵Weldemichel, Teklehaymanot G. "Making land grabbable: Stealthy disposessions by conservation in Ngorongoro Conservation Area, Tanzania." Environment and Planning E: Nature and Space (2021): 25148486211052860.

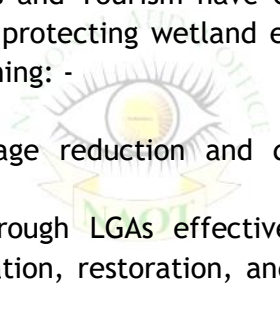
animals, uncontrolled increased number of modern houses built without considering NCAA building codes, presence of schools and hospitals.

1.3 Design of the Audit

This part explains about the main audit objective, specific audit objective, scope of the audit, methods for data collection and analysis, and assessment criteria.

1.3.1 Overall Audit Objective

The audit objective was to determine whether the Vice President Office, President Office - Regional Administration and Local Government and Ministry of Natural Resources and Tourism have effectively implemented measures for conserving and protecting wetland ecosystems. Specifically, the audit focused on determining: -

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- a) The extent of coverage reduction and degradation of wetland ecosystem;
 - b) Whether PO-RALG through LGAs effectively implements control measures for conservation, restoration, and protection of wetland ecosystems;
 - c) Whether MNRT and its agencies⁶ effectively implement control measures for conservation, restoration, and protection of wetland ecosystems;
 - d) The effectiveness of coordination between VPO, MNRT and PO-RALG in managing the conservation and protection of wetland ecosystems; and

⁶ TAWA, TFS, TANAPA and NCAA

-
- e) Whether VPO monitor the implementation of the guideline established for assessing and monitoring of status, values, and functions of Tanzania's wetlands.

1.3.2 Audit Questions

To address audit objective, the audit used the following questions during data collection:

- a) What is the magnitude of degradation and size reduction of wetlands ecosystem in Tanzania?
- b) Does the PO-RALG through LGAs effectively implement control measures for conservation, restoration, and protection of wetland ecosystems?
- c) Does the MNRT and its agencies⁷ effectively implement control measures for conservation, restoration, and protection of wetland ecosystems?
- d) Are the existing coordination mechanisms between VPO, MNRT and PO-RALG effectively implemented to conserve and protect wetland ecosystems?
- e) Does VPO monitor the implementation of the guideline established for assessing and monitoring of status, values, and functions of Tanzania's wetlands?

The details of the audit questions and sub questions are found in **Appendix 3**.

⁷ TAWA, TFS, TANAPA and NCAA

1.4 Scope of the Audit

The main audited entities were the Vice President's Office-Division of Environment, the Ministry of Natural Resources and Tourism (MNRT) and President's Office-Regional Administration and Local Government (PO-RALG). This is because the VPO-Division of Environment through NEMC is the over-all overseers of environmental management matters in the country (including the restoration, protection, and management of wetlands). Meanwhile PO-RALG is the one responsible for monitoring the performance of LGAs in the management of wetlands.

The audit mainly focused on the MNRT through its agencies (TAWA and TFS) for the Management of Ramsar sites, and the activities by NEMC and LGAs for the wetlands in general land which are not part of Ramsar undertaken by NEMC and LGAs, being the enforcer responsible for protecting wetlands from being degraded.

The audit covered three years starting from the financial year 2018/19 to 2020/21. This period was selected to track the level and trends of performance toward protecting wetlands from being degraded. The period also assisted in realizing the trends of improvements as a result of the enactment of the wetlands guidelines that came into force in 2019.

The audit covered the entire country, through representation, but data were collected from eight regions namely; Morogoro, Tabora, Dar es Salaam, Mwanza, Kagera, Coast, Katavi and Mbeya.

Table 1.1: Regions with Drainage Basins and Wetland Systems that was Sampled for Audit

Wetland	Reason for being selected	Location - District	Location - Region	Zone
Rufiji- Mafia- Kilwa Ramsar Site	Ramsar Site / Forest reserves under TFS	Rufiji	Pwani/Lindi	Coastal Zone
Kilombero Ramsar Site	Ramsar Site / Game Controlled Area under TAWA	Kilombero	Morogoro	
Lake Natron Ramsar Site	Ramsar Site/ Game Controlled Area under TAWA	Longido	Arusha	Northern Zone

Wetland	Reason for being selected	Location - District	Location - Region	Zone
Malagarasi - Muyovosi Ramsar Site	Ramsar Site/ Game Reserved Area under TAWA	Kaliua	Tabora	Central Zone
Ugalla Riverine Swamp at Katambike Village	Game Reserved Area under TAWA	Nsimbo	Katavi	Western Zone
Ihefu Wetland	Protected Area under TANAPA	Mbarali	Mbeya	Southern Highlands Zone
Minziro Wetland	On the process of acquiring Ramsar Site status	Misenyi	Kagera	Lake Zone

Source: Auditors' Analysis based on the Guideline for Sustainable Management of Wetlands of 2014

1.5 Audit Criteria

Table 1.2 indicates several assessment criteria that were used to assess the performance of the audited entities toward the restoration, protection, and management of wetlands in Tanzania.

Table 1.2: Audit Assessment Criteria to be Used

S/No	Audit Criteria	Source
1	It is expected that PO-RALG through LGAs effectively enforces environmental laws to restore, protect and manage wetlands in the country.	<ul style="list-style-type: none"> • Local Government (Urban authorities) Act No. 8 of 1982, Tanzania and by-laws • Local Government (District authorities) Act No. 7 of 1982, of Tanzania Laws and by-laws • Environmental Management Act No. 20 of 2004
	It is expected that NEMC effectively enforces environmental laws to protect wetlands from being degraded	Environmental Management Act No. 20 of 2004
2	It is expected that LGAs have statistics on the number and type of wetlands that are available in their areas of jurisdiction and potential risks that may befall them plus risks to environment that may result in the event that they are not properly managed	Environmental Management Act No. 20 of 2004
3	It is expected that VPO-DOE effectively	Environmental Management Act

S/No	Audit Criteria	Source
	coordinates with PO-RALG, MNRT, NEMC, LGAs etc. in the restoration, protection, and management of wetlands	No. 20 of 2004
4	It is expected that implementing agencies such as MNRT, LGAs effectively restore, protect, manage, and monitor wetland progress	The Wildlife Conservation Act 2009

Source: Analysis of Criteria from different legislations (2021)

1.6 Methods for Data Collection and Analysis

Three different methods for evidence gathering were used, these include the interviews, document reviews and physical observation.

i) Document Review

We reviewed various documents from VPO, PO-RALG, NEMC, MNRT, TAWA and TFS to identify and assess the status of wetlands in Tanzania, challenges, and possible causes of the identified problems, gathering evidence in order to be able to conclude on the findings and finally issue audit recommendations.

The information collected from the documentary reviews was further corroborated with the information gathered from interviews held with the selected officials from the audited institutions (VPO, PO-RALG, NEMC, MNRT, and TAWA). Some of the documents that were reviewed and reasons for the reviews are explained in **Appendix 4** of this report.

ii) Interviews

Interviews were conducted for the purpose of obtaining more information and for clarification on the information obtained through reviewed documents. Further to that, interviews were conducted to provide some clues on the relevance of information, in the case information in the formal documents either was lacking some facts or was incomplete. Hence, interviews, then were used to provide context and additional perspectives

in relation to the documents reviewed. The officials interviewed are listed in **Table 1.3**.

Table 1.3: Officials Interviewed During the Audit and Reasons

Entity	Interviewee	Reasons
VPO-Environment	<ul style="list-style-type: none"> • Director of Environment Environmental Officers 	<ul style="list-style-type: none"> • To get information about coordination in ensuring adequate restoration, protection, and management of wetlands. • To get information about monitoring of the performance of NEMC.
PO-RALG	<ul style="list-style-type: none"> • Director-Sector Coordination • Assistant Director- Social Services • Social Services officers 	<ul style="list-style-type: none"> • To get information about coordination in ensuring adequate restoration, protection, and management of wetlands in all LGAs. • To get information about monitoring the performance of LGAs
NEMC	<ul style="list-style-type: none"> • Director of Environmental Compliance and Enforcement • Zonal Managers • Technical staff 	<ul style="list-style-type: none"> • To understand the effort made in the implementation of the control activities to ensure that the wetlands are protected from being degraded. • To understand the challenges and their causes
LGAs	<ul style="list-style-type: none"> • Head of Department of Environment • Game/Wildlife officer • Environmental management Officers 	<ul style="list-style-type: none"> • To understand the effort made in the implementation of the control activities to ensure that the wetlands are protected from being degraded. • To understand the challenges and their causes
Ministry of Natural Resources and Tourism	<ul style="list-style-type: none"> • Chief Conservator - TAWA • Chief Conservator - TFS • 	<ul style="list-style-type: none"> • The restoration, protection, and management of wetlands in protected areas. • The coordination between MNRT, NEMC and LGAs • To understand the challenges and their causes

Source: Analysis of different interviewed Officials

iii) The Field Visits

Team conducted field visits to the selected eight (8) wetlands and LGAs to observe, take photographic records and field notes to verify the facts collected from interviews and documents on status of the wetlands in the country.

iv) Sampling

Since VPO implements its activities countrywide, eight (8) wetlands were selected from across the country. First, stratified random sampling was used to select at least one wetland from each of Tanzania's six (6) zones. Thereafter, eight (8) wetlands were selected purposively based on whether they were designated as Ramsar sites (wetlands of international importance); encroachment was reported; or if VPO had reportedly undertaken restoration or demarcation on them. Details are contained in **Table 1.1**

v) Methods for Data Analysis

In this audit various methods were employed in analysing data depending on the nature of data and available evidence. Quantitative data were organised, summarized, and compiled using software for data analysis such as excel spread sheets. The analysed data were presented by different ways such as tables, graphs, and percentages distribution. Qualitative data were described, compared, and related so that they can be extracted and explained in order for the data to be contended, defended, and extended to bring into findings that are aligned to the audit objectives. The analysis involved looking for categories such as events, descriptions, looking for consistencies or differences to develop theory from the gathered data.

1.7 Standard Used for the Audit

The audit was conducted in accordance with the International Standards for Supreme Audit Institutions (ISSAIs) issued by the International Organization of Supreme Audit Institutions (INTOSAI). These standards

require that the audit is planned and performed in order to obtain sufficient and appropriate evidence which provide a reasonable basis for the findings and conclusions based on the audit objectives.

1.8 Structure of the Report

The remaining part of the report is structured as follows:

Chapter Two	•Description of the system for conserving and protecting wetlands
Chapter Three	•Findings on the situation of wetlands
Chapter Four	•Findings related to factors contributing to observed performance problems in conserving and protecting wetlands
Chapter Five	•Findings on the Coordination, Monitoring and Evaluation of the activities of conserving and protecting wetlands
Chapter Six	•Audit conclusions
Chapter Seven	•Recommendations

CHAPTER TWO

REGULATORY FRAMEWORK, KEY ACTORS AND PROCESSES ON CONSERVATION AND PROTECTION OF WETLAND ECOSYSTEMS

2.1 Introduction

This chapter provides the description of the policy and legal framework for conservation and protection of wetland ecosystem. The chapter also describes the key actors with their main responsibilities, and the key tasks performed while conserving and protecting wetlands including the processes involved.

2.2 Policies and Legislations Governing Conservation and Protecting Wetland Ecosystems

Activities of conservation and protection of wetlands are governed by the National Environmental Policy of 1997, and other laws and regulations.

2.2.1 Policies

National Environmental Policy, 1997

The National Environmental Policy (NEP), of 1997 identifies wetlands and the need for the improved management and conservation of wetlands. The policy insists the sustainability, security, and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment.

Tanzania is a signatory to a number of international environmental related agreements. This inevitably includes the Ramsar Convention. Ramsar Convention, is an international agreement for promoting the conservation and wise use of wetlands.

The Wildlife Policy

This Policy came into effect in 1999 having been spearheaded by the Wildlife Division in the Ministry of Natural Resources and Tourism. It focuses primarily on the conservation of wildlife and the resources that support wildlife, including those found in wetlands. One of the Policy's stated objectives is to "enhance the conservation of biodiversity by administering wetlands.

The objectives seek to achieve, among other things, the preservation of aquatic habitats and their environment and the conservation of water catchments and soil resources.

The general implementation framework provided for in the Policy includes the management and development of important wetlands and the promulgation of a supportive legislative framework.

National Fisheries Policy, 2015

The fisheries Policy stresses on conservation and management of fisheries resources. The fisheries Policy provides a means for users to apply for fishing rights in wetlands.

The Forestry Policy

Promulgated in March 1998 by the Forestry Division in the Ministry of Natural Resources and Tourism, the Forestry Policy sets out the general guidelines for managing forestry resources and these inevitably include those found in wetlands.

The Agriculture and Livestock Policy

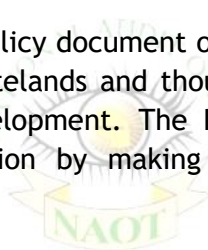
The Ministry of Agriculture and Cooperatives promulgated the Agriculture and Livestock Policy in January 1997. The Policy's projections on the development of the agriculture and livestock sectors also have traces of a concern for the management and wise use of wetlands.

The Policy takes note of the fact that environmental issues cut across different sectors and calls for a coordinated approach to the conservation of environmental resources as they ultimately have a bearing on the development of the agriculture and livestock sectors. The Policy points out that agriculture depends on natural resources such as land, and water.

The National Land Policy

The National Land Policy takes note of the importance of wetlands and its objectives on environmental concerns have a bearing to their management. It also aims at ensuring that sensitive areas, such as forests, river basins, areas of biodiversity and national parks are not allocated to individuals to conduct development activities.

At a more specific level, this Policy document observes that wetlands have been often considered as wastelands and thought of as not being useful for social and economic development. The Policy, therefore, seeks to reverse this negative perception by making sure that wetlands are properly studied.



National Water Policy, 2002

On the environment, the policy objective is to have a water management system that protects the environment, ecological system and biodiversity.

2.2.2 Environmental Laws

(i) The Environmental Management Act No. 20 of 2004

Section 47 of the Environmental Management Act, 2004 specifically gives the mandate to the Minister responsible for environment to declare any area which is ecologically fragile or sensitive to be an Environmental Protected Area, based on its natural features, interest of the local communities or to comply with any international obligation (e.g., Ramsar Convention).

Under Section 51 of the Environmental Management Act any area can be declared to be “environmentally sensitive area” and protected, and under Section 52 of EMA, 2004 this includes swamps and wetlands. Section 54 of EMA, 2004 allows, in consultation with Sector Ministry (i.e., MNRT or PO-RALG), that this be extended to a river, riverbank, lake or lakeshore as a protected area and may impose any restrictions as considered necessary for its protection from environmental degradation.

Under Section 55 of EMA, 2004, in consultation with responsible Minister, Council and LGA, guidelines can be prepared that prescribe measures for the protection of wetlands and lay down the laws and offence or permit system for user rights. It is also noted that EMA also applies to ocean or natural lake shorelines, riverbank or water reservoir or wetland, and restricts:

- a) The erection, construction, placing, altering, extending, removing, or demolishing a structure in or under a wetland;
- b) The excavation, drilling, tunnelling, or disturbing of wetlands;
- c) The introduction of plant any part of a plant, plant specimen whether alien or indigenous, dead, or alive, to a wetland;
- d) The depositing of a substance likely to have adverse environmental effects; and
- e) Re-direction or blocking from its natural course or drainage thereof.

Under Section 56, after consultation with the Minister responsible for land, the Minister may declare any area to be a protected wetland and placed under the jurisdiction of the sector minister to make regulations and guidelines. It also makes mandatory the regular provision of information on the management and status of wetlands (i.e., State of Environment Report (SOER)).

Section 57 provides that, no human activities of a permanent nature or which are likely to compromise activities or adversely affect conservation shall be conducted within 60 meters of the ocean or wetlands, lake shorelines, riverbank, water dam or reservoir.

The basic principles for EMA are;

- a) Every person shall have a right and access to clean, safe, and healthy environment; and
- b) Precautionary principle, polluter and user pays principle, principle of public participation, principle of inter and intra generational equity.

It is noted that the responsible Minister (VPO) shall, with the advice of the National Environmental Advisory Committee (NEAC)/NEMC, delegate the implementation of EMA to sector ministries and other government bodies, regional secretariats, and local government authorities. This is to be achieved through a network of Sector Environmental Coordinators, District Environmental Officers and Environmental Management Committees (EMC) at regional, district and village level (the EMC are of a political nature, made up of Councillors or village leaders).

(ii) *Local Government Authorities Acts No. 7 & 8 of 1982, Tanzania and By-Laws*

The Acts assigns responsibility to Local Government Authorities to take measures for conservation of natural resources, safeguard and promote public health. The Acts empowers the Village Government to create functional committees, in this case communities are required to manage natural resources like wildlife, wetlands, forests, and fisheries. The formation of these committee institutions follows the laid down sector legislation.

The act state that *'it shall be the function of every District Council to formulate, coordinate and supervise the implementation of all plans for the economic, commercial, industrial and social development'* and:

- a) Prohibit or regulate the use of any agricultural land; and
- b) To take all the necessary measures to provide for the protection and proper utilization of the environment for sustainable development.

In schedule 2 of the Act, it is also mentioned that District Councils may “regulate wells, control and regulate use of water”. However, it should be noted that for each of the key sectors (forestry, fisheries, water, and wildlife etc.) they all have - in their sector legislation - their own *additional* provisions regarding institutional arrangements and specific division of roles and responsibilities including degree of devolution to local government authorities.

(iii) Water Resources Management Act, 2009

Prohibits any human activities near water sources and in areas that are declared to be protected zones. The Act provides a list of areas that can be declared protected zones of which swamps, reservoirs, wetlands and other water carrying aquif are specified.

(iv) The Fisheries Act, 2003

Strengthening of regional and international collaboration in the sustainable use, management and conservation of resources in the shared water bodies by discouraging pollution of aquatic environment.

(v) Marine Parks and Reserves Act No. 29 of 1994

The Act aims at protecting, conserving, and restoring species and genetic diversity of living and nonliving marine resources and ecosystem processes of marine and coastal areas.

(vi) Village Land Act No. 5 of 1999

Under Regulation 39, of Village Land Regulations made under the Village Land Act No. 5 of 1999, each Village Assembly once consulted and made aware of the opportunity for Community Based Natural Resources Management, meet, debate and if agreeable, issue signed Meeting Minutes to officially register their intent to join a union, to pool land, for a “designated communal area” (e.g., Wildlife Management Area or Beach Management Units). To be recognized as a legal User Group under the

Village Land Act (Section 17), the user group must form a CBO and submit its Constitution and obtain a Registration Certificate.

As per Village Land Act (Section 13), the participating villages, in order to set aside “communal village land” (WMA), must first put forward this recommendation to the Village Assembly, in the form of a Village Land Use Plan (VLUP). Further, under the Village Land Act (Section 11), all villages in a joint union to manage a common resource shared by more than one village, shall at some point enter into a “joint village land use agreement” for the designated area.

This will ultimately require some form of joint management plan, part of the LUP. Under the Local Government Act, Section 163, based on the Management Plan, the village prepares draft by laws which must be approved by District Council to become law. The Village Land Act (Section 17) allows villages which have thus set aside land, to now enter agreement with a body corporate to rent (Section 28) land from the Village Council for its operations (e.g., eco-tourism), provided it fits the LUP (28.3.b.ii).

2.2.9 Guideline for Sustainable Management of Wetlands

The aim of the developed guideline was to provide for sustainable management of wetlands that would contribute to improve livelihoods while maintaining ecosystem function; Facilitate and provide a framework for sustainable management of wetland; and maintain essential ecological and hydrological functions.

2.2.10 National Strategies⁸ Wetlands Strategy

The Tanzanian wetland conservation and management programme was developed in 1990s. The strategy focuses into conserving wetlands ecosystems in the game reserves, national parks, and the controlled areas.

National Water Sector Development Strategy

The National Water Sector Development Strategy states that, for the purpose of managing wetlands sustainably, the national inventories on the condition and extent of wetlands, floodplains and riparian ecosystems should be prepared, as a basis for ensuring their long-term protection.

2.3 Key Stakeholders and their Responsibilities

The key stakeholders involved in Conservation and Protection of Wetlands in the Country include; Vice President's Office-Division of Environment, President's Office - Regional Administration and Local Government (PO-RALG), Ministry of Natural Resources and Tourism (MNRT), Ministry of Water (MoW), National Environment Management Council (NEMC), Local Government Authorities (LGAs) and Wildlife Authorities. Their roles and responsibilities are as explained below:

2.3.1 Vice President's Office

- a) The Vice President's Office is mainly responsible for developing policies, guidelines necessary for the promotion, protection and sustainable management of the environment in Tanzania. It issues general guidelines to the sector ministries, Government

⁸ United Republic of Tanzania (Vice President's Office) Guidelines for Sustainable Management of Wetlands, 2014

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- departments, NEMC, National Environmental Advisory Committee (NEAC), City, Municipal or District Environmental Management Committees, Agencies or any other public or private institution;
- b) Monitor and coordinate performance of National Environment Management Council (NEMC); and
 - c) VPO also promotes involvement of civil society in environmental conservation activities, conducting research on environmental issues and deals with planning, monitoring and coordination of environmental issues at a national and international level.

2.3.2 President's Office - Regional Administration and Local Government (PO-RALG)

The Ministry is in charge for administration of Local Government Authorities and oversees planning of sanitation and hygiene promotion activities of LGAs. Its objective is to build the capacity of Local Government Authorities to provide quality services. PO-RALG through the Social Service Sectors Section under the Sector Coordination Division has the following responsibilities⁹:

- a) Interpret policies, laws and regulations of social service sectors;
- b) Coordinate management and conservation of natural resources and environment issues in RSs and LGAs;
- c) Coordinate the implementation of mitigation and adaptation measures with respect to Climate Change in RSs and LGAs;
- d) Consolidate and analyse social service sectors progress reports from RSs and LGAs;
- e) Monitor and evaluate implementation of social service sectors at Regional Secretariats and LGAs; and

⁹ The functions and organisation structure of the prime minister's office, regional administration, and local government (PMO-RALG) (*approved by the president on 12th February, 2015*).

-
- f) Coordinate preparation and implementation of water supply and sanitation plans in LGAs.

2.3.3 Ministry of Natural Resources and Tourism

The Ministry of Natural Resources and Tourism of the United Republic of Tanzania is responsible for management of natural, cultural and tourism resources.

The ministry is mandated to conserve natural, cultural resources sustainably and develop tourism for national prosperity and benefit of mankind through development of appropriate policies, strategies and guidelines; formulation and enforcement of laws and regulations; monitoring and evaluation of policies and laws.

Further, the ministry is mandated to provide for supervision and coordination of wildlife authorities and to facilitate sectoral coordination and coordinated planning on aspects that may have impacts on natural resources.

2.3.4 National Environment Management Council

The key role of NEMC for environmental enforcement and compliance in the country are:

- a) Conduct inspections to various facilities to ensure that, the facilities follow the requirements given to them either through various legislations or through the conditions provided in their EIA certificates;
- b) Enforce and ensure compliance of the national environmental quality standards;
- c) Coordinate with other key stakeholders in addressing all issues on environmental management;
- d) Regulating and monitoring the collection, disposal, treatment and recycling of waste; and
- e) Issuance of administrative notices and prosecution.

2.3.5 Local Government Authorities

Local Government Authorities have been mandated under section 36 of the Environmental Management Act No. 20 of 2004 to regulate all matters about environmental issues and ensure enforcement of compliance in their area of jurisdiction. The following are the responsibilities of Local Government Authorities:

- a) Implement the policy on wetlands;
- b) Provide wetlands extension services and lead other agencies in wetlands policy implementation;
- c) Formulate, approve and enforce wetland by laws;
- d) Provide technical support and conservation education (CEPA) to villages and Councilors; and
- e) Prepare physical inventory and implement development plans to protect wetlands.

2.3.6 Wildlife Authorities

Wildlife Authorities mainly TAWA, TANAPA, and NCAA are established under Parliamentary Acts that give effect to their existence. The role of the Wildlife Authorities includes:

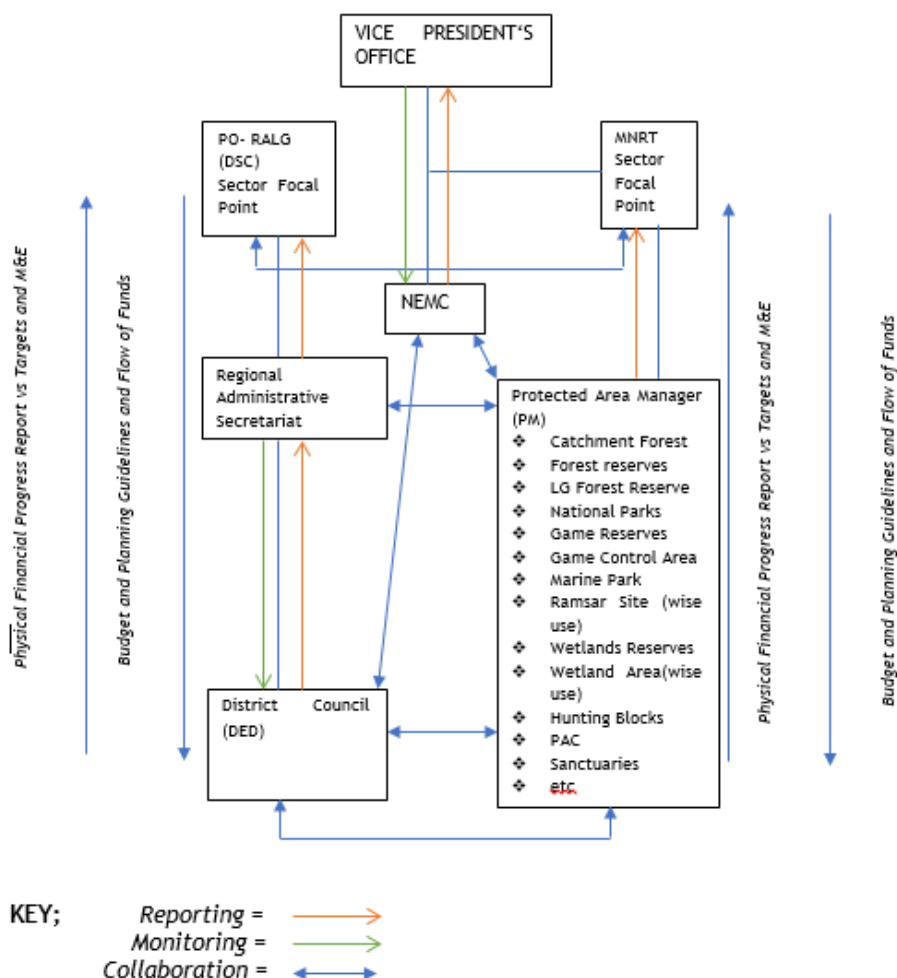
- a) Monitor and enforce wetlands and degradation prevention measures;
- b) Conducting wetlands monitoring; and
- c) Prepare the report on the state of wetlands resources in their jurisdiction.

2.4 Institution set-up in the Conservation and Protection of Wetlands

The conservation and protection of Wetlands in Tanzania is managed through a centralization manner. The Vice President's Office-Division of Environment has the mandate to coordinate all issues related to protection of environmental degradation in the country. The detail of institution set

up for the Conservation and protection of Wetlands is as shown in **Figure 2.1.**

Figure 2.1: Organization Set up for managing Conservation and Protection of Wetlands in Tanzania

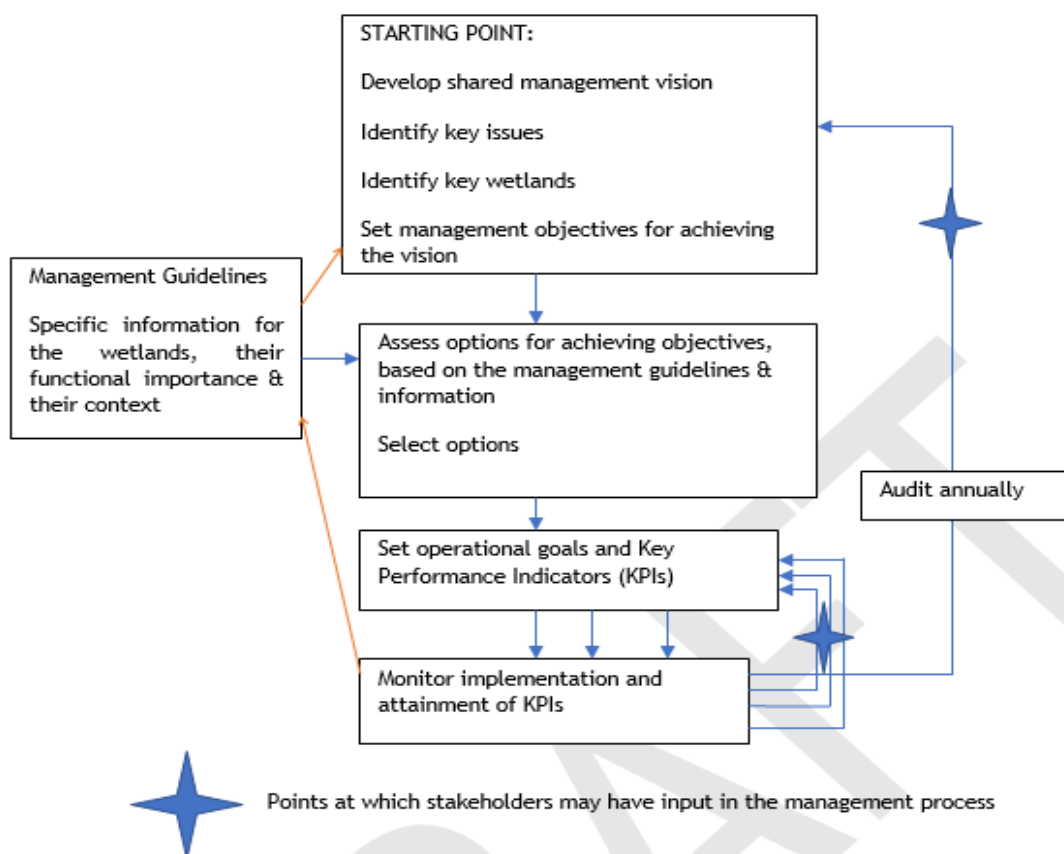


Source: Analysis organization structures documents and role of responsibilities of different entities dealing with environmental sector

2.5 Key Processes in Management of Conservation and Protection of Wetlands

The adaptive Management of Wetlands is summarized in the Framework presented in **Figure 2.2**

Figure 2.2: Adaptive Management Framework for the Management of Wetlands



Source: Modified from Kotze and Breen, 2000; Ramsar Convention Bureau, 1997; 2002.

Managing conservation and protection of wetlands in the country involves designation of the wetlands, protecting wetlands and monitoring wetlands. The details of the process are as follows:

a) Identification of Key Wetlands

Key wetlands are those wetlands which deliver a high level of goods and services¹⁰. Wetlands are also considered key if they are threatened by degradation which is likely to lead to significant environmental impacts, aside from any goods and services that they may be currently delivering. In order to search for key wetlands, the process is based on applying the following level¹¹:

- a) Level one: This involves identifying key wetlands based on the knowledge of direct ministries responsible staffs that are familiar with the different regions. This takes a short time.
- b) Level two: This involves identifying key wetlands based on a systematic desktop-based description of all known wetlands using interpretation of remotely sensed images, examination of relevant databases and consultation with individuals having good local knowledge.
- c) Level three: This involves identifying key wetlands based on a systematic rapid assessment of all wetlands in the field.

The key wetlands in Tanzania are Malagarasi - Muyovosi wetland, Pangani Basin, Usangu Wetlands, Rufiji Basin Wetlands, Lake Natron, Lake Victoria and Kilombero Plain. These wetlands are of immense socio-economic importance for the local communities and the regions in terms of agriculture, fishing, grazing, wildlife, and water resource management.

The identification of key issues is done by key ministries linked with the management of wetland. This involves the Vice President's Office-Division of Environment, Ministry of Water, and Ministry of Natural

¹⁰ Guideline for Sustainable Management of Wetlands (2014).

¹¹ Guideline for Sustainable Management of Wetlands (2014).

Resources and Tourism. Since the issues are likely to change with time this process is repeated at least every time so that there is a comprehensive review of management¹².

b) Examining and Setting Management Options

In managing wetland ecosystem, the selection of management options must be guided by general management guidelines and best management practices. Specific operational goals should be made for each wetland.

c) Setting Operational Goals and Key Performance Indicators (KPIs)

This is where to plan the details of “how to get there” (your operational goals) and how you are going to measure your success along the way (your KPIs). The KPIs would specify the target levels of threatened wetlands abundance for rehabilitation.

d) Monitoring and Auditing

The overall responsibility for monitoring of component progress and outcome is vested to the Vice President Office -Division of Environment and supported by Wildlife Division/Wetlands Unit, Ministry of Agriculture-Environment Unit, Ministry of Water, Ministry of Livestock and Fisheries Development and other relevant Ministries. The monitoring system has two levels:

- a) Level 1 applies to all wetlands and requires the description of broadly important issues, notably alien plant infestation, encroachment and burning, that can be readily described.

¹² Guideline for Sustainable Management of Wetlands (2014).

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- b) Level 2 applies only to key wetlands, for which additional features will need to be described.

It is essential that monitoring provides the information to determine whether the KPIs are being met. The next step in the management cycle is auditing. This is a frequent (i.e., annual) audit to be undertaken for attainment of the operational goals and a long term (i.e., major audit) every 3-5 years is conducted to determine attainment of the management objectives.

2.6 Allocated Resources for Managing Conservation and Protection of Wetlands

The Vice President's Office-Division of Environment (VPO-DoE), President's Office-Regional Administration and Local Governments (PO-RALG) and the Ministry of Natural Resources and Tourism (MNRT), have the required resources (both financial and human resources) for management and conservation of natural resources and environment issues including the management of Conservation and Protection of Wetlands Ecosystems. Details of the resources are as shown in the following sub - sections.

2.6.1 Financial Resources for Management of Conservation and Protection of Wetlands at the Ministry of Natural Resources and Tourism

MNRT receives financial resources for the Management of Conservation and Protection of Wetlands from the Central Government as shown in Table 2.1.

Table 2.1: Budgeted Funds for Management of Conservation and Protection of Wetlands at MNRT (Wildlife Division)

Financial Year	Budgeted Amount (TZS)	Amount Released (TZS)	Percentage Released
2020/21	1,375,881,950	1,208,082,020	88
2019/20	3,483,049,941	3,127,339,265	90
2018/19	1,668,418,395	1,178,632,128	71

Source: Commitment Report from MNRT (2021)

Table 2.1 shows that the percentage of the amount released from the approved budget ranged between 70.6 and 89.8.

2.6.2 Financial Arrangement for the Management of Conservation and Protection of Wetland Ecosystems at Vice President's Office - Division of Environment

VPO receives financial resources for the management of conservation and protection of wetland ecosystems from the Central Government as shown in **Table 2.2**.

Table 2.2: Budget for Management of Conservation and Protection of Wetland Ecosystems at the VPO-Division of Environment

Financial Year	Budgeted Fund (TZS-Billion)	Disbursed Fund (TZS-Billion)	Percentage Released
2020/21	1.72	1.70	99
2019/20	1.69	1.68	99
2018/19	1.53	1.26	82

Source: Financial Flows from Policy Analysis Division (2018/19 - 2020/21)

Table 2.2 shows that the percentage of the amount released from the approved budget ranged between 82 and 99.

2.6.3 Allocated Human Resources for Management of Conservation and Protection of Wetland Ecosystems at Vice President's Office-Division of Environment

The Division of Environment (DoE) in the Vice President's Office for the period of 2018/19 to 2020/21 allocated staff required to facilitate the management of conservation and protection of wetland ecosystems. In general, in this period the Vice President's Office required 237 staff, while the available number of staff was 149 leading to a deficit of 88 staff. For the period of financial year from 2018/19 to 2020/21, VPO-Division of Environment required 62 staff while the available number of staff was 40 leading to a deficit of 22 staff.

2.6.4 Financial Arrangement for Management of Natural Resources and Environment Issues at PO-RALG

PO-RALG receives financial resources for the operations of the division of sector coordination including coordinating management and conservation of natural resources and environment issues in Regional Secretariats and LGAs including conservation and protection of wetland ecosystems from the Central Government as shown in **Table 2.3**.

Table 2.3: Budgeted Funds for Division of Sector Coordination

Financial Year	Budgeted Amount (TZS)	Actual Amount Disbursed (TZS)	Percentage Released
2020/21	161,269,000	72,150,000	45
2019/20	161,269,000	74,000,000	46
2018/19	161,269,000	72,000,000	45

Source: Data collected from PO-RALG (2021)

Table 2.3 shows that the percentage of the amount released from the approved budget ranged between 45 and 46. The released funds were also used for coordinating Management and Conservation of Natural Resources and Environment Issues at PO-RALG.

2.6.5 Allocated Human Resources for Management of Conservation and Protection of Wetland Ecosystems at PO-RALG

PO-RALG for the period of three financial years (2018/19 to 2020/21) allocated the staff required to facilitate the management of conservation and protection of wetland ecosystems. In general, PO-RALG had a staff requirement of 598, while the available number of staff was 558 leading to a deficit of 40 staff. Table 2.4 indicates allocated staff for the management of conservation and protection of wetland ecosystems in the Directorate of Sector Coordination.

Table 2.4: Human Resources at PO-RALG (Directorate of Sector Coordination)

Financial Year	Number of staff required	Number of staff available	Deficiency
2020/2021	32	29	3
2019/2020	29	28	1
2018/2019	28	28	0
2017/2018	28	26	2

Source: Data Collected from PO-RALG (2021)

Table 2.4 shows that the deficiencies of staff. All missing professional were the environmental officers.

2.6.6 Financial Arrangement for the Management of Conservation and Protection of Wetland Ecosystems at visited LGAs

LGAs receive financial resources for the management of conservation and protection of wetland ecosystems from the Central Government as shown in Table 2.5.

Table 2.5: Budgeted Funds for Management of Conservation and Protection of Wetland Ecosystems at Visited LGAs

LGAs	Financial Year	Budgeted fund (TZS-Million)	Received funds (TZS-Million)	Percentage of variation (%)
Kibiti DC	2020/21	43.66	18.57	42.5
	2019/20	34.037	12.99	38.2
	2018/19	36	-	-
Rufiji DC	2020/21	39	37	94.9
	2019/20	30.66	14.66	47.8
	2018/19	8.1	2.037	25.1
Longido DC	2020/21	14	5.419	38.7
	2019/20	10	4.253	42.5

LGAs	Financial Year	Budgeted fund (TZS-Million)	Received funds (TZS-Million)	Percentage of variation (%)
	2018/19	10	3.999	40.0
Ngorongoro DC	2020/21	18.574	16.507	88.9
	2019/20	30.192	26.83	88.9
	2018/19	39.784	36.887	92.7
Mbarali DC	2020/21	18.486	18.486	100.0
	2019/20	13.55	13.55	100.0
	2018/19	13.55	13.55	100.0
Nsimbo DC	2020/21	15.061	15.061	100.0
	2019/20	15.816	15.816	100.0
	2018/19	21.669	21.669	100.0
Misenyi DC	2020/21	4.07	4.07	100.0
	2019/20	6.8	6.68	98.2
	2018/19	15	4.22	28.1
Mwanza CC	2020/21	499.962	1,341.97	268.4
	2019/20	726.55	751.917	103.5
	2018/19	697.98	0.29	0.04

Source: Data collected from visited LGAs (2021)

Table 2.3 shows that the performance of the budget of different LGAs covered in this audit. The lowest performance was in Mwanza City Council, for which the budget was implemented by only 0.04 percent, on other hand, the same LGA, Mwanza City Council spent more than twice of its original budget in year 2020/21. Meanwhile, both Mbarali DC and Nsimbo DC received all the approved budget in all three years covered in this audit.

CHAPTER THREE

FINDINGS ON THE SITUATION OF WETLANDS

3.1 Introduction

The findings in this chapter present the situation regarding wetlands management at national level and visited Local Government Authorities (LGAs). It gives the extent of reduction of wetlands coverage countrywide at the National level and at the visited LGAs, and the extent of wetlands degradation at the National level and at the visited LGAs. The effective implementation of control measures for conservation, restoration, and protection of wetland ecosystems are presented in Chapter Four.

3.2 Situation of Wetlands at Countrywide

This section provides the existing situation of wetlands at national level, and at the visited LGAs.

3.2.1 The Extent of Variation of Wetland Coverage

The audit analysed the data collected from the visited wetlands and noted that there were variations in area of wetlands coverage for the period from 2000 to 2021. This is as shown in Table 3.1 hereunder.

Table 3 1: Variation of Wetland Coverage

Name of Wetland	Years					Variation (sq. km)	Percentage of variation (%)
	Area (square km)						
	2000	2002	2010	2020	2021		
Rufiji-Mafia-Kilwa Ramsar Site		5,970			5,970	0	0.0
Kilombero Valley Ramsar Site	7,950				2,193	-5,757	-72.4
Lake Natron	2,250				2,435	185	8.2

Name of Wetland	Years					Variation (sq. km)	Percentage of variation (%)
	Area (square km)						
	2000	2002	2010	2020	2021		
Rufiji-Mafia-Kilwa Ramsar Site		5,970			5,970	0	0.0
Ramsar Site							
Malagarasi-Muyovozi Ramsar Site	32,500				32,500	0	0.0
Usangu (Ihefu)	1,215		820	1,084		-131	-10.8

Source: Analysis of data collected from visited wetlands (2021) and National Wetlands for Sustainability

From Table 3.1, it is shown that, Malagarasi-Muyovozi and Rufiji-Mafia-Kilwa Ramsar Sites had maintained their wetland coverage, hence no reduction. The reason for Malagarasi-Muyovozi Ramsar Site to have maintained its wetlands area coverage was that the area had been upgraded from conservation of Igombe-Sagara Wildlife Management Association of Isawima to Igombe Game Reserve whereby human activities are restricted as per Section 15(1) of Wildlife Act No. 5 of 2009.

Also, RUMAKI Ramsar Site maintained its wetland coverage. The reason for non-reduction of wetland coverage is the presence of Tanzania Forest Services (TFS) which conducts regular patrols and has established office camps at Kibiti, Ikwiriri, Mohoro and Nyamisati centres for effective conservation of the wetland.

The audit also noted that, there was a reduction in wetlands area in Kilombero Valley Ramsar Site (KVRS) that decreased from 7,950 to 2,193 square kilometres (about 72%) in 20 years. Reduction in wetlands coverage at KVRS was due to the fact that, there were a lot of uncontrolled human

activities such as commercial farming, teak plantations, animal grazing and development of urban settlements¹³.

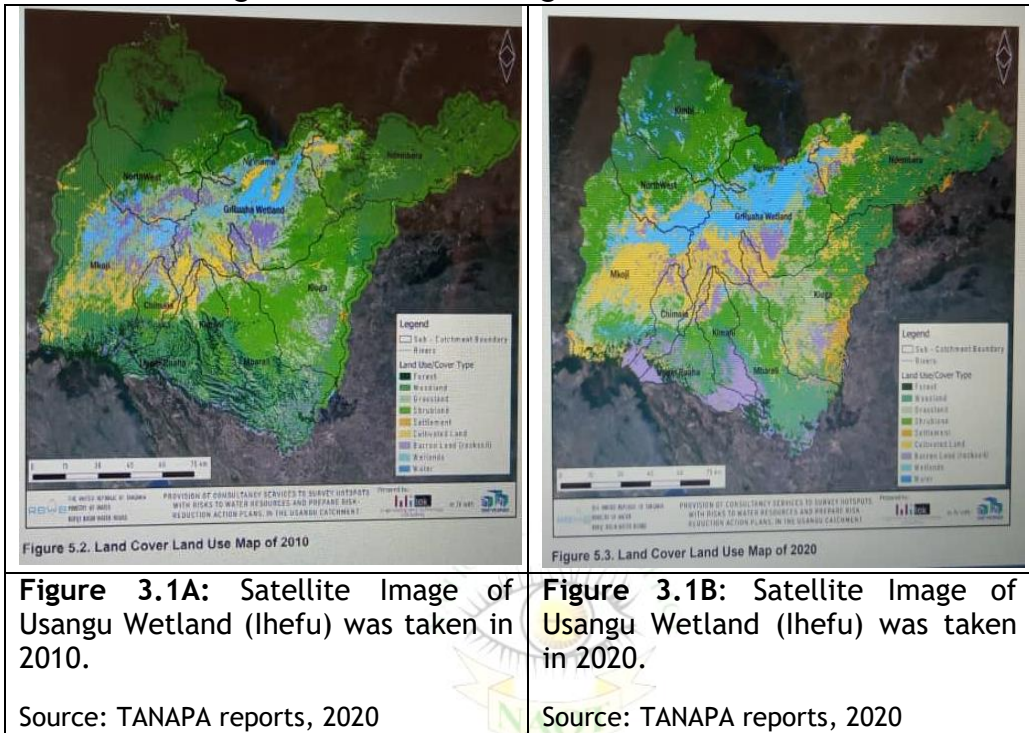
Similarly, the reduction of wetland ecosystem was noted in Usangu (Ihefu) whereby the wetland coverage had been reduced from 1,215 square kilometers (2000) to 820 square kilometers (2010). In 2020, it was increased to 1,084 due to the efforts of the government on eviction of pastoralists, which resulted into increase of the Western and Eastern Usangu wetland. However, the current size in wetland coverage is still less than the size in 2000.

The audit further noted that, there was increase in wetlands area coverage of Lake Natron Ramsar Site from 2,250 to 2,435 square kilometres. The reason for increase in area of wetland coverage was the fact that, the Ramsar Site is under Longido TAWA management, whereby TAWA has a close monitoring at the Lake through established entrance gate and established camp at Engaresero village close to Police Office and Village Executive Officer.

The audit further assessed the extent of wetland coverage reduction for selected wetlands by analysing satellite images to show variation of wetlands areas with time. This is as presented in **Figures 3.1A, 3.1B, 3.1C.**

¹³ Degradation of Kilombero Valley Ramsar Wetlands in Tanzania.

Figure 3.1: Satellite Images of Wetland Areas



Figures 3.1A & 3.1B show that, there was a decrease of area in Usangu wetlands (Ihefu) as seen from the two satellite images that were taken in 2010 and 2020 respectively. The satellite image of the wetlands in 2010 shows that, there were few settlements (Yellow colour), while in satellite image of 2020, there were more settlements (Yellow colour) in the same area.

This implies that, there was high rate of encroachment as time went on. This subsequently had impact in coverage reduction of Usangu (Ihefu) wetland. Increasing settlements in the wetlands might also imply the shrinking of the water flow to the wetlands caused by human activities in the upper streams. Thus, due to the loss of natural vegetation cover that held water, siltation was the likely consequence due to increased agricultural activities and livestock grazing.

Similarly, the audit assessed the variation in the area of wetland for Kilombero Valley Ramsar Site, and the team noted the wetland coverage reduction as shown in **Figure 3.1C**.

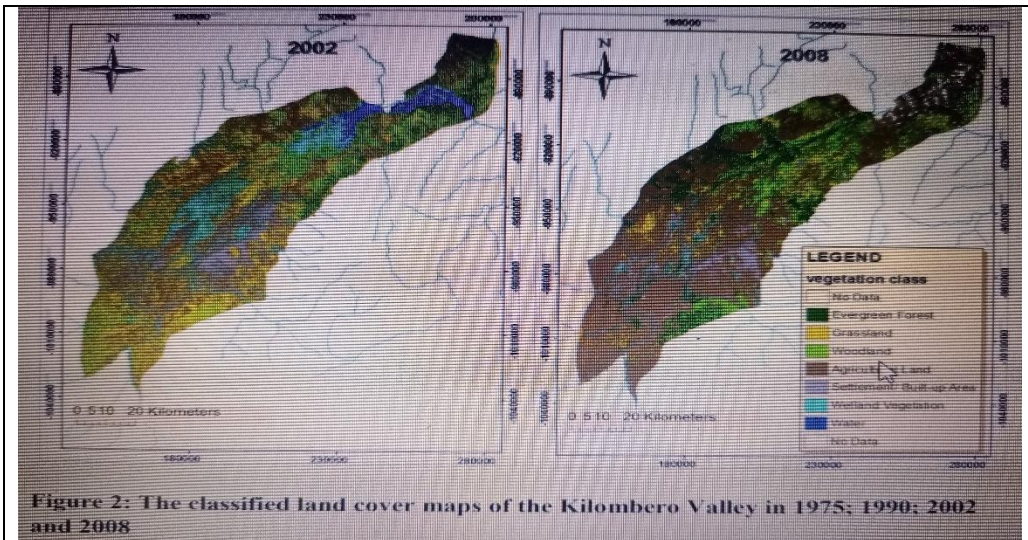


Figure 3.1 C: Satellite image of Kilombero Valley Ramsar Site as taken in 2002 and 2008. Source: Munishi, S. & Jewitt, G. (2019). Degradation of Kilombero Valley Ramsar wetlands in Tanzania. *Physics and Chemistry of the Earth, Parts A/B/C*, 112, 216-227.

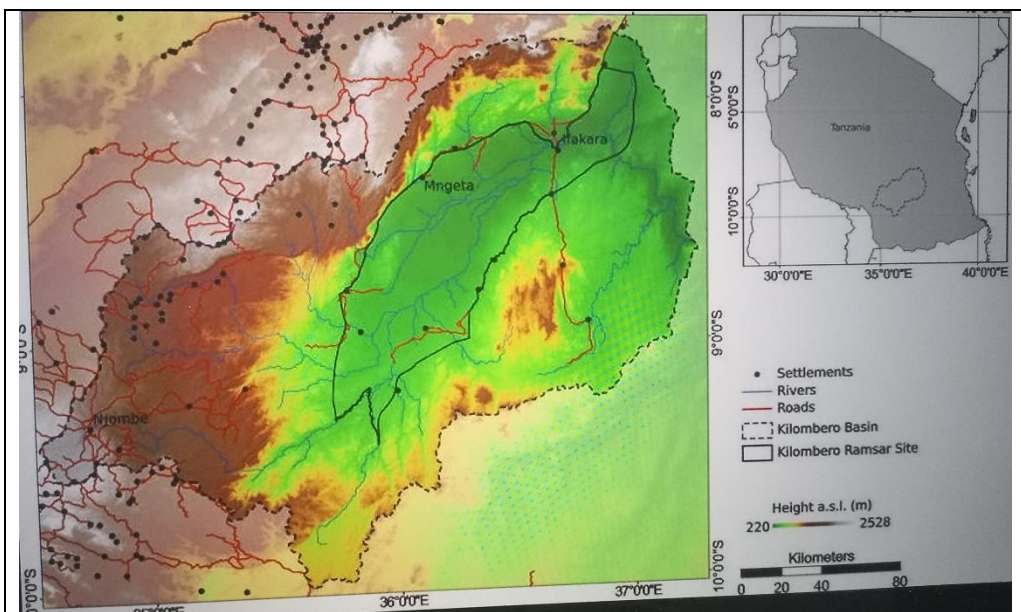


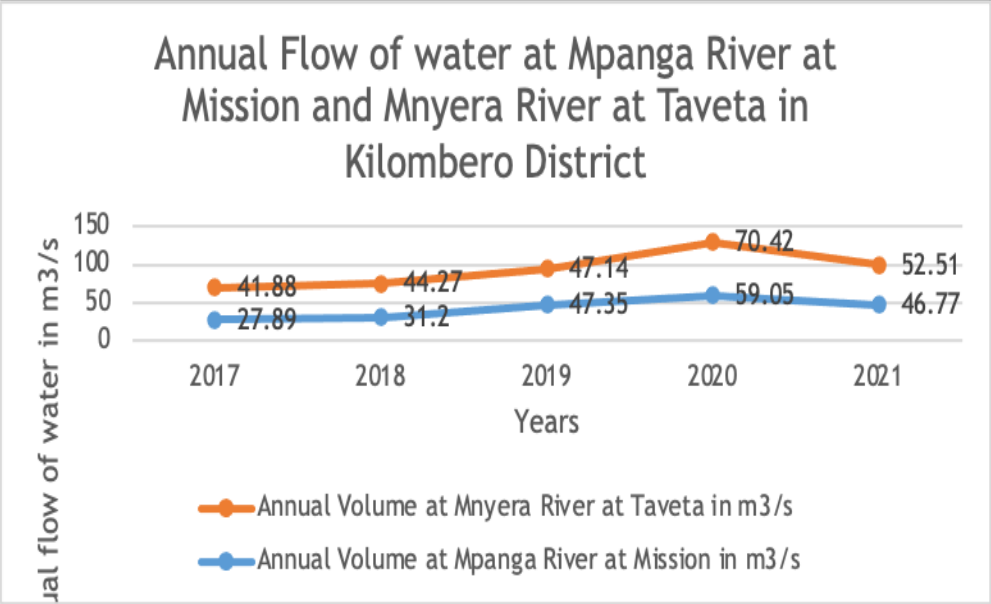
Figure 3.1D: Satellite image of Kilombero Valley Ramsar Site as taken in March, 2020. Source: Munishi, S., & Jewitt, G. (2019). Degradation of Kilombero Valley Ramsar wetlands in Tanzania. *Physics and Chemistry of the Earth, Parts A/B/C*, 112, 216-227.

Figure 3.1C shows that, the area of wetland coverage with water (Blue colour in satellite image) in 2002 was large while the area with water in 2008 decreased. The Satellite images further show that, the area of wetland with grassland (Yellow colour in satellite image) was large in 2002 while the area with grassland in 2008 decreased. The two satellite images show that, in 2008, the area of agricultural land dominated the wetland implying that, it utilized wetland water resources for agricultural activities while decreasing the amount of water flowing to Rufiji River.

Furthermore, **Figure 3.1D** shows the satellite image of Kilombero Valley Ramsar Site as taken in March 2020 with a significant number of established settlements within and surrounding the Kilombero wetland. This implies that, the established wetlands utilized wetland resources for their survival hence reduced wetland coverage.

Based on physical observations conducted at the visited wetlands, the audit noted that the reduction in wetland coverage in the country was likely to have an impact on the decreased volume of water. The audit analyzed data on the flow of water recorded from two (2) stations in Kilombero District namely; Mpanga River at Mission and Mnyera River at Taveta and noted variations as shown in **Figure 3.2**.

Figure 3.2: Decrease in Volume of Water in the visited Wetlands



Source: Analysis of data collected from visited wetlands (2021)

From **Figure 3.2**, it is shown that, for both stations, the flow of water was increasing from 2017 and reached maximum value in 2020, however, the flow dropped in 2021. The drop in flow of water was likely to be due to variations in the area coverage of wetlands as a result of human activities.

3.2.2 State of Wetlands Degradation in the Visited LGAs

The audit assessed the state of wetlands degradation in the visited LGAs and found that, there was degradation in terms of livestock overgrazing and pollution (wastewater, solid waste, and industrial effluent) that

affected the wetlands. **Table 3.2** shows the analysis of the activities contributing to wetlands major causes of degradation in the visited districts.

Table 3 2: Major Causes of Degradation in Visited Districts

Wetland	Major causes of degradation observed/ reported (Tick)			
	Settlements	Agriculture	Mining (Extraction)	Grazing
Rufiji Mafia Kilwa Ramsar Site Rufiji (Rufiji)	x	v	x	v
Rufiji Mafia Kilwa Ramsar Site (Kibiti)	x	v	x	v
Kilombero Ramsar Site	v	v	x	v
Lake Natron Ramsar Site	x	v	x	v
Malagarasi - Muyovosi Ramsar Site	v	v	x	v
Ugalla River Swamp at Katambike Village	v	v	v	v
Ihefu Wetland	v	v	x	v
Minziro Wetland	x	v	x	v

Source: Analysis of Data collected from visited areas (2021)

Key; v = available

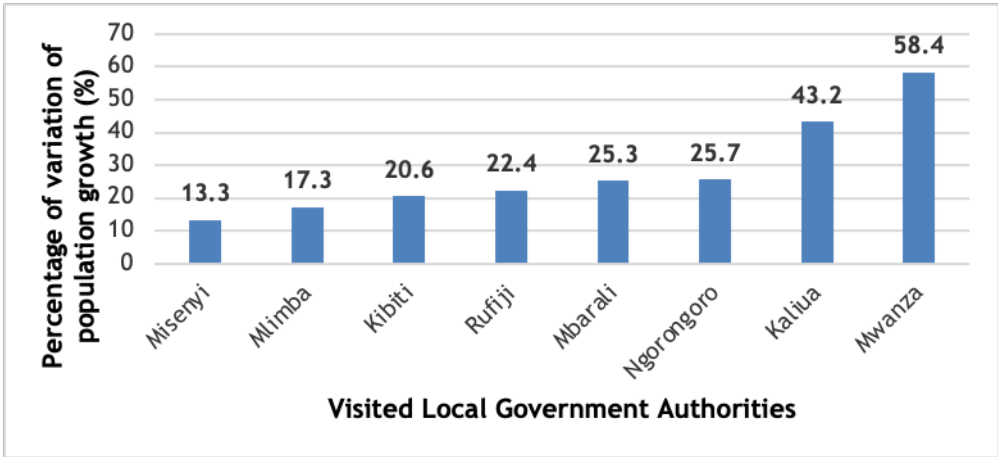
x= not available

Based on the information presented in **Table 3.2**, the major forms of wetlands degradation occurred due to agriculture and grazing within the wetland ecosystems. The other noted forms of pressure to the wetland were the increased settlements within the wetland. This was experienced in four visited wetlands with exception of Ugalla river swamp which was affected by all the four causes of degradation including mining. Other seven visited wetlands did not have mining activities as a source of wetland degradation.

The combination of these driving forces to wetland degradation, to large extent, affected the quality and quantity of wetlands as explained in the following sections of this report.

Based on analysis of data collected from the visited LGAs, the audit noted variation in population growth that ranged from 13.3 to 58.4% in areas surrounding the wetlands or in the human settlements and towns or cities near the wetlands. This is as shown in **Figure 3.3**.

Figure 3.3: Variation in Population Growth in the Visited Area from 2012 -2021

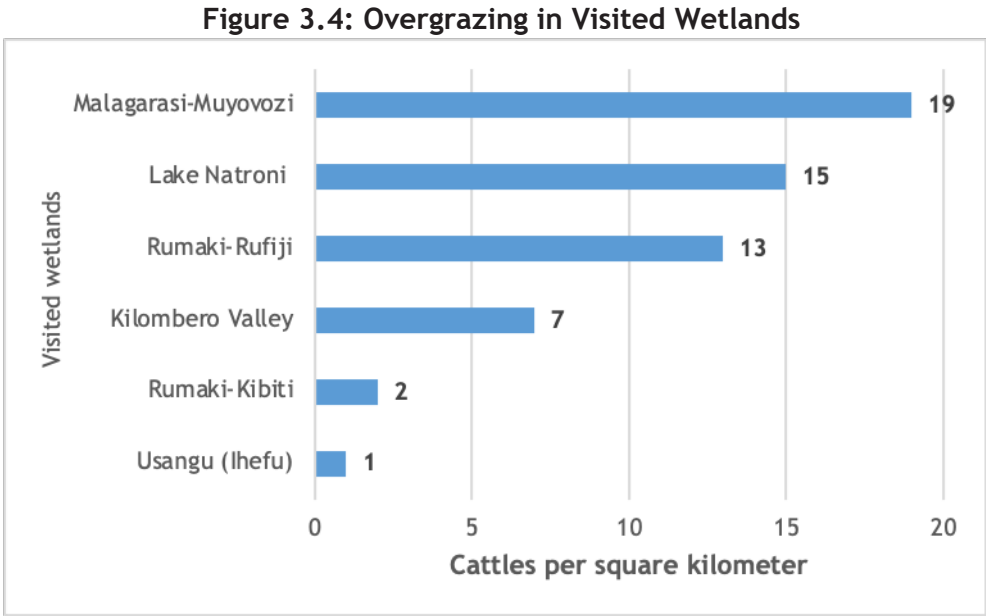


Source: Data from the visited areas (2021)

Figure 3.3 presents the population growth from the last census that was carried out in 2012 up to the year 2021 when the audit was conducted in the visited areas. The growth ranged from 13.3% in Misenyi to 58.8% in Mwanza CC (**Figure 3.3**). Although indirectly, it was clear that as the population increased, there was high potential that the wetlands would be under a serious threat if left uncontrolled.

Based on the interviews with environmental officers in the visited LGAs and reviewed progress reports, the audit noted uncontrolled access to wetland area for the people who were attracted by conducive and fertile soil for agriculture, and available water for animals and farming. Because of this, given the limited size of wetlands area, the carrying capacity of wetland (estimated people/ area size of wetland) was over pressurized. As a result, there was scramble for resources. This was noted in all visited area, and consequently the fights for resources between farmers and pastoralists were witnessed.

On the other hand, the carrying capacity of wetland size against animal increased. This was noted in all visited wetlands. **Figure 3.4** shows the situation of overgrazing.



Source: Analysis of data collected from the visited areas (2021)

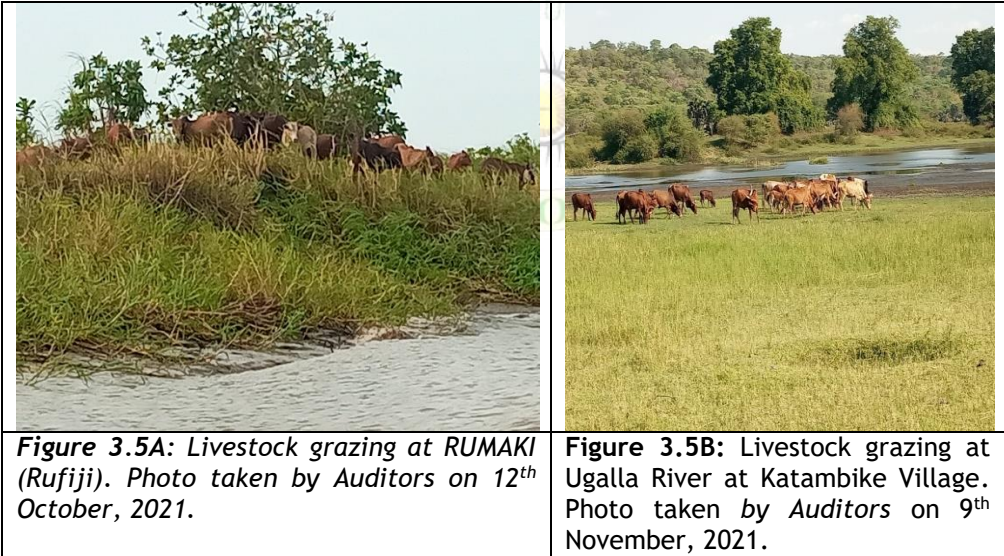
Figure 3.4 shows that the number of cattle per square kilometre ranged from 1 to 19. The highest number was recorded at Malagarasi-Muyovozi Ramsar Site while the lowest number of cattle per unit area was at RUMAKI (Kibiti) Ramsar Site. Overgrazing in this case is interpreted as a continually or repeated heavy grazing over several years in these areas that result in deterioration of the wetland ecosystems.

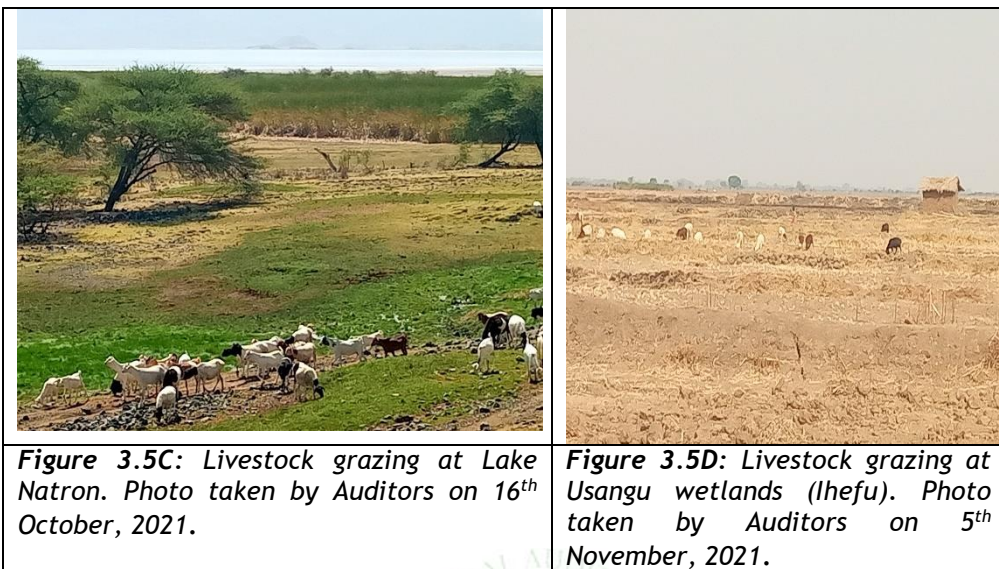
The best practises, requires that, at least one cattle per year should be feed on the 0.01SQM. In all visited wetland, there no data on the statistics of cattle's and other Livestock in those areas. However, review of Report on Challenges in the Course of Managing Malagarasi - Muyovozi Ramsar Site (under TAWA) showed that, among the reasons for overgrazing was livestock migration from other regions to the Ramsar Site (Malagarasi-Muyovozi) wetlands area searching for pasture and water.

Based on the analysis of data collected from the visited wetlands, it was noted that, TFS Kibiti had no target of reducing number of cattle to suit the available grazing land. On the other hand, there was no target by TAWA (Urambo) of reviewing the area of Ramsar Site in terms of census and resource inventory.

The physical observation conducted to the visited areas revealed that there were livestock keeping to wetland areas at Kilombero Valley Ramsar Site, RUMAKI (Rufiji), RUMAKI (Kibiti), Lake Natron Ramsar Site, Usangu wetlands (Ihefu), Ugalla River wetlands at Katambike village, and Malagarasi-Muyovozi Ramsar Site. This is as shown in **Figure 3.5A, 3.5B, 3.5C and 3.5D.**

Figure 3.5: Livestock Grazing in Wetland Areas





The audit further noted livestock grazing in Igombe Game Reserve which was contrary to Section 15 (1) of the Wildlife Act.¹⁴ The Act restricts livestock entry to and livestock keeping in the game reserve. The revealed situation is as shown in **Figure 3.5E** and **3.5F**.

¹⁴ Act Number 5 of 2009



Figure 3.5E: Livestock grazing at Igombe Game Reserve as part of Malagarasi-Muyovozi Ramsar Site. Photo taken by Auditors on 11th November, 2021.



Figure 3.5F: Livestock grazing at Igombe Game Reserve as part of Malagarasi-Muyovozi Ramsar Site. Photo taken by Auditors on 16th October, 2021.

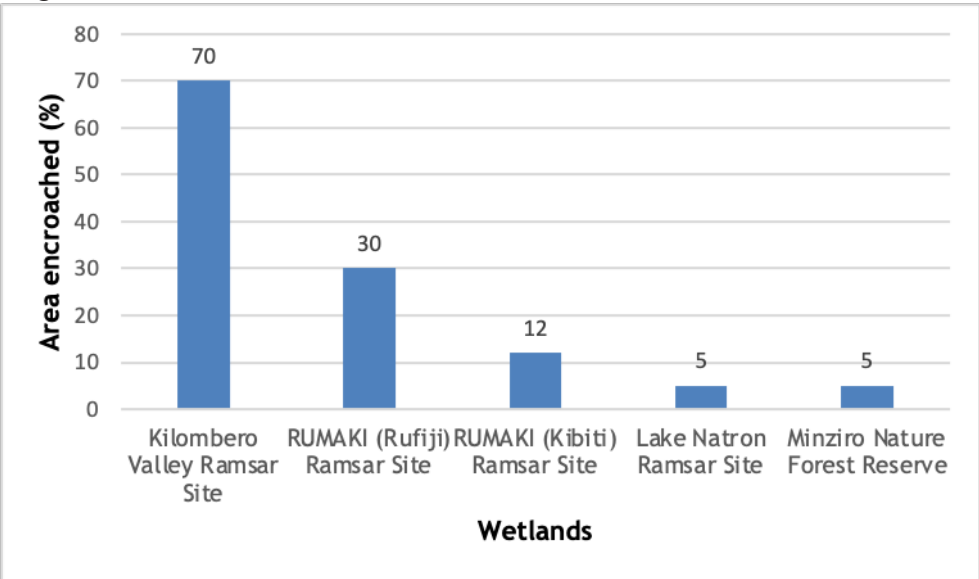
The livestock overgrazing had impacts on the land degradation that, in turn, contributed to the problem of soil erosion and siltation on Lake Sagara, Lake Nyamagoma and Malagarasi River as well as other water bodies.

Through the review of Progress Reports of the Management of Kilombero Valley Wetland, the audit noted inadequate coordination among the government entities in controlling human population from establishing settlements in the wetland areas. For example, Ng'ombo village in Kilombero district was registered in Ulanga District on 27th September, 1993. This village existed for 14 years until when it was de-registered in 2007 by Kilombero DC after the pressure from TAWA and other environmental related entities. Although the village was registered in 1993 in Ulanga District, due to it being not friendly for human settlements, it was de-registered in Kilombero district on the environmental grounds. Consequently, it was not possible for the government to provide the village with social services, such as health and education services.

3.2.3 Control of Encroachment into Wetland

In the eight (8) visited wetland areas, the audit noted that each wetland was encroached at varying degrees. Such encroachments might have happened because of inadequate control by the responsible entities, including the LGAs, TAWA, and TFS. Given their nature as being open access, wetlands required the established co-management strategies to ensure that they were conserved through enforcing the existing guidelines for wetlands management. The reason should be to enhance co-management and sustainability. **Figure 3.6** shows the status of encroachment into each wetland.

Figure 3.6: Level of Encroachment of Wetlands in the Visited Wetlands



Source: Data from visited areas (2021)

Figure 3.6 shows the percentage of area encroached among the wetland ecosystems. The percentage of Kilombero Valley Ramsar Site wetlands area, which was 70%, indicated that the wetland was at high risk of failure to give the valuable ecosystem services. These included the provision (food, freshwater, wood and fiber, and fuel); regulating (climate change regulation, flood regulation, disease regulation and water purification);

cultural (Aesthetic, Spiritual, Educational, Recreational); and supporting (Nutrient cycling, soil formation, primary production).

Review of Annual Progress Reports (2018/19 to 2020/21) revealed that, TAWA did not upgrade the area to game reserve, and this resulted into increased human settlements, livestock grazing, and agricultural activities.

Also, through the review of Annual Progress Reports (2018/19 to 2020/21), the audit noted that TFS Kibiti was encroached by people doing paddy farming and illegal harvesting of mangrove; illegal rice farming; and tree cutting for farm expansion. According to correspondence files, this was partly caused by insufficient number of staff to take part in control activities. However, TFS Kibiti did not conduct needs assessment to establish the actual gap.

Further, it was noted that, Mbarali DC did not establish percentage of encroachment, although there were agricultural activities; livestock overgrazing; and irrigation farming within the core areas of the Usangu wetlands.

Interviews with Officials from TAWA in visited regions and review of annual reports, TAWA (Urambo) had no strategies of upgrading Malagarasi-Muyovozi Ramsar Site to a wetland reserve so as to strengthen restrictions and to have wetland management regulations. Malagarasi-Muyovozi, according to TAWA, had multiple uses such as human activities namely; agriculture; livestock grazing; utilization of woodland resource; illegal hunting; illegal fishing e.g., use of poisons and climate change.

On the other hand, through interviews conducted with TFS officials, it was noted that Minziro Wetland, Lake Victoria wetland and Ugalla River swamp had no strategies to establish details on percentage of encroachment.

The analysis of data on encroachment collected from the visited areas indicated data disparities on the extent of encroachment in each wetland. Likewise, through the interviews with LGAs and TAWA officials, it was noted that the two entities did not communicate between them in order to

have the common figure of the extent of encroachment in their areas. This shortcoming revealed the existing poor coordination between these entities. For example, Ngorongoro District Council documented that 5% of the wetland was encroached, while TAWA, on the same wetland, reported the rate of encroachment to be 65%.

According to the reviewed TAWA Progress Reports, the audit noted that the awareness programs conducted by TAWA were not effective. Despite conducting the awareness programs, the encroachment to the wetlands increased. This was the indication that TAWA did not take stringent actions against the defaulters.

Apart from that, the reviewed TAWA Reports¹⁵ on encroachment revealed that TAWA set a reduction target for encroachment only for the designated wetland reserves and Wildlife Management Area (WMA). While, for other types of wetlands which were not on the reserved land TAWA did not set any reduction target. The risk was that once the unprotected wetlands were all encroached, the encroachers would move into the protected areas. The audit noted that all these loopholes happened because TAWA and other environmental agencies neither developed nor coordinated strong guiding regulations and enforcement measures.

The official further showed that, according to Ramsar Convention, people are allowed to make wise use of wetlands, however, the extent of using wetlands wisely has differed from one person to another, resulting into miss-use of wetlands.

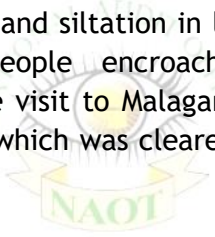
Although TAWA set the encroachment reduction targets on protected areas, the audit found out that TFS and LGAs did not have a document stating the reduction targets on wetlands. As a result, there were

¹⁵ Annual Progress Reports of TAWA-Urambo, (2018/19 to 2020/21)

uncontrolled establishment of settlements, increased livestock, and farmers. On the other hand, the pressure to invade wetlands was attributed by the incidents of climate change¹⁶.

The review of the Report on the Challenges in the Course of managing Ramsar Site of TAWA Urambo (2021) showed that another reason for wetlands encroachment was Global Warming, since it led to the environmental changes. For example, long drought period that resulted into shortage of water and high temperature forced people to encroach the reserved areas for their survival.

The evidence of effects of these deficiencies were noted in all visited areas. According to interviews with officials of the visited Local Government Authorities, encroachment accounted for land degradation that contributed to soil erosion and siltation in lakes and rivers. The audit further noted that when people encroached wetlands, this into deforestation. For instance, the visit to Malagarasi-Muyovozi Ramsar Site, revealed a large area of forest which was cleared, as it is shown in **Figure 3.7**, hereunder.



¹⁶ Annual Progress Reports of TAWA-Urambo, (2018/19 to 2020/21)

Figure 3.7: Deforestation at Malagarasi-Muyovozi Ramsar Site

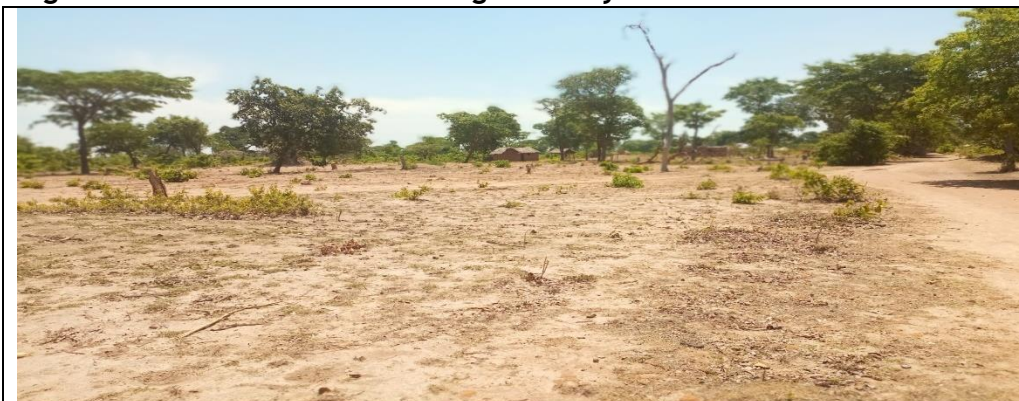
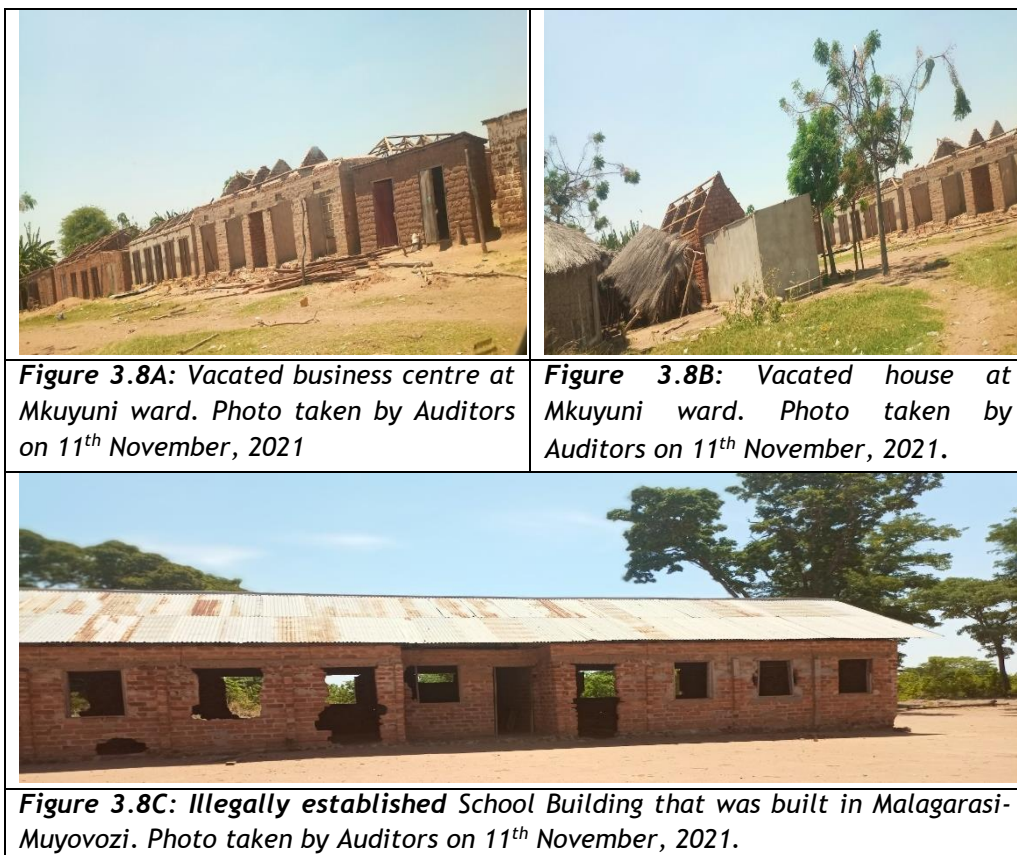


Figure 3.7: Deforestation of trees due to encroachment of Malagarasi-Muyovozi Ramsar Site. Photo taken by Auditors on 11th November, 2021.

3.2.4 Actions Taken by the Government

Considering this aspect, the audit noted some actions taken by Government, to fight against the encroachment. Through the physical observations conducted at the wetlands, the audit noted that the government banned villages which were established on the encroached wetlands. This was done at Mkuyuni ward in Kaliua District Council where villagers who encroached the wetland areas to establish settlements, keeping livestock and agricultural activities were ordered to vacate the areas. Photos of the vacated buildings are shown in **Figures 3.8A and 3.8B** hereunder.

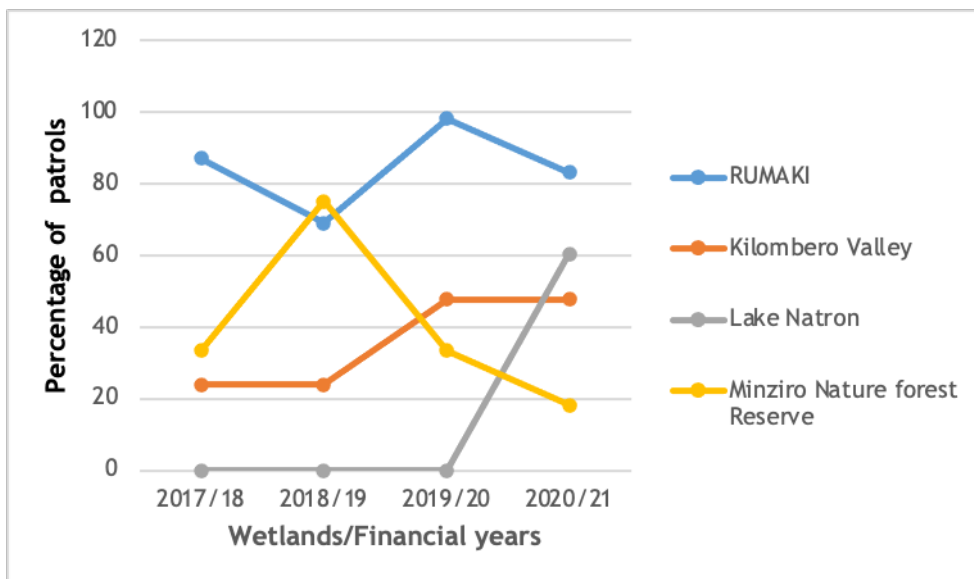
Figure 3.8: Areas Banned by the Government to Fight Against Encroachment



3.2.5 Inadequate Prevention of Encroachments to the Wetlands

The audit assessed the execution of planned patrols conducted as a means to prevent encroachment to wetlands and noted that the number of patrols conducted was less than the planned patrols. According to Annual Progress Reports (2017/18 to 2020/21) from the visited areas, the number of patrols conducted ranged from 0 to 98% of the planned patrols. This is as shown in **Figure 3.9**.

Figure 3.9: Achievement of Patrols in Wetlands from Financial Year 2017/18 to 2020/21



Source: Analysis of data collected from the visited areas (2021)

Figure 3.9 shows that, Kilombero Valley Ramsar Site under TAWA Ifakara in the financial year 2017/18 to 2018/19, achieved 23.8% of the planned patrols. The achievement increased to 47.6% in subsequent years of 2019/20 and 2020/21. The reason for conducting less than half of the planned patrols was limited number of staff.

TAWA Longido which was responsible for the management of Lake Natron (under Mto wa Mbu, Lake Natron, and Longido ecosystems) neither planned nor executed patrols from 2017/18 to 2019/20. According to the progress reports, the audit noted that the reason for not planning and conducting patrols was lack of allocation of budget for conducting patrols. In relation to that, the priority given to the area was only conservation education. It was further provided that, in the financial year 2020/21 TAWA Longido implemented 60.4% of the planned patrols. According to TAWA Longido, they could not go beyond 60% due to the shortage of rangers and vehicles.

For the case of Rufiji-Mafia-Ramsar Site (RUMAKI) under TFS Kibiti, in the financial year 2017/18, there was a decrease in percentage of patrols conducted from 87 to 69%. The reasons for the decrease were shortage of patrol vehicles and inadequate budget for patrols. In the financial year 2018/19 to 2019/20, the achievement increased from 69 to 98%. The interviewed TFS's official noted the reason for the success as being the timely disbursement of fund. While for financial year 2019/20 to 2020/21, the achievement decreased from 98 to 83%, and the reason for this decrease in the achievement of conducting patrols was delay in disbursement of fund from the TFS headquarters.

For the case of K Nature Forest Reserve, from the financial year 2017/18 to 2018/19, the achievement of the planned patrols increased from 33.3 to 75%. Which was caused by an increase in budget. However, in the financial year 2019/20 and 2020/21, there was a decrease in the percentage of patrols conducted to 33.3% and 18.2% respectively due to the decrease in budget.

Despite the patrols conducted by TFS Kibiti along the Rufiji Delta, the audit team, during site visit, noted cases of illegal tree harvesting in the reserved forest under RUMAKI Ramsar Site, as shown in **Figure 3.10A** and **3.10B**. Moreover, the review of the Annual Progress Reports of TFS Kibiti (2017/18 to 2020/21) showed that, this happened due to shortages of resources for patrols. Such resources which were in shortage included human capital, boats, vehicles, and fuels, hence the number of patrols conducted were not effective to curb encroachment and illegal tree harvesting in the reserved forest.

Figure 3.10: Trees Illegally Harvested in Reserved Forest



3.2.6 Pollution within the Wetland Ecosystem

The audit revealed that TAWA, TFS and LGAs did not adequately control pollution in the wetland ecosystems. This was evidenced by the presence of solid waste pollution in the visited wetlands, as presented below:

Presence of Solid Waste Pollution in the Visited Wetlands

The audit noted that four out of eight visited wetlands experienced solid waste pollution that ranged from 25 to 80%. Interviews with officials dealing with wetlands visited conducted an assessment on solid waste pollution due to increase in population and encroachment in the wetlands and noted that there was a pollution ranging from 25% to 80% The extent of pollution in the visited wetlands is as presented in **Table 3.3** below:

Table 3 3: Percentage of Solid Waste Pollution in the Sampled Wetland Ecosystems

Name of the Wetland	Percent of Pollution Solid Waste Pollution	Reasons
Lake Natron Ramsar Site	NIL	presence of TAWA camps that conducts close monitoring and patrols to the Lake
Kilombero Valley Ramsar Site (KVRS)	80	Presence of development of urban area (towns) namely Ifakara, Mlimba and Lupilo
RUMAKI (Kibiti)	Data Not Available	Data Not Available
RUMAKI (Rufiji)	25	Presence of Settlement close to the wetland
Ugalla River Swamp	Data Not Available	Data Not Available
Malagarasi-Muyovozi Ramsar Site	Data Not Available	Data Not Available
Minziro Nature Forest Reserve	50	Data Not Available
Usangu (Ihefu)	Data Not Available	Data Not Available

Source: Auditors' Analysis of Data Collected from Visited Areas, 2021

Table 3.3 shows that the percentage of solid waste pollution ranged from 25 to 80%, whereby Lake Natron Ramsar Site had waste pollution problem while Kilombero Valley Ramsar Site (KVRS) had 80%. The reason for Lake Natron Ramsar Site to have no pollution was due to presence of TAWA camps that conduct close monitoring and patrols to the lake. Whereas, the reason for KVRS to have the highest solid waste pollution was due to the development of urban areas (towns) namely; Ifakara, Mlimba and Lupiro.

Presence of Wastewater Pollution in the Visited Wetlands

The audit noted that five out of eight visited wetlands experienced higher percentages of wastewater pollution than the allowable level, as summarized in **Table 3.4** below:

Table 3 4: Percentage of Wastewater Pollution in the Sampled Wetland Ecosystems

Name of the Wetland	Percent of Pollution Solid Waste Pollution (%)	Reasons
Lake Natron Ramsar Site	3	Presence of TAWA's Camp
Kilombero Valley Ramsar Site (KVRs)	15	Development of Urban Towns Ifakara, Mlimba and Lupilo and presence of small industries for rice milling
RUMAKI (Kibiti)	Data not Available	Data Not Available
RUMAKI (Rufiji)	30	Establishment of settlements close to wetland from which wastewater is closely discharged to wetland
Ugalla River Swamp	Data Not Available	Data Not Available
Malagarasi-Muyovozi Ramsar Site	Data not Available	Data Not Available
Minziro Nature Forest Reserve	30	Presence of Buhembebe village inside the Minziro Forest Reserve and other villages surrounding the reserve area
Usangu (Ihefu)	NIL	The wetland is far from people's surroundings

Source: Auditors' Analysis of Data Collected from Visited Areas, 2022

Analysis from **Table 3.4** shows that, there was no wastewater pollution at Usangu wetland (Ihefu), and the highest wastewater pollution of 30% was noted at RUMAKI (Rufiji) Ramsar Site. The reason for Usangu wetland (Ihefu) to have no wastewater pollution was due to the fact that the wetland was far from the people's surroundings. However, there were no strategies to obtain exactly percentage of pollution caused by solid waste.

For RUMAKI (Rufiji) Ramsar Site, the highest percentage of pollution was due to the establishment of settlements close to wetlands from which wastewater was closely discharged to wetlands. However, the audit noted

that, there were no strategies in place to improve drainage and sewerage systems.

Through the analysis of collected data, it was revealed that the pollution due to Industrial effluents ranged from 3% to 5% with high pollution at Kilombero Valley Ramsar Site (KVRS). The reason for KVRS to have high industrial effluents compared to other areas was due to the presence of small industries for rice milling.

The audit further noted that, Minziro Nature Forest Reserve, Lake Victoria wetland and Ugalla River Swamp had no data on pollution, while for Malagarasi-Muyovozi Ramsar Site, there was no data established for solid, wastewater and industrial effluents, however, human activities were considered to be the major sources of pollution.

According to the State of Environment Report of 2019 and physical observations conducted to the visited wetlands in the respective LGAs, it was noted that, water sources in the country including lakes (covering approximately 60,000 square kilometres), rivers, wetlands, springs, reservoirs, groundwater aquifers and many water bodies that are shared with neighbouring countries are likely to deteriorate. The reasons which have been put forward for this were the increasing rainfall variability and prolonged droughts, which impose serious pressure in the country's available water resources.

On the other hand, severe and recurrent droughts in the past few years triggered a decrease in water flows in rivers, hence shrinkage of receiving lakes, decline of water levels in satellite lakes and hydropower dams. The evidence for this case was noted by the audit team in the Ruaha River in the Ruaha National Park, where low volume of water was seen, as shown in **Figure 3.11**.

Figure 3.11: Photo Showing Low Volume of Water in Ruaha River



Figure 3.11: Low volume of water in Ruaha River at Ruaha National Park during dry season as per photo taken on 4th, November 2021.

Moreover, the interviews held with officials from the Ruaha National Park revealed that, Ruaha River in the Ruaha National Park was drying up every year in dry season, as it was witnessed by the audit team. This was linked to human activities that were taking place in the Usangu Catchment, and consequently were reducing the volume of water flowing through Usangu wetland.

CHAPTER FOUR

MEASURES FOR RESTORATION AND PROTECTION OF WETLAND ECOSYSTEMS

4.1 Introduction

This chapter presents findings on the performance of VPO, PO-RALG and MNRT towards the implementation of Control Measures for Conservation, Restoration, and Protection of Wetland Ecosystems in Tanzania. The detail of the findings is as explained in the following sections.

4.2 Efforts of LGAs in Conservation and Protection of the Wetland Ecosystems

The following are findings with regard to efforts of LGAs in conservation and protection of Wetland Ecosystems:

4.2.1 LGAs did not Conduct Inventories for Status of Wetlands in the Areas of their Jurisdiction

According to Section 165 of the Environmental Management Act No. 20 of 2004, LGAs are required to maintain and keep environmental records and information. This information could originate from research or survey reports, inspection results, reported incidents and complaints or any information that could cause the risk of wetlands degradation to rise.

The audit team reviewed files in which the issues related to wetlands were documented and noted that, all LGAs were documenting different incidences happening within the wetlands. However, such incidences were recorded on loose paper or temporary hardcopy files. Therefore, it was difficult to assess the trends of performance over years. This caused difficulties for the audit team to establish trend and the extent of reduction of wetland. All eleven visited LGAs did not know exactly the status of reduction in wetland coverage and the extent of wetland degradation in their area.

Given this situation, therefore, data on the wetland biodiversity trends and status were unknown to the interviewed teams. Such data were, as well, not found in the records that were reviewed by the audit team. Through the interviews with LGAs officials, it was noted that such information was missing. In relation to that, it was noted that there was no existing environmental database or environmental information management system to store data on wetlands.

Furthermore, the environmental information management system is the system that includes the information of the status of wetlands and other related information. Thus, lack of such system was the likely cause that no LGA had developed concrete plans on how to manage wetland in their areas. Wetlands management during the period covered by this audit was reactive targeting incidences that happened at the specific timings. This approach, therefore, limited the LGAs from budgeting for activities related to the management of wetlands.

Through the reviewed progress reports, the audit team noted that no LGA specifically put or assigned staff to deal with wetland issues. In most cases, there were overlapping and duplication of efforts between different departments. For example, interviews conducted with officials in the visited LGAs revealed that the officials who dealt with Environmental Management overlapped with officials who deal with wildlife management and the ones who dealt with Forest in management of the wetlands. These are the three different departments in LGAs that operate in silos. Consequently, the observed difficulties in understanding the state of wetlands in each LGA.

4.2.2 LGAs did not Integrate National Wetlands Management Strategies into their Plans

Local Government Authorities are mandated by Section 36 of the Environmental Management Act No. 20 of 2004 to regulate all matters relating to environmental issues and ensure enforcement of compliance in their areas of jurisdiction. In line with the aforesaid Act, the National Strategy for Sustainable Wetlands Management Program (SWMP) 2011-2020

requires LGA to ensure that wetlands are taken into consideration in all District Development Plans (DDP) and allocate resources according to economic and bio-diversity importance of the resource.

The audit reviewed the strategic plans together with the progress reports to determine whether LGAs' Plans contained issues of restoration and protection of wetland ecosystems. **Table 4.1** below provides the assessment of the extent to which the visited LGAs integrated wetlands activities in their plans.

Table 4.1: Inclusion of Wetlands Activities in the Plans of the Visited LGAs for Financial Year 2017/18 to 2020/21

Name of the LGAs	Level of inclusion as per National Wetland Management Strategies			
	2017/18	2018/19	2019/20	2020/21
Longido DC	YES	YES	YES	YES
Ngorongoro DC	YES	YES	YES	YES
Misenyi DC	YES	YES	YES	YES
Kaliua DC	NO	NO	YES	NO
Mbarali DC	NO	NO	NO	YES
Nsimbo DC	NO	NO	NO	NO
Mwanza CC	NO	NO	NO	NO
Ifakara TC	NO	NO	NO	NO
Mlimba DC	NO	NO	NO	NO
Rufiji DC	NO	NO	NO	NO
Kibiti DC	NO	NO	NO	NO

Source: Data from review of LGAs Plans (2021)

Table 4.1 indicates that, six out of eleven visited LGAs did not include the implementation of the National Wetlands Management Strategies in their Annual Work Plans, two out of eleven visited LGAs each in the duration of four year included issues of National Wetlands Management Strategies in their Annual Work Plans for only one year. On the other hand, three out of eleven LGAs included issues of National Wetlands Management Strategies in their Annual Work Plans in all four financial years under review.

Therefore, these results revealed that the National Wetlands Management Strategy was not adequately implemented in most of the visited LGAs. However, for the two LGAs, namely; Longido and Ngorongoro, to some extent addressed this in their plans as well as reflecting it in their budgets. Both Longido and Ngorongoro were found to be covered by the wetlands of significant importance to the country.

Furthermore, those LGAs which did not include the implementation of the National Wetland Strategy in their plans showed that they lacked financing for activities related to management of wetland. Some of these LGAs like Mbarali, Ifakara, Rufiji were found to have the wetlands of international and national significance namely; Rufiji delta, Ihefu and Kilombero Valley. Therefore, it was necessary for their plans to reflect this activity. In these LGAs, a lot of revenues were collected through the source of these wetlands, therefore, it could have been a good strategy to return some of funds to continue maintaining such sources.

Thus, due to the absence of plans that addressed the National Wetlands Management Strategies, it was also difficult for VPO to assess whether wetlands management programs in the National Wetlands Management Strategies were being implemented all over the country.

4.2.3 LGAs did not Adequately Conduct Awareness Campaigns to sensitize Sustainable Protection of Wetlands

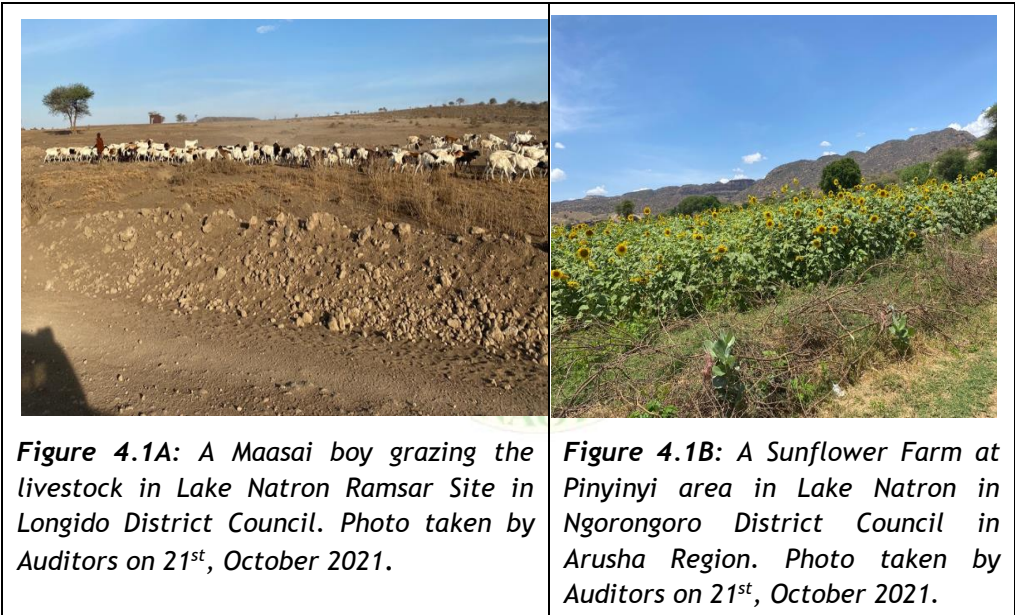
Section 15 (a) and (b) of the Local Government Authorities Act of 1982 requires the LGAs to conduct public education and awareness programs which focus on restoration, protection and managing of the wetland ecosystems.

However, as it is noted in the reviewed annual plans (2017/18, 2018/19, 2019/20 and 2020/2021) of the eleven visited LGAs, education to the citizens on restoration and protection of wetlands in their areas was not adequately disseminated. During the interviews with LGAs officers in the visited LGAs, it was revealed that communities living in the wetland areas

depended on wetlands for survival. This contributed to the continued unsustainable use and degradation of wetlands ecosystems.

For example, the audit team observed agriculture and grazing activities in Pinyinyi village and Lake Natron Ramsar Site wetland respectively. **Figure 4.1 (A&B)** below shows the activities taking place in the wetland areas.

Figure 4. 1: Agriculture and Grazing Activities in Pinyinyi Village and Lake Natron Ramsar Sites



The following were reasons for inadequate implementation of awareness campaigns in eleven (11) visited LGAs.

Inadequate Planning for Awareness Campaigns

Interviews with officials in the visited LGAs and review of progress reports showed that all eleven LGAs did not have a well-designed community awareness plan. Through the review of awareness plans, it was noted that they were not clear on how they could be implemented. For example, the plans did not show how often the campaigns should be carried out -

weekly, monthly, bi-annually, or annually. It was not clear also who were the targeted audience, as well as the mode of dissemination such as advertisement or notice on TV or radio, consultation, training, pamphlets, internet, etc. were not stated.

Since the targeted audience was not identified the implementation of these plans were likely to fail or be ineffective. Failure of having adequate awareness also led to degradation of wetlands in all eleven (11) visited LGAs because it was believed that people considered the resources in the wetland as open access therefore, they were free to be used by everyone.

Inadequate Monitoring of the Effectiveness of Awareness Programmes

According to ISO 1900, the best practice on quality management systems, LGAs were required to conduct monitoring on the implemented awareness programmes in the areas of their jurisdiction to ensure they meet the intended objective of conservation and protection of Wetland.

Review of Annual Progress Reports for the financial year 2017/18 to 2020/21 showed that, although all eleven (11) LGAs carried out community awareness activities, the achievement of these programs was not monitored. It was noted that, LGAs did not conduct monitoring or evaluation to check whether the program was effective and had contributed positively to conservation and protection of wetland ecosystems.

The reason for not conducting monitoring or evaluation to check whether the program was effective was due to shortage of human resources.

The continued degradation of wetlands observed in LGAs was a reflection that the awareness campaigns conducted were not effective.

4.2.4 Ineffective Coordination between NEMC and LGAs

According to Section 15(a) of Environmental Management Act, Director of Environment shall coordinate various environment management activities

being undertaken by other agencies and promote the integration of environment considerations into development policies, plans, programmes, strategies, and projects.

Based on the interviews held with both NEMC officials and LGAs officials and review of NEMC's Annual Progress Reports of 2018/19 to 2020/21, the audit noted that, one of the factors that contributed to inadequate conservation and protection of wetland ecosystems was weak coordination between NEMC and LGAs. This happened because there was no established system for sharing of statistical data on restoration, protection, and management of wetlands among these entities. It was further revealed that, NEMC as the National environmental enforcement agency was not well informed on how things were going on at the LGA level. This affected NEMC in terms of planning and identifying the risk areas for inspection and the areas that needed urgent actions.

Despite the fact that it is the requirement of the Environmental Management Act No. 20 of 2004 for LGAs to report to NEMC on any environmental activity, there were no reports submitted to NEMC for the whole period under review. Lack of sharing information among them limited NEMCs' ability to know the challenges facing LGAs on the management of wetlands.

4.3 Inadequate Information Sharing between MNRT and PO-RALG

MNRT and PO-RALG are the primary agencies charged with the management and regulation of wetlands. Therefore, coordination between them is critical for the achievement of national objectives in relation to wetland management.

According to Ramsar Agreement, MNRT and PO-RALG were supposed to share information between each other. However, interviews with MNRT officials revealed that, there were not any established systems for sharing of information. The reports or information shared between PO-RALG and MNRT were those requested for the specific use. Lack of regular sharing of such information affected the two ministries in planning for regulating the

use of wetland resources, including providing to the LGAs such services as supportive supervision, technical support and monitoring role.

Similarly, the same agreement required MNRT to send directives and guidelines to PO-RALG to ensure that wetlands were supported in management. However, interviews with MNRT officials revealed that there was no information, guideline or directive shared to PO-RALG.

It was also noted that these LGAs were the ones which dealt early with the communities, therefore for effective management of Ramsar Sites and other wetlands of international interest co-management needed to be introduced. In order to ensure that this management approach was effective, MNRT needed to coordinate with PO-RALG to affect it.

Lack of information sharing between MNRT and PO-RALG resulted into disintegration of effort to deal with management of wetland in the country. As a result, involvement of LGAs in issues of wetlands for LGAs with agencies of MNRT (TAWA and TFS) was minimum.

4.4 Extent of Collaboration between VPO, PO-RALG and MNRT in Coordinating the Management of Wetlands

Section 15(a) of the Environmental Management Act No. 20 of 2004 requires the Director of Environment on matters pertaining to the management of the environment, to coordinate various environment management activities being undertaken by other agencies and promote the integration of environment considerations into development policies, plans, programmes, strategies, and projects.

Further the section requires the Director of the Environment to undertake strategic environmental risk assessment with the view to ensure the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of the quality of human life in Tanzania.

According to the review of documents at MNRT, it was noted that, the MNRT agencies, namely; TAWA, TFS and TANAPA had environmental management programs and provided budget and resources for the management of wetland resources in their areas. In addition to that, these agencies submitted their performance reports to the MNRT, being their parent ministry.

According to Section 56(3) of the Environmental Management Act No. 20 of 2004, Sector environmental coordinator shall furnish to the Director of Environment information on the management and status of wetlands falling under their respective jurisdiction.

It was expected that, MNRT as one of the key sector ministries to submit the completed report to VPO on regular basis. However, the interviewed MNRT officials revealed that the submission of reports to VPO was based on VPO's requests, other than being a mandatory legal requirement. Although EMA states that, the sector ministries are to furnish reports to VPO, this was not done due to lack of coordination.

4.4.1 VPO did not Facilitate Implementation of the National Wetland Management Strategy

According to Section 56 (5) of the Environmental Management Act No. 20 of 2004, the Minister in consultation with other sector ministries may make regulations and guidelines on the sustainable management of wetlands protected under this Act.

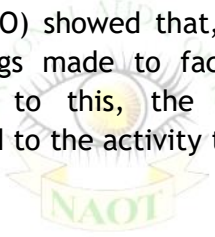
Interviews with officials from the Division of Environment in the Vice President's Office revealed that, as a means of implementing the National Wetland Management Strategy, VPO developed the Guideline for Sustainable Management of Wetland of 2014.

The audit observed the following weakness concerning the implementation of National Wetland Strategy as far as the Guideline for Sustainable Management of Wetlands is concerned:

Lack of Guideline for Sustainable Management of Wetlands at PO-RALG

The audit noted that VPO, being the custodian of this guideline, did not ensure that the document was distributed. The follow up to ensure all key stakeholders got and used the same guideline was not done. Although, VPO did upload it in its website, all visited LGAs were not aware of the presence of this document. The reason for this situation was partly due to that VPO did not put enough emphasis on the awareness to LGAs to ensure they downloaded and used the guideline.

The interviewed officials from VPO pointed out that, VPO informally announced in one of the workshop meetings regarding availability of the Guideline for Sustainable Management of Wetlands (2014) that it was available in VPO's website. Furthermore, review of correspondences from the Vice President's Office (VPO) showed that, there were no efforts in terms of planning and trainings made to facilitate adaptation of the developed guideline. Further to this, the audit did not find any commitment by VPO with regard to the activity to distribute the guidelines in its annual work plans.



CHAPTER FIVE

FINDINGS ON COORDINATION, MONITORING AND EVALUATION OF CONSERVATION ACTIVITIES

5.1 Introduction

This chapter presents findings on the coordination of activities undertaken by VPO-DoE, MNRT, PO-RALG, NEMC, and LGAs. It also presents findings on monitoring and evaluation by VPO-E and PO-RALG.

5.2 VPO did not Adequately Monitor and Evaluate the Management of Wetlands

5.2.1 VPO did not Adequately Monitor Status of the Management of Wetlands in the Country

According to Guidelines for Sustainable Management of Wetlands of 2014, the overall responsibility for monitoring of components progresses and outcomes is vested with the VPO and supported by other sector ministries. Interviewed officials from VPO revealed that, VPO monitors status of management of wetlands in the country through reviewing reports and, where possible, visiting wetlands. The following were the observations in relation to monitoring:

(i) Lack of Plans for Monitoring the Status of the Management of Wetlands in the Country

Review of Annual Work Plans and Annual Progress Reports of the Division of Environment from the financial year 2018/19 to 2020/21 showed that, VPO did not plan activities for monitoring the status of the management of wetlands.

Review of Annual Work Plans for the financial year 2018/19 to 2020/21 showed that, there was no plans for monitoring the status of wetlands.

Interviews with officials from VPO also showed that, lack of planning for monitoring the status of wetlands was due to the reason that VPO did not include this activity in its priority activities because of shortage of resources.

Lack of planning for monitoring the status of the management of wetlands resulted into non-implementation of monitoring activities and financing and was likely to impact on decision making to minimize the negative consequences on the wetlands.

(ii) Inadequate Monitoring of Ramsar Sites

According to Ramsar Agreement, after every three years, each member has to send monitoring report to RAMSAR Secretariat. Interviewed officials from VPO pointed out that, VPO planned to visit at least two RAMSAR sites every year (one Ramsar Site after every six months). However, VPO did not conduct monitoring visit to Ramsar Sites as required.

VPO managed to visit only once each year in all four Ramsar Sites in the period of three financial years (2018/19 to 2020/21). The reason for not conducting monitoring visits as planned was reported to be scarcity of funds. According to VPO's Financial Records, the VPO had budgeted TZS 4.94 billion for operations of the Division of Environment including monitoring activity, however they received TZS 4.63 billion for the past three years (*Refer Sub-section 2.6.3 of this report*) which was almost 94% of the actual budget See Table 5.1. Hence, if monitoring was prioritized, it would be possible for VPO to undertake this activity. Therefore, the failure to accomplish the task could be associated with the fact that VPO did not prioritize wetlands' monitoring in their plans.

Table 5.1: Budget for Management of Conservation and Protection of Wetland Ecosystems at the VPO-Division of Environment

Financial Year	Budgeted Fund (TZS-Billion)	Disbursed Fund (TZS-Billion)	Deficit (TZS-Billion)	% of Deficit
2020/21	1.72	1.70	0.02	2
2019/20	1.69	1.68	0.01	1
2018/19	1.53	1.26	0.27	18

Source: Financial Flows from Policy Analysis Division (2018/19 - 2020/21).

Based on **Table 5.1**, the budget deficit was 17.6%, 0.6% and 1.5% in 2018/19, 2019/20 and 2020/21 respectively. The gap in implementation of monitoring activities, however, was half which is less than the expected impact of the budget deficit.

Failure to conduct monitoring visits as planned had impact in knowing the current information on Ramsar Sites. For instance, VPO wrote a letter to the Permanent Secretary of the Ministry of Natural Resources and Tourism (MNRT), with Reference number BA.78/281/01/99 dated 24th April, 2020 requesting for updated information on Ramsar Sites of International Importance. The response to this letter as noted by the audit team just supplied the information on Ramsar Sites which was more than ten (10) years old. This was beyond the minimum time of three years which is required by Ramsar Secretariat. This implies that if VPO had prioritized monitoring that would provide it with the opportunity to bridge the gap left by other actors in protecting wetlands by timely obtaining updated information on status of wetlands.

(iii) VPO did not have Updated Information on the Status of Wetlands in the Country

Apart from knowing the information on the Ramsar Sites, VPO was expected to have the most updated understanding of the status of other wetlands in the country. Review of correspondence on environmental issues from VPO showed that, VPO neither identified nor documented the extent of the degraded or lost wetlands in the country.

The audit noted that the reason for not documenting degraded wetlands was lack of regular reports from all entities including LGAs and MNRT from which the responsible team would analyse and provide feedback for future mitigation measures to most degraded areas and those needing special attention. It was further noted that VPO did not have an established mechanism to govern the receipt of regular reports from other stakeholders. For example, there were no regular formal reports received from LGAs and MNRT (TANAPA, TAWA and TFS) providing information on the implementation of national targets for the protection and conservation of wetland ecosystems.

Moreover, VPO did not put adequate strategies and commitment to ensure close monitoring of the national status of wetlands in order to establish the national database or dashboard that provides the status of performance of different indicators. Lack of database resulted into failure of accessing the status of wetlands by stakeholders such as LGAs, TAWA, TFS, and sector ministries to prepare effective plans for the management of wetlands.

(iv) VPO did not Monitor the Status of Wetlands in LGAs

According to Section 15 (d) of Environmental Management Act No. 20 of 2004, VPO is required to monitor and assess activities carried out by relevant agencies in order to ensure that the environment is not degraded by such activities, environmental management objectives are adhered to and adequate early warning on impending environmental emergency is given.

Interviews with officials from VPO revealed that, VPO did not adequately conduct monitoring visits on the status of wetlands in LGAs. Interviewed officials further pointed out that, despite requesting reports on the implementation of measures to conserve and protect wetlands from LGAs, VPO did not conduct the planned visits to LGAs for verification of the reported activities. Ad hoc visits were only conducted on the basis of the issues that took place in LGAs and they needed the immediate action by VPO.

On the other hand, the audit noted that, VPO did not receive regular reports from LGAs except the information that VPO requested from LGAs on emergency basis. Review of correspondences from VPO showed that, the only wetland data that VPO had from LGAs were the ones that VPO requested for the specific purpose and not as a regular progress report to update the wetland status in the country¹⁷.

For example, in the financial year 2019/20, VPO requested information from LGAs through PO-RALG regarding wetlands and activities carried out to such wetlands through a letter dated 24th February, 2020 with reference number BA.78/281/01/93 and was provided with the information through a letter dated 30th March, 2020 from PO-RALG to VPO. This implies that, without requesting for information from LGAs, VPO would not get the updated information from LGAs, this makes it difficult to monitor the status of wetlands in LGAs.

5.2.2 VPO did not Receive Adequate Support from Key Sector Ministries on Monitoring the Status of the Management of Wetlands

According to the Guidelines for Sustainable Management of Wetlands of 2014, of the Vice President' Office, the overall responsibility for monitoring of components' progresses and outcomes is vested to the VPO which is expected to get support from Ministry of Natural Resources and Tourism (MNRT), Ministry of Agriculture (MoA), Ministry of Water (MoW), Ministry of Livestock and Fisheries (MLF) and other related ministries.

¹⁷ Letter dated 24th February, 2020 with reference number BA.78/281/01/93 and was provided with the information through a letter dated 30th March, 2020 from PO-RALG to VPO.

Interviews with officials from VPO revealed that, VPO did not receive adequate information regarding the management of wetlands from sector ministries. For instance, for the period from the financial year 2017/18 to 2020/21, only in the financial year 2019/20 and 2020/21, VPO received the information on the status of four Ramsar Sites of International Importance namely Malagarasi-Muyovozi; Lake Natron Basin; Kilombero Valley Flood Plain; and Rufiji-Mafia-Kilwa Ramsar Sites from MNRT after requesting for such information for updating information of Ramsar Sites.

The audit noted that, there were not any other reports from MNRT other than information on Ramsar Sites requested by VPO. Furthermore, the audit noted that, VPO did not receive information on management of wetlands from other sector ministries such as Ministry of Agriculture (MoA), Ministry of Water (MoW), and Ministry of Livestock and Fisheries (MLF). As a result, VPO could not assess the impacts of wetland degradation from activities under these ministries.

5.2.3 PO-RALG did not Monitor and Evaluate the Performance of LGAs in the Management of Wetlands

Section 56(2) of the Environmental Management Act No. 20 of 2004 requires sector ministries under whose jurisdiction any area of wetland falls, to be responsible for the management of wetlands falling under their respective jurisdiction. This includes monitoring of LGAs on the management of wetlands falling under their respective jurisdiction.

Review of correspondences and interviews with officials from PO-RALG showed that, PO-RALG did not monitor and evaluate the performance of LGAs in the management of wetlands. Furthermore, the review of correspondences at PO-RALG and VPO showed that the PO-RALG did not collect adequate information from the LGA when requested by the VPO.

Reasons for PO-RALG not to conduct monitoring and evaluation on the performance of LGAs in managing wetlands are as elaborated hereunder.

For example, review of a letter with reference number BA. 78/281/01/93 dated 24th February 2020 from VPO to PO-RALG showed that, VPO requested details on list of wetlands available in areas of jurisdiction of all LGAs in the country including activities carried out recently and to be carried in future in such areas.

However, review of correspondence files at VPO showed that, there was only one letter with reference number CD. 148/175/04G/97 dated 30th March 2020 from Morogoro Regional Secretariat to the Permanent Secretary of PO-RALG which showed that, only the Morogoro region submitted details on the available wetlands and recent activities carried out in such wetlands and the anticipated future activities. According to PO-RALG, other LGAs did not furnish the requested information because of less efforts invested to remind LGA officers regarding submission of the required information on wetlands.

(i) Lack of Budget for Monitoring and Evaluating the Performance of LGAs in the Management of Wetlands

Review of Medium-Term Expenditure Framework (MTEF) showed that, there was no budget for monitoring the management of wetlands in LGAs. Review of correspondence files showed that, PO-RALG did not put wetland information as part of the reports from LGAs. Therefore, the environmental reporting system in which LGA report to PO-RALG excluded wetland issues. Wetland information was either voluntarily reported or in case there was a critical problem in the LGAs. As a result, PO-RALG could not compile wetland status report.

(ii) Lack of Coordination Between VPO and PO-RALG

According to Section 15(a) of the Environmental Management Act No. 20 of 2004, the Director of Environment on matters pertaining to the management of the environment is required to coordinate various environment management activities being undertaken by other agencies and promote the integration of environment considerations into development policies, plans, programmes, strategies, and projects.

Also, Section 56(3) of the Environmental Management Act No. 20 of 2004, requires the Sector environmental coordinator to furnish to the Director of Environment information on the management and status of wetlands falling under their respective jurisdiction.

Similarly, the Medium-Term Strategic Plan of Vice President's Office for the period of financial year from 2015/16 - 2020/ 21 (Objective D) required the VPO to strengthen coordination and collaboration with other stakeholders on environment conservation.

Review of Annual Progress Reports of VPO (2018/19 to 2020/21) showed that, there was no coordination on environment conservation and protection regarding the management of wetlands. It happened that there was no reporting on the issues of conservation and protection of wetland ecosystems as a means of sharing information with other stakeholders on environmental conservation including wetlands.

Interviews with officials from PO-RALG revealed that, PO-RALG did not collaborate with VPO on issues of wetlands since the issues of management of wetlands were not included in their job description, hence there was no budget for their management.

However, review of Approved Organization Structure of PO-RALG¹⁸ shows that, among the roles of the Division of Sector Coordination (DSC) are: Coordinating management and conservation of natural resources and environment issues in RSs and LGAs; Monitor and evaluate implementation of

¹⁸ The Functions and Organisation Structure of the Prime Minister's Office, Regional Administration and Local Government (PMO-RALG), as approved by the President on 12th February, 2015.

social service sectors at RSs and LGAs; and coordinate the implementation of mitigation and adaptation measures with respect to Climate Change in RSs and LGAs. The audit noted that, coordinating management and conservation of natural resources and environment issues, in turn, had to involve the issues of conservation of wetlands. Non-incorporation of issues of wetlands as among the roles had an impact of non-planning for management of conservation and protection of wetlands at both ministerial level and at the LGAs levels.

Further interviews with officials from VPO revealed that, there was coordination with PO-RALG in the implementation of Sustainable Wetlands Management Programme (SWMP), however, the audit noted that, sharing of information among the two entities was when one of the entities needed information from the other entity rather than having regular communication for information sharing or reporting on issues of wetlands conservation.

Lack of coordination among VPO and PO-RALG was also evidenced during the audit when the audit team visited the entities whereby PO-RALG showed that, it was not aware on the presence of the Guideline for Sustainable Management of Wetlands (2014). Absence of the guideline at the ministerial level (PO-RALG) resulted to non-availability of the guideline to all eight (8) visited wetlands.

Reason for lack of coordination among the two entities was due to lack of mechanism that would hold each entity responsible to the other.

Lack of coordination between VPO and PO-RALG resulted into lack of updated information on status of wetlands to both entities that had impact on decision making for measures on implementation of restoration and protection of wetland ecosystems.

CHAPTER SIX

CONCLUSION

6.1 Introduction

This chapter presents the audit conclusions based on the findings as presented in chapters 3, 4 and 5 of this report. The conclusion forms two parts namely, general, and specific conclusions as detailed below.

The National Audit Office acknowledges the Government's efforts through Vice President's Office (VPO), Ministry of Natural Resources and Tourism (MNRT), President's Office Regional Administration and Local Government (PO-RALG), National Environment Management Council (NEMC) and Local Government Authorities (LGAs) towards improving management of conservation and protection of wetlands ecosystems.

However, VPO, NEMC, MNRT, PO-RALG and LGAs need to get coordinated and collaborate to find interventions necessary to improve the management and conservation of wetlands ecosystems national wide. These entities also need to come to terms and take responsibility in implementing the National Wetlands Management Strategy that has remained in shelves and on the website since its approval. As such, the entities will be able to contribute significantly towards attaining national and international wetlands management goals.

6.2 General Conclusion

Despite the fact that the Government of Tanzania has undertaken some interventions to prohibit human activities in wetlands, the efforts taken have not been effective. The rate of encroachment and wetland degradation is appalling threatening the unique biodiversity and ecological integrity of these important areas. There is a lack of combined effort to ensure that this national resource is well managed for its sustainability. Most wetlands have remained unknown while those with special protection are being degraded because of mere negligence and poor institutional coordination.

Based on the information presented in the findings chapters, the audit concludes that the Vice President's Office (VPO), President's Office-Regional Administration and Local Government (PO-RALG) and the Ministry of Natural Resources and Tourism (MNRT) are not efficient in ensuring effective protection of wetlands in Tanzania. The findings of this audit report have indicated lack of knowledge on the existence of the National Wetlands Management Strategy thus contributing to inadequate emphasis of wetland management activities in plans from PO-RALG, LGAs, MNRT and other sector ministries. Therefore, most of the visited entities neither implemented the National Strategy for Wetland Management nor prepared plans for managing wetlands.

It was further noted that, the VPO, being the responsible institution, which is supposed to spearhead the environmental management in the country, did not effectively and actively collaborate with PO-RALG, MNRT, LGAs to ensure a coordinated implementation of the existing National Strategy for Wetland Management in the country.

6.3 Specific Conclusions

The following are specific conclusions:

6.3.1 Extent of Wetland Degradation and Coverage Reduction Countrywide

Restoration of the degraded wetlands in the visited site remain a frightening challenge to the government. So far significant wetland areas have been degraded and their coverage has been reduced beyond normal repair. It will take long-time and huge commitment to restore the lost wetland ecosystem. The expected key stakeholders have been putting lower priority in dealing with restoration and conservation. Most of them had no actionable strategies and commitment for the effective control of the human activities such as agriculture, livestock grazing, population growth and settlement.

6.3.2 Implementation of Measures to Restore and Protect Wetlands Degradation in the Areas of their Jurisdiction

- (i) Even though LGAs have been the key beneficiaries of the existing wetland resources in their areas, no LGA had conducted an inventory or have the updated data or status for wetland in the areas of their jurisdiction. Lack of established mechanism in place to capture the issues of wetlands in the areas of their jurisdiction has been partly the reason for this deficiency. In long run, the LGA will suffer the social economic consequences for the lost wetland ecosystems.
- (ii) The issues of awareness campaign have not been given more focus by LGAs. No LGA has adequately conducted the awareness campaign to ensure the community in their respective areas are sensitized on sustainable protection of wetlands. Given the fact that majority of the communities along the wetland ecosystem depend their lively hood on these natural resources, the LGAs did not have a well-designed community awareness program to train and sensitize them on the sustainable use of the wetland resource.
- (iii) LGA did not conduct monitoring or evaluation to check whether the program was effective and had contributed positively to conservation and protection of wetland ecosystems. This contributed to inadequate implementation of awareness campaign;
- (iv) Coordination between NEMC and LGAs was not effective. This is because there was no established system for sharing of statistical data on restoration, protection, and management of wetlands. This limited NEMCs' ability to know the challenges facing LGAs on management of wetlands.

6.3.3 Performance of MNRT in Conservation, Protection and Management of Wetland Ecosystems

MNRT through TAWA and TFS has not effectively implemented the measures to adequately prohibit human activities of a permanent nature, or which are likely to compromise activities in or adversely affect conservation of wetlands in the area under their jurisdiction. This is because, MNRT though its agencies have not managed to effectively implement measures to prevent people from invading the various wetland resources such as forest and hunting within wetlands. This also includes the increased activities related to settlements, livestock grazing and farming. These activities cause wetland degradation and reduction of wetland coverage.

6.3.4 Coordination of VPO with MNRT and PO-RALG in the Management of Wetlands in the Country

VPO did not effectively collaborate with MNRT and PO-RALG in the management of wetlands in the country. This is because, VPO did not effectively share information with MNRT and PO-RALG. Likewise, MNRT and PO-RALG could not share information on the management of wetlands with VPO. Due to lack of sharing information among the institutions, this has weakened the combined effort to ensure the wetland ecosystems are restored and conserved.

6.3.5 Monitoring and Evaluation of Performance of MNRT, PO-RALG, LGAs by VPO

- (i) VPO as the main custodian of environmental management in the country did not assess and document the Status of Wetlands in the Country. This is because, VPO had no documented the established mechanism for identifying and documenting the status of degraded wetlands in the country. Absence of mechanism for identifying and documenting the status of wetlands in the country has resulted into non-existence of current status of wetlands countrywide including four (4) Ramsar Sites of International Importance namely:

Kilombero Valley Ramsar Site; Lake Natron Ramsar Site; Malagarasi-Muyovozi Ramsar Site; and Rufiji-Mafia-Kilwa Ramsar Site;

- (ii) VPO did not receive information on management of wetlands from other sector ministries such as Ministry of Agriculture (MoA), Ministry of Water (MoW), and Ministry of Livestock and Fisheries (MLF). As a result, VPO could not assess the impacts of wetland degradation from activities under these ministries, e.g., agriculture has been intensively linked with degradation of wetlands, and the same is the case for the livestock on the wetland ecosystems. Illegal fishing in water resources in wetland area to large extent affects the wetland ecosystems.
- (iii) VPO did not adequately maintained the monitoring of indicators of the health status of the national wetland. This is to ensure if follow up the attainment of the set targeted of the level of reduction of threatened wetlands.



CHAPTER SEVEN

RECOMMENDATIONS

7.1 Introduction

This chapter presents recommendations directed to Vice President's Office (VPO), Ministry of Natural Resources and Tourism (MNRT), President's Office-Regional Administration and Local Government (PO-RALG), National Environment Management Council (NEMC) and Local Government Authorities (LGAs) on what should be done to improve the management of conservation and protection of wetland ecosystems.

The National Audit Office believes that these recommendations need to be fully implemented to improve the way management of conservation and protection of wetland ecosystems.

The recommendations cover: coordination, monitoring, planning and allocation of resource, measures for conservation and protection of wetlands, and awareness campaigns to communities regarding conservation of wetlands.

7.2 Recommendations to the Audited Entities

7.2.1 Recommendations to Vice President's Office


The Vice President's Office should:

- i. Develop a formal mechanism to involve PO-RALG and MNRT on implementing the National Strategy for Sustainable Wetlands Management;
- ii. Develop mechanisms to supervision and monitor the performance of LGAs through PO-RALG on the implementation of the National Strategy for Sustainable Wetlands Management and ensure the aforesaid mechanism is effectively funded, implemented, and reported;

-
- iii. Strengthen the strategies to ensure effective collaboration with regional and international bodies to address the issues of management of conservation and protection of wetland ecosystems; and
 - iv. Plan and implement the dissemination of the guideline for sustainable management of wetlands (2014) to key stakeholders including the MNRT, PO-RALG, LGAs, TAWA TFS, Ministry of Agriculture, Livestock and Fisheries, Southern Agricultural Growth Corridor of Tanzania (SAGCOT), TANAPA and the National Environmental Advisory Committee (NEAC).

7.2.2 Recommendations to the President's Office - Regional Administration and Local Government

The President's Office - Regional Administration and Local Government should:

- 
- i. Prepare short- and long-term plans that align with National Strategy for Sustainable Wetlands Management with clearly defined targets and timelines for the achievement of targets;
 - ii. Ensure that LGAs carry out, periodically, a comprehensive assessment of the status of wetlands in their areas of jurisdictions and take develop a database for guiding effective management of wetlands;
 - iii. Develop and implement awareness campaigns to the communities in order to educate them about the benefits of conservation and protection of wetland ecosystems; and
 - iv. Develop performance indicators for regularly monitoring LGAs' performance towards implementing National Strategy for Sustainable Wetlands Management.

7.2.3 Recommendations to the National Environment Management Council

National Environment Management Council should:

- i. Improve inter-sectoral coordination, information sharing and communication among players by strengthening means of information sharing in the environment sector to ensure wetlands are highly protected

7.2.4 Recommendations to the Ministry of Natural Resources and Tourism (MNRT)

Ministry of Natural Resources and Tourism should:

- i. Through its agencies, TAWA, TANAPA, and TFS jointly strengthen efforts in dealing with the encroachment problem in their area of jurisdiction and integrate their data with those from other wetlands stakeholders; and.
- ii. Monitor pollution levels and sources thereof within their areas of jurisdiction for effective management of the wetland areas and put the strong measures to address the solid waste, wastewater, and industrial effluents within the wetlands.

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 18. United Republic of Tanzania, National Water Policy, 2002
 19. United Republic of Tanzania, State of Environment Third Report, 2019
 20. United Republic of Tanzania, the Fisheries Act, 2003
 21. United Republic of Tanzania, the Fisheries Policy, 2015
 22. United Republic of Tanzania, the Wildlife Act No. 5 of 2009
 23. United Republic of Tanzania, Water Resources Management Act, 2009



Appendix 1: Responses from the Audited Entities

This part covers the responses from the three audited entities namely, the VPO, MNRT, NEMC and PO-RALG. The responses are divided into two i.e., general comments and specific comments in each of the issued audit recommendations. The detail is as shown in appendices 1(a, b and c) below:

Appendix 1(a): Responses from the Vice President's Office

General Comment

The VPO Management have noted and will strengthened further management of wetlands for the benefits of present and future generations of Tanzania.

- a) The VPO has enacted EMA 2004 and development of National Guideline for Sustainable Management of Wetlands to enhancing the appropriate way of managing our wetlands sustainably.
- b) EMA section 56 (2) and (3) state that for purposes of management of wetlands declared under subsection (1), sector Ministries under whose jurisdiction any area of wetland falls, shall be responsible for the management of wetlands falling under their respective jurisdiction; and
- c) And section (3) of EMA 2004 states that Sector environmental coordinator shall furnish to the Director of Environment information on the management and status of wetlands falling under their respective jurisdiction.

Specific Comments

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
1	Develop a formal mechanism to involve PO-RALG and MNRT on implementing the National Strategy for Sustainable Wetlands Management	The recommendation is Genuine The Environmental Management Act 2004 has put in place Institutional	The formal mechanism to be strengthened further.	2022/23

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
		<p>framework where, among others, it has directed sector Ministries under whose jurisdiction any area of wetland falls, shall be responsible for the management of wetlands falling under their respective jurisdiction. The VPO, reviewed its Environmental Policy of 1997 and came up with National Environmental Policy of 2021 and its Implementation Strategy. On the other hand, the VPO has developed a regulation for Protected Areas and Environmentally Sensitive Area. The regulation is waiting for vetting and approval from the Attorney General. These policy instruments not only enhance</p>		

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
		<p>protection of wetlands but also consider the protection of other sensitive areas including lands, forests and water sources.</p> <p>All frameworks play critical role in formalizing the directives to the sector ministries and LGAs on sustainable management of wetlands.</p> <p>Sector Ministry and LGAs as per EMA Some of their responsibilities are to ensure compliance by and that all environmental matters contained in other laws including wetlands falling under their jurisdictions are implemented and furnished to the Director of Environment.</p>		
2	Develop mechanisms to supervision and monitor the performance of LGAs through PO-RALG on the	The recommendation is Genuine EMA has put in	To be strengthened further to ensure the aforesaid	2022/23

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
	implementation of the National Strategy for Sustainable Wetlands Management and ensure the aforesaid mechanism is effectively funded, implemented, and reported	place mechanisms to supervision and monitor performance of LGAs by assigning Director of Environment on of its assignment as to monitor and assess activities, being carried out by relevant agencies in order to ensure that the environment including wetlands are not degraded by such activities.	mechanism performance of supervision and monitoring of performance is effectively funded, implemented, and reported	
3	Strengthen the strategies to ensure effective collaboration with regional and international bodies to address the issues of management of conservation and protection of wetland ecosystems	<p>The recommendation is Genuine</p> <ul style="list-style-type: none"> Tanzania is the part to the Ramsar Convention which is an international treaty for the conservation and sustainable use of wetlands. The Ramsar convention, also known as the convention on wetlands of international importance, is 	To be strengthened further.	2022/23

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
		<p>an intergovernmental treaty that provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.</p> <ul style="list-style-type: none"> • We are also member of RAMCEA which is a Ramsar Regional Initiative (RRI) for East African countries that are signatory to the Ramsar convention. RRIs also provide a platform for contracting parties to collaborate with technical experts and representatives of intergovernmental bodies, Ramsar 		

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
		<p>international organisation partners, NGOS, local communities and the private sector.</p> <p>We are also part of the Nile Basin Initiative (NBI) which is an intergovernmental partnership of 10 Nile Basin countries with aim of providing a forum for consultation and coordination among the Basin States for the sustainable management and development of the shared Nile Basin water and other related resources for win-win benefits including wetlands.</p>		
4	Plan and implement the dissemination of the guideline for sustainable management of wetlands (2014) to key stakeholders including the MNRT, PO-RALG, LGAs, TAWA, TFS, Ministry of Agriculture, Livestock and Fisheries,	The recommendation is Genuine and noted for action on dissemination whereas all relevant environmental document including The	To be strengthened further.	2022/23

No.	Recommendation	VPO- Comment(s)	Action(s) to be taken	Timelines
	Southern Agricultural Growth Corridor of Tanzania (SAGCOT), TANAPA and the National Environmental Advisory Committee (NEAC)	National Environmental Policy, 2021; Guideline of National Campaign for Environmental Conservation and Clearness, and National Guidelines for Sustainable Management of Wetlands have been shared to the relevant key stakeholders.		




Appendix 1(b): Responses from President's Office - Regional Administration and Local Government

General Comment

PO-RALG has the mandate to make sure that LGAs are implementing the sectoral policies, strategies, guidelines and services delivery standards.

Specific Comments

No.	Recommendation	PO-RALG's Comment(s)	Action(s) to be taken	Timelines
1	Prepare short- and long-term plans that align with National Strategy for Sustainable Wetlands Management with clearly defined targets and timelines for the achievement of targets	Noted for implementation 	PORALG will prepare short and long-term plans that align with National Strategy for Sustainable Wetlands Management.	June 2023
2	Ensure that LGAs carry out, periodically, a comprehensive assessment of the status of wetlands in their areas of jurisdictions and develop a database for guiding effective management of wetlands	Noted for implementation	PORALG will ensure that LGAs carry out periodically a comprehensive assessment of the status of wetlands in their areas of jurisdictions and develop a database for guiding effective management of wetlands.	July 2022

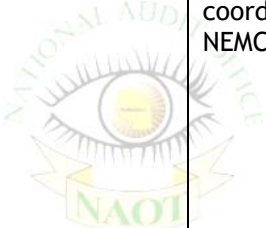
No.	Recommendation	PO-RALG's Comment(s)	Action(s) to be taken	Timelines
3	Develop and implement awareness campaigns to the communities in order to educate them about the benefits of conservation and protection of wetland ecosystems	Noted for implementation	PORALG will ensure that LGAs develop and implement awareness campaigns to the communities in order to educate them about the benefits of conservation and protection of wetland ecosystems	August, 2022
4	Develop performance indicators for regularly monitoring LGAs' performance towards implementing National Strategy for Sustainable Wetlands Management.	Noted for implementation	PORALG will develop performance indicators for regularly monitoring LGAs' performance towards implementing National Strategy for Sustainable Wetlands Management.	June 2023

Appendix 1(c): Responses from National Environment Management Council

General Comment

This report did not show where exactly Wetland management issues are anchored or in other words the institutional framework for wetland management in the country is not earmarked although it seems that several institutions have stake on wetland management.

Specific Comments

No.	Recommendation	NEMC's Comment(s)	Action(s) to be taken	Timelines
1	Improve inter-sectoral coordination, information sharing and communication among players by strengthening means of information sharing in the environment sector to ensure wetlands are highly protected	Noted 	Continue to strengthen inter-sectoral coordination as per NEMC mandates.	Routine

Appendix 1(d): Responses from Ministry of Natural Resources and Tourism

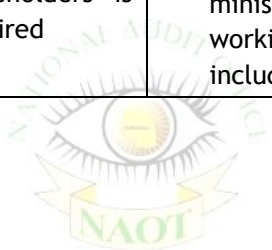
General Comment

The Ministry of Natural Resources and Tourism appreciates the work done by CAG office, particularly the Team that conducted this particular audit for bringing forward a number of challenges facing our wetlands and their management. Among other things, wetlands management coordination is the most challenging, taking into consideration that it involves many stakeholders. We hope, after this audit, a number of efforts will be taken as a way forward towards better management of wetlands which plays a big role in economic development in the country

Specific Comments

No.	Recommendation	MNRT's Comment(s)	Action(s) to be taken	Timelines
1	Through its agencies, TAWA, TANAPA, and TFS jointly strengthen efforts in dealing with the encroachment problem in their area of jurisdiction and integrate their data with those from other wetlands stakeholders	Encroachments are due to lack of Land use Plans of areas bordering Protected areas and if any, there is no enforcement on the land use implementers. Furthermore, most and large wetlands in the country are in Protected areas under TAWA, TANAPA, and TFS	<ol style="list-style-type: none"> 1. Conduct Village Land Use Plans to all villages bordering Protected areas 2. Ensure land uses are conclude to the last stage (land parcelling) for easy management. 	July, 2023 - June, 2028

No.	Recommendation	MNRT's Comment(s)	Action(s) to be taken	Timelines
2	Monitor pollution levels and sources thereof within their areas of jurisdiction for effective management of the wetland areas and put the strong measures to address the solid waste, wastewater, and industrial effluents within the wetlands.	Most pollutions in areas under protected areas systems come from outside Protected areas jurisdictions. Therefore, collaboration with other stakeholders is required	<ol style="list-style-type: none"> 1. Establish/Strengthen Wetlands Sections in each authority managing Protected Areas (TANAPA, TAWA & TFS) 2. Establish an organ to coordinate wetlands issues at National level with focal persons at ministerial level and working groups to include stakeholders 	July, 2023 - June, 2028



Appendix 2: Officials Interviewed and Reasons for their Interviews

	Interviewee	Reasons
VPO-Environment	<ul style="list-style-type: none"> • Director of Environment • Environmental Officers 	<ul style="list-style-type: none"> • To get information about coordination in ensuring adequate management of wetlands ecosystems. • To get information about monitoring the performance of NEMC.
PO-RALG	<ul style="list-style-type: none"> • Director-Sector Coordination • Assistant Director-Social Services • Social Services officers 	<ul style="list-style-type: none"> • To get information about coordination in ensuring adequate management of wetlands ecosystems in all LGAs. • To get information about monitoring the performance of LGAs
MNRT	<ul style="list-style-type: none"> • Director of Wildlife Division 	<ul style="list-style-type: none"> • To get information about coordination in ensuring adequate management of wetlands ecosystems in institutions under MNRT watch such as TAWA and TFS. • To get information about monitoring the performance of TAWA and TFS
NEMC	<ul style="list-style-type: none"> • Director of Environmental Compliance and Enforcement • Technical staff 	<ul style="list-style-type: none"> • To understand their efforts in the management of conservation and protection of wetlands ecosystems. • To understand the challenges and their causes
LGAs	<ul style="list-style-type: none"> • Head of Department of Environment • Wildlife & Game officers • Forest Officers • Environmental management Officers 	<ul style="list-style-type: none"> • To understanding efforts made in the implementation of the control activities to ensure that the Lakes and Ocean are protected from being Damaged by Plastic waste. • To understand the challenges and their causes
TAWA	<ul style="list-style-type: none"> • Manager-TAWA • TAWA-officers 	<ul style="list-style-type: none"> • The impact of degrading wetlands areas • Causes of the wetland's degradation • The coordination between TAWA and

	Interviewee	Reasons
		NEMC and LGAs
TFS	<ul style="list-style-type: none"> • Manager-TFS • TFS-officers 	<ul style="list-style-type: none"> • The impact of degrading wetlands areas • Causes of the wetland's degradation • The coordination between TAWA and NEMC and LGAs

Source: Analysis of officials interviewed during the audit



Appendix 3: Audit Questions

S/N	Audit Questions and Sub-questions for the Main study
1.0	What is the extent of wetland degradation and coverage reduction countrywide?
1.1	What is the extent of reduction in wetland coverage countrywide?
1.2	What is the extent of wetland degradation countrywide?
2.0	To what extent PO-RALG through LGA's effectively Implement Measures to Restore and Protect Wetlands degradation in the Area under their Jurisdiction?
2.1	Did LGAs have the inventories data/status for wetland in the area under their Jurisdiction?
2.2	Did LGAs have integrated the issues of restoration and protection of wetlands in their plans?
2.3	Did LGAs adequately implement their plan for restoring the degraded wetlands in the area under their Jurisdiction?
2.4	Did LGA's adequately conduct awareness campaign to ensure the community in respective areas are sensitized on sustainable protection of wetland?
2.5	Did MNRT adequately prohibit human activities of a permanent nature, or which are likely to compromise activities in or adversely affect conservation?
3.0	To what extent the MNRT (Through TAWA, TFS and TANAPA) effectively Implemented Measures to adequately prohibit human activities of a permanent nature or which are likely to compromise activities in or adversely affect conservation of wetlands in the Area under their Jurisdiction?
3.1	Did MNRT regular provide information on the management and status of wetlands (i.e., State of Environment Report)?
3.2	Did MNRT (through TAWA) Implement Measures to Restore and Protect Wetlands degradation in the Area under their Jurisdiction?
3.3	Did MNRT (through TFS) Implement Measures to Restore and Protect Wetlands degradation in the Area under their Jurisdiction?
3.4	Did MNRT (through TANAPA) Implement Measures to Restore and Protect Wetlands degradation in the Area under their Jurisdiction?
3.5	Did MNRT (through NCA) Implement Measures to Restore and Protect Wetlands degradation in the Area under their Jurisdiction?
4.0	To what extent did VPO in collaboration with MNRT and PO-RALG coordinate the management of Wetland in the Country?
4.1	Did VPO develop national Wetland management strategy and adaptation facilitated?

S/N	Audit Questions and Sub-questions for the Main study
4.2	Did VPO have status of wetlands countrywide?
4.3	Did the existing information sharing framework between VPO and sectorial ministries are functioning well for easy restoration and protection of wetland in the country?
5.0	Did the President's Office-Regional Administration and Local Government (PO-RALG) adequately monitor and evaluate the performance of LGAs in the Management of Control of Plastics Wastes into Major Water Bodies?
5.1	Did VPO adequately Monitor status of management of wetland in the country?
5.2	Did VPO adequately get support from MNRT, MoA, MoW, MLF and other related ministries in order to fulfil its responsibility of overall monitoring the status of management of wetland in the country?
5.3	Did the VPO have and addresses the indicators that targeted the level of threatened wetlands abundance for rehabilitation?
5.4	Did PO-RALG established and maintaining a computerised information system (database) which consists of a broad spectrum of up-to-date information on the performance of LGAs in Tanzania?
5.5	Did the available systems designed to facilitate monitoring the LGAs programme have success towards achieving the vision of the nation on conservation and protection of wetlands?

Appendix 4: List of Documents Reviewed and Reasons for Reviewing them

Category of document	Name of document	Reason for reviewing
Planning documents	Annual Work Plan from the financial year 2017/18 to 2020/21	To gain an understanding on how the audited entities plan for issues pertaining to management of wetlands
	Strategic Plan for 2017/18 to 2020/21	To gain an understanding on strategic objective goals of the audited entities to assess whether they address issues of wetlands
	MTEF from 2017/18 to 2020/21	To gain an understanding on budgets of audited entities for managing wetlands
Performance Reports	Annual Performance Reports (Progress Reports) from financial year 2017/18 to 2020/21	To gain an understanding and assess the extent of execution of planned activities pertaining to management of wetlands
Monitoring and Evaluation Reports	Monitoring and Evaluation Reports (2017/18 to 2020/21)	To assess the monitoring and evaluation of activities on management of wetlands from audited entities
Policy	-National environmental management policy 1997 -National Water Policy, 2002 -National Sustainable Wetlands Management Program 2011	To extract the information that will enable the audit team to evaluate the performance of the audited entities on achieving the directives of the policies
Legislations (Law & regulations)	Environmental Management Act 2004, Act No. 20 of 2004 Local Government (Urban Authorities) Act No. 8 of 1982, Tanzania and By-Laws Water Resources	To extract the criteria for measuring the performance of the audited entities.

Category of document	Name of document	Reason for reviewing
	management Act, 2009	
Strategic Plans	Strategic plans from VPO, NEMC and LGA's	To extract the criteria for measuring the performance of the audited entities.
Reports	Monitoring and Evaluation Reports.	Evaluate the progress of implementing the planned activities
	Progress Report	
Guidelines on management of conservation and protection of wetlands.	Guidelines	To find out if responsible authorities have these guidelines in place and if they follow the directives given in these guidelines.
Activity Plans	Annual Activity Plans for 2017/17 to 2020/21	To gain an understanding of the planned activities.
Budget	Approved Medium Term Expenditure Framework for the year 2017/18 to 2020/21	To find out how the Ministries allocate resources to the management of conservation and protection of wetlands.

Source: Analysis of different reviewed documents during the audit

Appendix 5: List of Regions Visited During Data Collection

Wetland	Reason for being selected	Location - District	Location - Region	Zone
Rufiji- Mafia- Kilwa Ramsar Site	Ramsar Site / Forest reserves under TFS	Rufiji	Pwani/Lindi	Coastal Zone
Kilombero Ramsar Site	Ramsar Site / Game Controlled Area under TAWA	Kilombero	Morogoro	
Lake Natron Ramsar Site	Ramsar Site/ Game Controlled Area under TAWA	Longido	Arusha	Northern Zone
Malagarasi - Muyovosi Ramsar Site	Ramsar Site/ Game Reserved Area under TAWA	Kaliua	Tabora	Central Zone
Ugalla Riverine Swamp at Katambike Village	Game Reserved Area under TAWA	Nsimbo	Katavi	Western Zone
Ihefu Wetland	Protected Area under TANAPA	Mbarali	Mbeya	Southern Highlands Zone
Minziro Wetland	On the process of acquiring Ramsar Site status	Misenyi	Kagera	Lake Zone

Source: Analysis of regions visited during audit based on MNRT Ramsar stations