THE UNITED REPUBLIC OF TANZANIA

VICE PRESIDENT'S OFFICE

# National Biodiversity Strategy and Action Plan (2025-2030)

June, 2025

# PREFACE

Tanzania is one of the twelve mega-diverse countries of the world endowed with different natural ecosystems that harbor a massive wealth of biodiversity. The country hosts 6 out of the 25 world-renowned biodiversity hotspots, hosting more than one-third of the total plant species on the continent and about 20% of the large mammal population. The biodiversity richness contributes significantly to the socio-cultural, economic and environmental goods and services to the people's livelihood. Tanzania as a Party to the Convention on Biological Diversity (CBD) since 1996, has committed to its international obligation to protect and conserve its biodiversity as a global resource. Also, as per requirements of Article 6 of the CBD, Tanzania has been implementing the CBD through the development and implementation of its National Biodiversity Strategies. ***Since 1996 Tanzania developed 2 NBSAPs aligned with the Global CBD Strategic Plans. The first one was developed in 2001, followed by the second one which was developed in 2015 aligned with Aichi targets developed in 2010 and its implementation ended in 2020.*** The evaluation of Aichi (2011-2020) targets implementation shows that about 25% of biodiversity were degraded. Therefore in 2022 the CBD adopted post 2020 GBF aiming to conserve biodiversity by 30 % by the year 2030. The NBSAP (2025-2030) seeks to address national priorities that contribute to the implementation of the post 2020 GBF. It also addresses emerging national and global issues such as climate change, blue economy and clean energy technology which in the NBSAP (2015-2020) were not addressed. The preparation of the NBSAP 2025-2030 was participatory involving a broad range of stakeholders from Sector Ministries, Local Government Authorities (LGAs), Research and Academic Institutions, the Media, Community Based Organizations (CBOs) and Public and Private sectors, Non-Government Organization (NGOs), Local Communities such as Traditional leaders, Women and Youth groups, Local Communities, such as Youth groups, Women and Traditional Leaders. Consultations with the stakeholders facilitated priority actions that contribute to social needs which contribute to the national development, implementation capacities and practical impacts on both conservation socio-economic outcomes. The NBSAP (2025-2030) highlights the significance and contribution of biodiversity to human well-being; the drivers of biodiversity loss; policy, legal and institutional framework. The strategy derives from the Post 2020 GBF and lessons from NBSAP 2015-2020 targets.

In this regard, I call upon all stakeholders to participate fully in the implementation of this strategy in order to reduce loss and promote the value of biodiversity with the aim to improve community livelihoods while maintaining environmental sustainability for the present and future generations.

Eng. Hamad .M. Y. Masauni (MP)

## ACKNOWLEDGEMENT

The Vice President's Office expresses its sincere gratitude to all stakeholders representing Sectoral Ministries, Local Government, Research and Learning Institutions, Private sectors, Non-Government Organization (NGOs), Community Based Organizations CBOs, Local Communities such as Traditional leaders, Women and Youth groups, for their valuable contributions and technical support throughout the process of developing this NBSAP (2025-2030).

Our sincere gratitude goes to the Multi-Sectoral Experts from the President's Office-Planning Commission; President's Office-Regional Administration and Local Government Authority; Vice President's Office - Mainland; First vice president office – Zanzibar; Ministry of Finance; Ministry of Agriculture; Ministry of Water; Ministry of Natural Resources and Tourism; Ministry of Livestock and Fisheries Development; Ministry of Agriculture. Irrigation, natural resources and livestock and Ministry of Blue economy and fisheries National Environment Management Council; University of Dar es Salaam; Sokoine University of Agriculture; Tanzania Wildlife Research Institute; Tanzania Forest Service Agency (TFS); Tanzania Forestry Research Institute (TAFORI); Development partners such as; World Wide Fund for Nature (WWF) and The Nature Conservancy (TNC) contributed to the National efforts in the preparation of NBSAP 2025 - 2030.

We would also like to recognize and appreciate the expertise of Mr. Stephen Mariki -Natural Resources Specialist, Dr. Blandina Lugendo – Fresh water and Marine experts, Dr. Robert D. Fyumagwa- Wildlife Conservation Expert, Dr. Erick Mkwizu- Financial and Economic expert, Dr. Constantine Shayo- Agricultural and Livestock Expert, Mr. Lazaro Mangewa - Forest Expert, Dr. Kuruthumu Mwamende - Agro ecology Expert and Mr. Salehe K. Khiari- Coastal and Marine Expert for their tireless efforts in leading the development of this strategy. I equally express my gratitude to the Vice President's Office technical Experts for contributing their valuable expertise in the development of this NBSAP (2025-2030). Special thanks to Ms. Kemilembe Salome Mutasa - Director of Environment and Dr. Paul Deogratius - Assistant Director in Biodiversity Conservation Section.

We are especially grateful to World Wildlife Fund (WWF) Tanzania Country Office and The Nature Conservancy (TNC) for their willingness to join the national efforts in facilitating the process of developing the NBSAP (2025-2030). The cooperation provided by your organizations during the process is very high opportunity for Tanzania to be able to implement the post 2020GBF.

Eng. Cyprian Luhemeja
**PERMANENT SECRETARY**

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AAs | Authorized Associations |
| CAWM | College of African Wildlife Management-Mweka |
| CBC | Community-Based Conservation |
| CBD | Convention on Biological Diversity |
| CBFM | Community-Based Forest Management |
| CBOs | Community-Based Organizations |
| CCM | Chama cha Mapinduzi |
| CHM | Clearing House Mechanism |
| CITES | Convention on International Trade on Endangered Species of Flora and Fauna |
| CMS | Convention on Migratory Species |
| COP | Conference of Parties |
| COSTECH | Tanzania Commission for Science and Technology |
| CSOs | Civil Service Organizations |
| DoE | Division of Environment |
| EAC | East African Community |
| EADV | East African Development Vision |
| EAMs | Eastern Arc Mountains |
| EIA | Environmental Impact Assessment |
| EMA | Environmental Management Act |
| EPA | Environmental Protected Area |
| ESA | Environmental Sensitive Area |
| FITI | Forest Industries Training Institute |
| GCA | Game Controlled Area |
| GDP | Gross Domestic Product |
| GBF | Global Biodiversity Frameworks |
| GEF | Global Environmental Facility |
| GMPs | General Management Plans |
| GR | Game Reserve |
| GSP | Global Strategic Plan |
| IAS | Invasive Alien Species |
| ICT | Information Communication and Technology |
| IUCN | International Union for Conservation of Nature |
| JFM | Joint Forest Management |
| KMGBF | Kunming-Montreal Global Biodiversity Frameworks |
| LGAs | Local Government Authorities |
| MDAs | Ministries, Departments and Agencies |
| MLFD | Ministry of Livestock and Fisheries Development |
| MNRT | Ministry of Natural Resources and Tourism |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NCAA | Ngorongoro Conservation Area Authority |
| NEAP | National Environmental and Action Plan |
| NEECS | National Environmental Education and Communication Strategy |
| NEMC | National Environment Management Council |
| NEMPSI | National Environmental Master Plan and Strategic Initiatives |
| NEP | National Environmental Policy |

| | |
|---|---|
| NEPZ | National Environmental Policy for Zanzibar |
| NFR | Nature Forest Reserves |
| NGOs | Non-Governmental Organizations |
| NSGRP | National Strategy for Growth and Reduction of Poverty |
| NTAP | National Anti-Poaching Task Force |
| NWFPs | Non-Wood Forest Products |
| OECMs | Other Effective area-based Conservation Measures |
| PAs | Protected Areas |
| PES | Payment for Ecosystem Services |
| PFM | Participatory Forest Management |
| PORALG | President's Office - Regional Administration and Local Government |
| POPs | Persistent Organic Pollutants |
| PPP | Public-Private Partnership |
| REA | Rural Energy Agency |
| RGZ | Revolutionary Government of Zanzibar |
| RUMAKI | Rufiji, Mafia, Kilwa and Kibiti |
| SADC | Southern Africa Development Community |
| SDGs | Sustainable Development Goals |
| SEA | Strategic Environmental Assessment |
| SOPs | Standard Operating Procedures |
| SWOC | Strengths, Weaknesses, Opportunities and Challenges |
| TAFORI | Tanzania Forestry Research Institute |
| TALIRI | Tanzania Livestock Research Institute |
| TANAPA | Tanzania National Parks Authority |
| TanBIF | Tanzania Biodiversity Information Facility |
| TARI | Tanzania Agriculture Research Institute |
| TAWA | Tanzania Wildlife Management Authority |
| TAWIRI | Tanzania Wildlife Research Institute |
| TDV | Tanzania Development Vision |
| TFS | Tanzania Forest Services Agency |
| ToR | Terms of References |
| TPHPA | Tanzania Plant Health and Pesticides Control Agency |
| TWPF | Tanzania Wildlife Protection Fund |
| TZS | Tanzanian Shilling |
| UNEP | United Nations Environment Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| URT | United Republic of Tanzania |
| USD | United States Dollar |
| VPO | Vice President's Office |
| WMAs | Wildlife Management Areas |
| WUA | Water Users Associations |

# EXECUTIVE SUMMARY

Tanzania boasts of having a rich of biodiversity that include six of the 25 world-renowned biodiversity hotspots where Tanzania ranks 15th in the world on mammal diversity including the large mammal populations and is home to the 10th highest total number of IUCN Red Listed threatened species in the world. The biodiversity abundance contributes significantly to national socio-cultural, economic and environmental goods and services and people's well-being. Owing to its biodiversity richness, Tanzania is a Party to the Convention on Biological Diversity (CBD) since 1996 and is committed to the international obligation to protect and conserve its biodiversity as a global resource. As such, the country has taken a number of initiatives including formulating and implementing the National Biodiversity Strategy and Action Plan (NBSAP) that built on the Aichi Targets (2015-2020) and currently the NBSAP (2025-2030) that seeks to address biodiversity targets and priority actions that contribute to the Kunming Montreal Biodiversity Framework.

The NBSAP (2025-2030) highlights the significance and contribution of biodiversity to the national economy, human well-being and sets the policy, legal and institutional framework for effective delivery of the 2030 targets and national contributions to the Four Kunming-Montreal Global Biodiversity Framework (KMGBF) Strategic Goals. It identifies the drivers of biodiversity loss and main threats that include habitat loss and degradation, overexploitation of plant and animal species, pollution, introduction and emergence of invasive species, excessive abstraction of water resources, exploration and extraction of oil and gas, climate change and genetic erosion.

The preparation of NBSAP (2025-2030) was participatory involving a broad range of stakeholders both in the public and non-state actors with consultations that prioritized national Targets and Actions towards the 2030 global commitments. The NBSAP III comprises of four goals,22 National targets and 125 priority actions. While the targets align to the CBD objectives and the KMGBF, it highlights the national needs on sustainable contribution of biodiversity and ecosystem services to human well-being and the national economy. The national Targets and Actions prioritized for 2025-2030 under the four KMGBF are:

**Strategic Goal A: Protect and Restore**

**Target 1:** By 2030, priority terrestrial, inland waters and coastal and marine areas are under participatory, biodiversity-inclusive spatial planning.

**Target 2:** By 2030, at least 30% of areas of degraded ecosystems are under effective restoration

**Target 3:** By 2030, areas important for biodiversity and associated ecosystem services are conserved

**Strategic Goal B: Prosper with Nature**

**Target 4-1:** By 2030, the loss of genetic diversity of native, wild and domesticated terrestrial, coastal and marine, and inland waters ecosystems reduced by 30%.

**Target 4-2:** By 2030, the extinction of known threatened species of terrestrial, coastal, marine, and inland waters ecosystems is prevented by 30%.

**Target 4-3:** By 2030, the genetic diversity of socio-economically as well as culturally valuable species maintained at 40%.

**Target 5-1:** Ecological integrity through safe, sustainable and legal harvesting and trade of wild flora and fauna in terrestrial, freshwater, coastal and marine ecosystems to enhanced by 2030.

**Target 5-2:** Sustainability of at least 6 out of the 8 priorities inland and marine fisheries in Tanzania (small pelagic; tuna and tuna like species; prawns; octopus and reef fish, and tilapia; catfish and sleek lattes) ensured by 2030.

**Target 5-3:** Monitoring of large-scale fisheries in Tanzania's Exclusive Economic Zone strengthened by 2030.

**Strategic Goal C: Share Benefits Fairly**

Priority targets and actions under this goal focus on reducing pollution and minimizing the impacts of climate change on habitats and ecosystems.

**Target 6:** Reduce the rates of introduction of invasive alien species by 50% and minimize their impact on biodiversity and ecosystem functions and services by 2030.

**Target 7:** By 2030, at least 50% of pollution is reduced from all sources.

**Target 8:** Minimize the impact of climate change on terrestrial, freshwater, coastal, and marine habitats, and other vulnerable ecosystems to maintain their integrity and build resilience by 2030.

**Strategic Goal D: Invest and Collaborate**

**Target 10:** Application of biodiversity-friendly practices in agriculture, fisheries aquaculture, and forestry for long-term productivity and support to food security and conservation enhanced by 2030.

**Target 11:** By 2030, nature's contributions to people are Restored, maintained and enhanced.

**Target 12:** By 2030, Blue and green spaces are integrated into urban plans for human well-being and biodiversity conservation.

**Target 13:** By 2030, Guidelines and regulations supporting access to genetic resources and the fair and equitable sharing of benefits arising from their utilization implemented.

**Target 17:** By 2030, Capacity for implementation of biosafety measures substantially strengthened

**Target 19:** By 2030, at least US$300 million per year mobilized from public and private sector for effective implementation of the National Biodiversity Strategic and Action Plan (NBSAP 2025-2030).

**Target 20:** By 2030, Capacity building, technology transfer, and scientific and technical cooperation for biodiversity strengthened.

**Target 21:** Accessibility of the best available data, information and knowledge, to decision makers, practitioners and the public to guide effective and equitable governance, are integrated into participatory management of biodiversity by 2030.

**Target 22:** By 2030, participation in decision-making and access to justice and information related to biodiversity for all enhanced.

**Target 23:** By 2030, gender equality and responsiveness in the implementation of the National biodiversity strategy and action plan enhanced.

Realization of these diverse NBSAP Targets will require the following measures:

i) Effective coordination of the NBSAP interventions under VPO and the respective sector units;
ii) Mainstreaming implementation in sector policies, strategies and programs;
iii) Establishment and implementation of an effective monitoring framework;
iv) Implementation of a robust financial resource's mobilization mechanism;
v) Establishing and harnessing strong partnerships and engagement of all stakeholders.

The implementation of the NBSAP (2025-2030) is estimated to require USD 1.5 billion, an average of USD 300 million per year. This biodiversity finance flows will include public and private financial resources, investments in commercial activities that produce positive biodiversity outcomes and the value of the transactions in biodiversity-related markets. These will embrace the national public sources that represent traditional and innovative

sources such as trust funds and nature-based solutions. Other sources will include funding from bilateral and multilateral cooperation and agencies channeled through different funding modalities such as Direct-to-project modality; Basket funds and General budget support, through government budget.

To track delivery of the planned targets, a Monitoring and Evaluation framework is included that will involve regular reviews to measure performance on the targets across sectors.

# TABLE OF CONTENTS

## LIST OF FIGURES



# CHAPTER ONE

# 1.0 INTRODUCTION

## 1.1 Background

Biological diversity encompasses animals, plants and microorganisms, the genes within them, the ecosystems in which they live or inhabit, and their interactions among them. Tanzania is among the world's most biodiverse countries, with over 55,000 confirmed

species[1]. The country is also home to one third of total plant species and 20 percent of the large mammal species in Africa. Tanzania is one of the twelve mega-diverse countries in the world endowed with different natural ecosystems and massive biodiversity in terrestrial, coastal, marine, and inland water ecosystems. It is among the top five African countries harboring at least 20% of the continent's large wild mammal population and more than a third of Africa's total plant species. Tanzania ranks 15$^{th}$ in the world on mammal diversity (with 359 species) and 20$^{th}$ for amphibian diversity (with 178 species). It hosts six out of the 25 world-renowned biodiversity hotspots including the Eastern Afro-montane forests (Eastern Arc and Albertine Rift components) and the Eastern African Coastal Forests. Tanzania is a home to the 10$^{th}$ highest total number of threatened species in the world with about 2,100 threatened species of which 895 are plants, 841 are non-plants and the 364 are other small groups of species[2]. It also has large forest land ranging from coastal to montane forests that cover about 48.1 million hectares (equivalent to 55% of the total land surface area).

Tanzania's forests are a globally important repository of biodiversity with 1,591 Critically Endangered, Endangered and Vulnerable species - the most of any country in Africa. The network of nature forest reserves managed by the Tanzania Forest Service harbor 73 percent of Tanzania's endemic vertebrate species, 553 endemic plant taxa, 41 single-site endemic vertebrate species and 76 single-site endemic plant taxa.

Tanzania's marine biodiversity is equally significant, within its 284,837 km$^2$ of marine waters (NBS, 2021). Important biophysical features of the coastline include mangroves, coral reefs and seagrass beds as well as the sandy beaches. Biodiversity conservation in the coastal and marine ecosystems provide enormous ecosystem services, including the famous fisheries as well as coastal and marine tourism. The coastal ecosystems contribute to an increased resilience to natural as well as climate change induced hazards and disasters, such as droughts, floods, storms and shoreline erosion from sea level rises.

Tanzania equally boasts of very high levels of biodiversity and endemism in its abundant inland water bodies that cover about 6.5% of the country (UNECA 2023). Significant inland water bodies include Lake Victoria (35,088 km$^2$), Lake Tanganyika (13,489 km$^2$), Lake Nyasa (5,760 km$^2$), and other small lakes, as well as rivers and wetlands.

Owing to the Tanzania's biodiversity importance, the country has actively taken part in the implementation of the Convention on Biological Diversity (CBD) in addressing the three main objectives namely, **Conservation of biodiversity, Sustainable use of biodiversity, and Fair and equitable sharing of the benefits arising from the utilization**

[1] National Environmental Master plan for Strategic Interventions (2022 – 2032)

[2] IUCN Red Listed threatened species

**of genetic resources.** Development of the this NBSAP builds on the realism that, the causes of biodiversity loss are still prevalent and increase along with increasing human population and their associated unsustainable practices on socio-economic activities. The biodiversity conservation objectives thus focus on enhancing ecosystem integrity and the provision of optimal biodiversity products and services. The country has thus established a network of Protected Areas (PAs) both in terrestrial and marine and also pioneered assorted management interventions to enhance connectivity of critical habitats, improve gene flow among populations and reduce fragmentation and degradation of ecosystems.

Biodiversity loss is acute in certain ecosystems which faced a particular threat related to ecological, historical, social and economic aspects. Increasing pressure on the planet is upsetting the balance of ecosystems and losing biodiversity. Studies have shown that about 17% of global land has been heavily transformed by cities and unsustainable agriculture; 56% is characterized by less intense modifications such as mixed rural, urban and suburban development where half or less has been transformed. WWF Living Planet Report, 2024 indicates an average of 73% decline in global populations of mammals, fish, birds, reptiles, and amphibians since 1970. The 2019 Landmark Global Assessment Report by the Intergovernmental Platform on Biodiversity and Ecosystem Services reported that, one million animal and plant species are threatened with extinction. Various anthropogenic developments reported over the last few decades show that one third of its important ecosystems experienced a downward trend in number of species, individual population sizes and the respective habitats and ecosystems. In the last decade alone, the number of threatened species in Tanzania has tripled owing to threats and drivers on habitat loss, ecosystems destruction and illegal and unstainable extraction.

## 1.2 Biodiversity significance and value in Tanzania

The country's biodiversity contributes to socio-economic development opportunities. In Mainland Tanzania, wildlife-based tourism that center on the rich biodiversity accounts for about 17% of GDP and 25% of foreign exchange income. In the marine sector, Tanzania is among the greatest fisheries nations in Africa, ranking in the top 10 countries in terms of total fisheries production and capture. Fisheries provide for over 180,000 jobs in Mainland Tanzania, and employs about 4.5 million people directly and the related value chain, with a contribution of about 1.7% of the Mainland's GDP (UNECA 2023). In Zanzibar, ocean-based activities are equally important as they contribute over 29% of its GDP and employs around 33% of the labor force. Tourism sector (the leading private sector job provider) which is largely based on the coastal and marine biodiversity employs over 75,000 people, and account for 27% of the country's GDP (UNECA 2023).

## 1.3 Threats to Biodiversity

The conversion of natural ecosystems driven by anthropogenic dynamics, climate change and natural disturbance has been among major threats to biological diversity loss. The common human activities include unsustainable land use practices impacting on ecosystems' functionality that exacerbate loss of species and drive some to extinction globally.

Tanzania being one of the biodiversity rich countries is experiencing a significant forest loss attributed to deforestation at the rate of about 469,420 ha per annum from 1980 to 2012[3].

The climate change impacts on biodiversity loss are well on the increase, driven mainly by prolonged droughts, sea-level rise and extreme precipitation leading to flooding; The impacts have also contributed to spread of bushfires, proliferation of invasive species and biome and ecosystem shifts or transformation. Threats from spreading of invasive species are notably high with about 220 recorded invasive and potentially invasive species in the country. The invasive species pose substantial impacts on agriculture, livestock rangelands, water bodies and impair delivery of ecosystem services. Environmental pollution has also contributed to biodiversity degradation mainly on land, in coastal, marine and inland water ecosystems. The institutional challenges contributing to low biodiversity conservation efforts in the country include inadequate capacity within sectors and institutions in terms of limited resources (finance, manpower, infrastructure and equipment) and inadequate integration and coordination.

The aggregated impacts on increasing biodiversity loss has contributed to human-wildlife and land/resource use conflicts resulting from encroachment into wildlife habitats, loss of corridors and buffer zones. The impacts have also led to growing competition for resources mainly in sectors such as the livestock, agriculture, land, energy and water. On human wellbeing, growing biodiversity loss has resulted in loss of sources of livelihoods and income for the resource poor communities.

## 1.4 Biodiversity Conservation Initiatives

Tanzania has undertaken several initiatives to address the drivers and threats of biodiversity loss which include among others are development of key policies, strategies and enacting legal frameworks[4]. Implementation of the Convention on Biological Diversity (CBD), through the preparation and implementation of the National Biodiversity

[3] National Forest Policy Implementation Strategy (NFPIS) (2021-2031)

[4] The National Environmental Master Plan for Strategic Interventions (2022 – 2032)

Strategy and Action Plans (NBSAPs 2001-2010 and 2015–2020). It also has domesticated the Global strategy aimed to ensure sustainable natural resources conservation in the country. The NBSAP 2015 aligned the national biodiversity conservation targets with the three objectives of CBD namely: Conservation of biodiversity, Sustainable use of biodiversity, and Fair and equitable sharing of the benefits arising from the utilization of genetic resources and the 20 Aichi targets (2010). The 6th National Report for the Convention on Biological Diversity elaborated the main initiatives in implementing the 20 Aichi targets (2010).

### *a) Policy development*

The key policy and strategic initiatives included enacting the National Environmental Policy (NEP) 2021, Zanzibar Environment Act (2015), National Environmental Master Plan (2022 – 2032), The National Forest Policy Implementation Strategy (2021 - 2031); National Agroforestry Strategy II (2024-2031); the National Wildlife Policy Implementation Strategy (2023-2033) and the National Beekeeping Policy Implementation Policy (2021-2031). Others are: the National Human-Wildlife Conflict Management Strategy and Action Plan (2020-2024); Tanzania Elephant Management and Action Plan (2023-2033), National Wildlife Management Area Strategy (2023-2033); National Anti-poaching Strategy (2023-2033); National Charcoal Strategy and Action Plan (2021-2031) and National Invasive Species Strategy and Action Plan (2019- 2029). These thematic mechanisms complement the macro development plans including the Five Years Development Plan (FYDPIII 2020-2025), Zanzibar Development Vision 2050 and the Tanzania Development Vision (TDV 2050). On the Regional and global commitments, Tanzania also ratified the East African Development Vision 2050, Agenda 2063 "The Africa We Want,", Sustainable Development Goals (Agenda 2030), SADC Regional Biodiversity Strategy, the Paris Agreement and other Multilateral Agreements (MEAs).

### *b) Conservation attainments*

Under the second NBSAP (2015-2020) targets and sector strategies, significant achievements have been demonstrated. This includes management of substantial land under protection that cover approximately 48.1 million ha (55%) both in wildlife protected areas and forest reserves. Improved policies and strategies have resulted in tremendous increase in the protected areas' network from 16 National Parks in 2016 to 21 in 2023 managed by Tanzania National Parks (TANAPA). Some of the Game Controlled Areas (GCAs) have also been upgraded to Game Reserves (GRs) under Tanzania Wildlife Management Authority (TAWA) resulting into 29 GRs and 24 GCAs. Other conservation initiatives included upgrade of the 150,000-ha part of the former Loliondo Game Controlled Area (LGCA) to Pololeti Game Reserve (GR) aiming to protect the water

catchment highlands which are a source of 50% of water for the Serengeti National Park. The Kilombero Game Controlled Area (KGCA) which is also a part of Kilombero Valley Ramsar site was also upgraded to a Game Reserve to enhance the conservation status of endangered Puku (*Kobus vardonii*). In promoting inclusive conservation, 40 Wildlife Management Areas (WMAs) were established in village lands and managed by communities. Of these, 24 have certificates of Authorized Association (AA) and 16 are in different stages of establishments. Other protection efforts involved extension of the Serengeti National Park to include the former Speke Gulf Game Controlled Area, to provide for wildlife access to water from Lake Victoria and provide secure fish breeding sites in the lake.

On global conservation contributions, there has been an increase of natural protected forests from 597 to 802 and proclaimed Nature Forest Reserves (NFRs)[5] from 12 to 24. Forest plantations covering 240,000 ha have been established as well to restore degraded lands, increase the forest cover and provide forest products and services.

In order to secure the coastal zone and resources, Tanzania continued to manage its 3 Marine Parks and 15 Marine Reserves (for Mainland Tanzania) as well as five Marine Conservation Areas (in Zanzibar. In addition, Zanzibar also enhanced management of the critical global sites that include the Jozani – Chwaka Bay National Park which was declared a United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and Biosphere Reserve since 2016. The Jozani Forest and Chwaka Bay National Park, RUMAKI for Tanzania mainland which has been declared by UNESCO as Man and Biosphere reserve. Ngezi-Vumawimbi Nature Forest Reserve in Pemba were also put under improved management on species of IUCN concern included in the IUCN Red Data Book.

### *c) Institutional development*

The Government of the United Republic of Tanzania established and/or strengthened the capacity of key conservation institutions to operationalize national biodiversity conservation strategies. These include, the Tanzania Wildlife Management Authority (TAWA) charged with management of wildlife and other natural resources in GRs, GCAs and the WMAs. Tanzania Forest Services Agency (TFS) was strengthened to respond to increasing forest conservation needs. The Marine Parks and Reserves Unit (MPRU) and the Marine Conservation Unit (MCU) were strengthened to manage marine protected areas in both Mainland Tanzania and Zanzibar. Specific institutions established to inform biodiversity related management included the Tanzania Fisheries Research Institute

[5] IUCN Category 1a

(TAFIRI), Deep Sea Fishing Authority (DSFA), Tanzania Wildlife Research Institute (TAWIRI), Tanzania Forestry Research Institute (TAFORI), Tanzania Livestock Research Institute (TALIRI) and Tanzania Agricultural Research Institute (TARI), National Environment Management Council (NEMC).

### 1.5 Rationale, Scope and Objectives

Implementation of the NBSAP II that had 20 targets which addressed various aspects of biodiversity conservation and sustainable development ended in 2020. Following the conclusion of the Global Strategic Plan (2015–2020), the CBD prepared the Kunming-Montreal Global Biodiversity Framework (KMGBF) endorsed in December 2022, which adopted the preparation of new NBSAPs. Tanzania has developed its NBSAP (2025-2030) that embrace lessons learnt from NBSAP (2015-2020) to align the development agenda with the KMGBF and existing regional and global commitments on biodiversity related implementation strategies. The third NBSAP builds on the updated policies and strategies addressing the drivers of biodiversity loss as well as enhancing sustainability on their uses. The driving strategy is on enhanced institutional development to mainstream biodiversity into sector policies and strategies to foster better coordination. The NBSAP (2025-2030) identifies priority national biodiversity targets and actions that will be implemented at all levels by MDAs, LGAs, NGOs, CBOs and private sector, both in Mainland Tanzania and Zanzibar.

### 1.6 Preparation Process for the NBSAP

The NBSAP III was developed under a participatory approach through collection, review and analysis of inputs from key internal and external stakeholders. The approach for the review of the NBSAP adhered to the overall GEF general guidelines and methodology. In the absence of midterm and final evaluation of NBSAP (2015-2020), an intensive review was undertaken to assess implementation of NBSAP (2015-2020) and its effectiveness in attaining the intended objectives and targets. The process included a comprehensive review NBSAP (2015-2020) results, relevant policy documents developments, strategies and background study reports. The consultations involved expert team meetings, stakeholders' consultations across Mainland Tanzania and Zanzibar, and a national validation workshop. The review also assessed the effectiveness of Tanzania's biodiversity conservation efforts across sectors and evaluated progress against the objectives and targets set out in the former NBSAP. The institutional review involved assessing capacity, governance frameworks and biodiversity financing needs to maintain a balanced biodiversity welfare and social economic development. The selection and prioritization of targets and actions for NBSAP (2025-2030) adhered to the post 2020 GBF aimed to halt

the biodiversity loss by 30% in 2030 and achieve the outcome of its vision of living in harmony with nature by 2050.

### 1.7 Structure of the NBSAP Document

The NBSAP (2025-2030) is structured around eight chapters: Chapter One gives an introduction covering the background on biodiversity significance in Tanzania, threats, conservation initiatives, scope of NBSAP, preparation process and structure of the document. Chapter Two gives the overview including country geography, ecosystems types and status, species diversity and threats to species in Tanzania. Chapter Three presents the situation analysis on biodiversity trends and status and lesson learnt from the NBSAP (2015-2020). Chapter Four gives the policy, legal and institutional frameworks whereas Chapter Five describes the threats and drivers of biodiversity loss. Chapter Six presents basis of the strategy, focusing on priority the national targets and actions. Chapter Seven provides the implementation mechanism, resource mobilization and financing, and Chapter Eight presents the monitoring, reporting and evaluation framework.

**Figure 1: Map of Tanzania showing Regions, Zanzibar and Mafia Islands, major water bodies and international boundaries**


30°0'0"E
32°0'0"E
34°0'0"E
36°0'0"E
38°0'0"E
40°0'0"E
UGANDA
RWANDA
BURUNDI
KENYA
DRC
ZAMBIA
MALAWI
MOZAMBIQUE
Lake Victoria
Lake Tanganyika
Lake Rukwa
Lake Nyasa
INDIAN OCEAN
Kagera
Mara
Mwanza
Simiyu
Geita
Shinyanga
Arusha
Kilimanjaro
Manyara
Tanga
Kigoma
Tabora
Singida
Dodoma
Katavi
Dar es salaam
Pwani
Rukwa
Mbeya
Iringa
Morogoro
Njombe
Lindi
Ruvuma
Mtwara
N
International Boundary
Water
Land
Kilometers
0
125
250
500
5°0'0"S
4°0'0"S
3°0'0"S
2°0'0"S
1°0'0"S

# CHAPTER TWO

# 2.0 COUNTRY OVERVIEW

## 2.1 Country Geography

The United Republic of Tanzania (URT) is located in Eastern Africa between longitudes 29° and 41° E and latitudes 1° to 12° S; and its northern border is shared with Kenya and Uganda; In west is located with Rwanda, Burundi, and the Democratic Republic of Congo; on its southwestern side it is bordered by Zambia and Malawi; in the south by Mozambique and the east by the Indian Ocean (Figure 1). The nation comprises Mainland Tanzania and Zanzibar, collectively covering a total area of 948,740 km$^2$. Tanzania has 1,424 km of coastline from Tanga to Mtwara including the islands of Zanzibar (Unguja and Pemba). The URT has about 64,000 km$^2$ of territorial sea, 223,000 km$^2$ of Exclusive Economic Zone (EEZ), 61,500 km$^2$ of inland water bodies, and nearly 890,000 km$^2$ of land. About 44 millio

n ha is classified as land suitable for agricultural production. Only 24% of the arable land is utilized with medium and large-scale farming constituting 1.5 million ha, and smallholder farms take about 8.6 million ha.

### 2.1.1 Climate and Climate Change

Tanzania is experiencing changes in climate in many parts of the country, In the period 2019 - 2023, extreme weather events, including extreme heat, heavy rains causing floods and periods of lack of rain and drought. During the year 2023 the temperature has increased from 0.7°C to 1.1°C compared to the average global warming for that period from 1.1°C to 1.4°C. Similarly, in 2019 and 2023 there has been a difference in the trend of temperature in different areas of the country. For example, Dar es Salaam Region has had an increase in temperature unlike Iringa Region whose temperature measurements showed a decrease in temperature and Tabora Region, which did not find a temperature difference.

Over the past four years, many areas in the country have received average rainfall between 75% and 100% of the average amount of rain as has been the norm for a long time, except in 2019 where many areas received rainfall above the average level between 100% and 125% compared to the amount of rain for a long time. Similarly, some parts of the country received rain below the level between 50% and 75%.

Climate change is caused by the accumulation of greenhouse gases in the air resulting from various human activities where in 2022 studies revealed the presence of 57.4 gigatons of greenhouse gases compared to 2019 where the amount of 55.3 gigatons of greenhouse gases was recorded.

In addition, global climate information has identified an increase in global temperature of 1.4°C in 2022 compared to 1.1°C recorded in 2019. In addition, approximately 270,000 people have been affected by changes in the country due to the presence of events of extreme weather such as heavy rains causing floods, periods of drought, damage to crops and transport infrastructure.

### 2.1.2 Topography

Tanzania's terrain comprises of plains along the coast, a plateau in the central area, highlands in the north-east and southwest dominated by mountain ranges and peaks, river and lake basins and the Great East African Rift Valley. The famous mountain ranges and peaks include Mt. Meru (4,565masl) and Mt. Kilimanjaro (5,895masl) the latter being the highest point in Africa and both being dormant volcanic mountains. The eastern part of the country hosts two important mountain blocks (the Usambara and Pare), referred to the Eastern Arc Mountains. The southern mountain ranges include Livingstone, Kipengere, Udzungwa and Uluguru.


***Figure SEQ Figure * ARABIC 2:*** *Lakes and Rivers*

The central Tanzania is characterized by Plateau area, that ranges between 1,000 and 1,500masl with gentle slopes to the plains, scattered hills and low-lying wetlands. The southern half of this plateau is the grassland within the Eastern Miombo woodlands ecoregion, with the larger part covering the Selous Game Reserve. The Great Rift Valley in Tanzania, which is part of the larger East African Rift Valley system, is approximately 6,000 kilometers and runs through Central Tanzania to the south splitting at Lake Nyasa. The Eastern Rift Valley includes Lake Natron, Manyara

and Eyasi, whereas the Western branch runs from Lakes Nyasa along Lakes Rukwa and Tanganyika ending on the western part of Uganda.

About two-thirds of the Mainland Tanzania coastline has fringing reefs, often close to the shoreline, broken by river outlets such as the Rufiji Delta, Pangani, Ruvuma, Wami and Ruvu. The continental shelf extends 5.8–10 km offshore, with the exception of the Zanzibar and Mafia channels where the shelf extends for more than 25 km. Tanzania is rich in water resources divided into nine drainage water basins which are the Pangani Basin, Wami/Ruvu Basin, Rufiji Basin, Ruvuma and the Southern Coast Basin, Lake Nyasa Basin, the Central Drainage Basins (Lake Eyasi, Manyara and Bubu depression), Lake Rukwa Basin, Lake Tanganyika Basin and Lake Victoria Basin. Tanzania's main rivers include the Pangani, Wami, Ruvu, Rufiji, Malagarasi, Kagera, Songwe, Ruaha, Mara, Ruhuji and Ruvuma. Tanzania has also substantial renewable groundwater resources with an estimated capacity of 30,000 MCM/year[6,7].

### 2.1.3 Agro-climatic Zones

The agro-climatic zones of Tanzania are defined based on altitude, precipitation, temperature patterns, dependable crop seasons, soils water holding capacity and physiographic features. Based on this categorization, Tanzania is divided into seven agro-climatic zones that include coast, arid lands, semi-arid lands, plateau, southern and western highlands, northern highlands and the alluvial plains. Zanzibar Islands fall under the coastal agro-ecological zone. The coastal agro-ecological zone is characterized by three ecological zones (the deep soil, coral rag and swamps). The three zones are important for coastal biodiversity, where the coral rag ecological zone is rich in both flora and fauna.

## 2.2 Ecosystem Types and Status

### 2.2.1 Terrestrial Ecosystems

Tanzania is endowed with vast natural terrestrial ecosystems with massive biodiversity and has registered considerable achievements in conserving its biodiversity. Tanzania has set aside about 40% of her land under protection (6.5% of marine and 33% terrestrial). These include National Parks, Ngorongoro

***Figure SEQ Figure * ARABIC 2:*** *Wildebeest in Serengeti National Park*

[6] Kashaigili, J. et al, Tanzania In Groundwater Availa
International Water Management Institute (IWMI): Colo

[7] Water Sector Development Program (WSDP) (2006-202

Conservation Area (NCA), Game Reserves, Game Controlled Areas, Wildlife Management Areas, Ramsar Sites and Forest reserves. Four Protected areas are inscribed into UNESCO World Heritage Sites and three are Biosphere Reserves. The Biosphere Reserves are the Lake Manyara, Ngorongoro - Serengeti Gombe-Masito-Lugala, RUMAKI and Jozani-Chwaka) and East Usambara Nature Reserve. The World Heritage Sites under the Nature category are the Serengeti National Park, Kilimanjaro National Park, Selous Game Reserve. The country has Mixed Cultural and Natural World Heritage Site namely the Ngorongoro Conservation Area, and the Ngorongoro Lengai UNESCO Global Geopark, which is the second in Africa after the Gouri in Morocco.

Tanzania protected areas network has expanded steadily where NPs increased from 16 in 2016 to 21 in 2023 comprising a total area of 10,485,000 ha which is equivalent to 11.6% of the country area. It includes the recently gazetted Nyerere NP, the largest in the country with an area of about 3 million ha, which is about 29% of total area under National Parks. Other NPs are the Ruaha, the second in size with an area of about 1,900,000 ha and Serengeti NP as the third largest national park with an area of 1,476,300 ha. The expansion has been a result of upgraded five Game Reserves (GRs) and establishment of the new National Parks namely Nyerere, Burigi-Chato, Rumanyika-Karagwe, Ibanda-Kyerwa and Ugalla river. Tanzania has a total of 24 GCAs, and community-based conservation with 40 WMAs established of which 14 have Certificates of Authorized Association (AA). The country has also upgraded several Game Controlled Areas (GCAs) into GRs that include upgrade of Wami-Mbiki Wildlife Management Area (WMA) to a Wami-Mbiki GR to secure the dry season refuge area for elephants and other herbivores from Selous GR and Nyerere NP. These efforts reduce pressure in the wildlife rangelands and enhance wildlife distribution, abundance and species diversity.

***Figure SEQ Figure * ARABIC 3:*** *Tanzania Conservation Areas, Game Controlled Areas, Game Reserves, National Parks and Wildlife Management Areas*

Tanzania has 48.1 million ha of forest land, managed under the Tanzania Forest Services Agency (TFS) that include 44.6 million of woodlands, 1.4 million ha of catchment forests, 115,000 ha of mangrove forests. TFS has, between 2016 to 2024, established 24 Nature Forest Reserves (NFRs) and established 240,000 ha of forest plantations. TFS applies the conventional forest protection as well as Community-Based Forest Management (CBFM) as a participatory approach to 2engage local communities. The main threat to these forests is deforestation estimated to be about 469,420 ha per annum largely caused by forest land conversion into agriculture, overgrazing, wildfires, logging and charcoal production, mainly in the village and unreserved forest land.

### 2.2.2 Aquatic Ecosystems

Tanzania has diverse coastal and marine ecosystems that provide economically important ecosystem services along the coastline and around the major Islands of Unguja, Pemba and Mafia. Important features of the coastline include mangroves, seagrass, coral reefs, rocky and sandy beaches, and numerous islets that are important for fish breeding. Tanzania is home to a vast mangrove forest with about 110,787 ha that accounts for about 1% of mangrove coverage worldwide making it one of the most important wetland ecosystems in the region. About 42% of the mangroves are found in the Rufiji Delta. These mangroves are crucial to the local communities who depend on mangrove ecosystems for sustenance and livelihood. They offer a wide range of ecosystem services, vital for coastal areas, serving as habitat for a diverse range of species, including birds, fish, crustaceans, reptiles, and mammals. Mangroves are not only ecologically significant, but also provide essential resources to human communities, supplying food, timber, fuel, and medicinal benefits. Mangroves do also play a significant role in mitigating climate change by sequestering atmospheric carbon in marine sediments, contributing to the "Blue Carbon" concept. Tanzania's mangroves store up to 8% of the country's total fossil fuel CO2 emissions annually. An estimated total of about 153 Mt CO2e is currently stored in the country's mangrove

*Figure SEQ Figure * ARABIC 5: : Coral reefs and Fish in Mafia Island Marine Park*

biomass and sediment. Intervention on mangroves conservation include at least 3,611 ha of mangrove restoration along the Tanzanian coast and several community-based restoration projects.

Tanzania has significant seagrasses that play a vital role in coastal production and serve as a food source for several associated fauna. The seagrasses are distributed along the entire coastline and are estimated to cover about 280,000 ha of which 116,031 ha, (41.19%) are in the Coast Region and in Zanzibar, seagrass covers about 81,623 ha.

Coral reefs in Tanzania are estimated to cover about 3,580 $km^2$ of the country's coastline, the largest area covered by coral reefs in the entire Eastern Africa. Coral reefs support diverse marine ecosystems that include over 500 species of commercially important fish and invertebrates. Due to the narrowness of the continental shelf, the coral reefs are mostly found near the shoreline within a distance of 1-3 km along the coast. Fringing reefs are mostly found in the islands of Unguja, Pemba, Mafia, as well as around numerous small islands and greatest concentration are in Tanga, Pemba, Unguja, Mafia, the Songosongo archipelago, and Mtwara. Coral reefs in Tanzania are characterized by a broad diversity of both species and formation types, with approximately 150 species of hard, reef-building corals identified. The structural complexity and ecologically diverse habitats support large numbers of both resident and transient marine life. The coastal and marine ecosystems also include sandy and rock beaches, mudflats, estuaries, wetlands, and deep-sea habitats that harbor diverse and unique biodiversity.

Tanzania has over the decade made impressive progress in management of its marine protected areas in both Mainland Tanzania and Zanzibar. These include: (a) the three marine parks (Mafia Island Marine Park, Tanga Coelacanth Marine Park and Mnazi Bay - Ruvuma Estuary Marine Park), and (b) sixteen marine reserves (Bongoyo, Pangavini, Fungu Yasin, Mbudya, Sinda, Makatobe, Kendwa as part of the Dar es Salaam Marine Reserves; Chole, Juani, Jibondo and Bwejuu as Part of the Mafia Island Marine Park; Maziwe, Kwale, Ulenge, Kirui and Mwewe as part of Tanga Coelacanth Marine Park). Five Marine Conservation Areas (MCAs) are managed in Zanzibar that include the Menai Bay Conservation Area (MBCA), the Mnemba Island Marine Conservation Area (MIMCA), the Pemba Channel Conservation Area (PECCA), the Changuu Bawe Marine Conservation Area (CHABAMCA) and the Tumbatu Marine Conservation Area (TUMCA). Chumbe Island Coral Park, a privately operated Marine Protected Area is within MBCA (Table 1).

**Table 1: Marine protected areas in Mainland Tanzania and Zanzibar[8]**

| Marine Protected Area | Date created | Area ($km^2$) |
|---|---|---|
| Bongoyo Island Marine Reserve | 1975 | 915 |
| Mbudya Island Marine Reserve | 1975 | 14.22 |
| Pangavini Island Marine Reserve | 1975 | 213 |
| Fungu-Yasini Marine Reserve | 1975 | 22.9 |
| Maziwe Island (submerged island Marine Reserve | 1981 | 4.5 |
| Chumbe Island Coral Park/ Sanctuary (CHICOP) | 1994 | 0.55 |
| Mafia Island Marine Park (MIMP) | 1995 | 822 |
| Menai Bay Conservation Area (MBCA) | 1997 | 717.5 |
| Mnazi Bay Ruvuma Estuary Marine Park (MBREMP) | 2000 | 650 |
| Mnemba Island Marine Conservation Area (MIMCA) | 2002 | 337.3 |
| Pemba Channel Conservation Area (PECCA) | 2005 | 825.8 |
| Saadani National Park | 2005 | 1062 |
| Makatube Island Marine Reserve | 2007 | 7.78 |
| Sinda Island Marine Reserve | 2007 | 1.80 |
| Kendwa Island Marine Reserve | 2007 | 5.30 |
| Shungumbili Island Marine Reserve | 2007 | 4.2 |
| Nyororo Island Marine Reserve | 2007 | 21.00 |
| Mbarakuni Island Marine Reserve | 2007 | 3.80 |
| Tanga Coelacanth Marine Park (TACMP) | 2009 | 522 |
| Ulenge Island Marine Reserve | 2010 | 3.16 |
| Mwewe Island Marine Reserve | 2010 | 0.40 |
| Kirui Island Marine Reserve | 2010 | 35.10 |
| Kwale Island Marine Reserve | 2010 | 12.13 |
| Tumbatu Marine Conservation Area (TUMCA) | 2014 | 162.9 |
| Changu-Bawe Marine Conservation Area (CHABAMCA) | 2014 | 118.2 |

### 2.2.3 Inland Water Ecosystems

Tanzania has relatively abundant Inland water ecosystems with several major lakes, rivers, estuaries, wetland ecosystems and artificial reservoirs (or dams). The country holds territory in all three African Great Lakes, namely, Lake Victoria, Lake Tanganyika and Lake Nyasa. Other lakes include Rukwa, Manyara, Eyasi, Natron, Singidani, Babati,

[8] Yahya, S. 2021. Marine & Coastal Areas under Protection: United Republic of Tanzania: Zanzibar, p. 203–214, In: UNEP-Nairobi Convention and WIOMSA. 2021. Western Indian Ocean Marine Protected Areas Outlook: Towards achievement of the Global Biodiversity Framework Targets. UNEP and WIOMSA, Nairobi, Kenya, 298 pp.

Jipe and Chala, with the latter two being transboundary lakes. The country also boasts of extensive river systems, with the prominent ones being the Rufiji, Mara, Malagarasi, Kagera, Pangani, Ruvuma, Wami, and Ruvu. Several of these rivers, such as the Kagera, Mara, Pangani, Umba, Ruvuma, and Songwe, traverse international borders. Several rivers, such as the Rufiji, Wami, Ruvu, and Pangani, flow into the Indian Ocean, creating significant estuaries (e.g. Pangani estuary) and/or deltas (e.g. Rufiji Delta) that foster unique biological diversity. Important estuaries include the Pangani. These rivers play a crucial role in supporting wetlands as well as coastal and marine habitats and biodiversity by providing essential sediment and nutrients.

## 2.3 Species Diversity and Endemism

Tanzania exhibits a high degree of species endemism with high biodiversity, which is attributed to the complex topographical conditions and biological isolations that create unique microclimate and distinct ecological conditions that support numerous endemic species. Tanzania's forests are globally known for their important biodiversity repository niches. These include 1,591 Critically Endangered, Endangered and Vulnerable species and ecosystem ranges characterized with very high degrees of species richness and endemism[9]. Tanzania's endemic species include amphibians, birds, reptiles and mammals.

Among amphibians 86 species are endemic out of 206 known species, including the Kihansi spray toad (Nectophrynoides asperginis). Among the reptiles, 85 species are endemic out of 360 known species. As for the bird species, there are 33 endemic species out of 960 known species.

Tanzania has records of 359 known mammal species that include a number of endemic species comprising of the Udzungwa red colobus monkey (Piliocolobus gordonorum), Kipunji (Rungwecebus kipunji), Zanzibar red colobus monkey (P. kirkii), Pemba flying fox

***Figure SEQ Figure * ARABIC 6:*** *Red Colobus Monkey in Jozani Forest, Zanzibar*

[9] Rodgers, W. & Homewood, K. (2008). Species richness and endemism in the Usambara mountain forest, Tanzania. Biological Journal of the Linnean Society. 18. 197 - 242. 10.1111/j.1095-8312. 1982.tb02037. x.

(Pteropus voeltzkowi), Pemba Scops Owl (Otus pembaensis) and Zanzibar servaline genet (Genetta servalina).

### 2.1.1 Coastal and Marine Ecosystem

The coastal and marine ecosystems of Tanzania harbour myriad assemblages of both fauna and flora, including seagrass, mangrove, coral reef, and fish. A total of 12 seagrass species have been identified in Tanzania. They include: *Enhalus acoroides*, *Cymodocea rotundata*, *Oceana serrulata* (formerly *Cymodocea serrulata*), *Halophila ovalis*, *H. minor*, *H. stipulacea*, *Halodule uninervis*, *Halodule pinifolia.*, *Zostera capensis*, *Thalassia hemprichii*, *Thalassodendron ciliatum* and *Syringodium isoetifolium*. Most species occur as mixed meadows and in shallow waters. Tanzania hosts a total of ten mangrove species (nine in Mainland Tanzania and ten in Zanzibar). These are *Avicennia marina*, *Bruguiera gymnorrhiza*, *Ceriops tagal*, *Heritiera littoralis*, *Lumnitzera racemosa*, *Pemphis acidula*, *Rhizophora mucronata*, *Sonneratia alba*, *Xylocarpus granatum*, and one more species, namely *Xylocarpus moluccensis* which has so far been observed in Zanzibar only.

### 2.1.2 Agro Ecosystem and Food Systems

The food system is the predominant driver of biodiversity loss. Tanzania has seen an increasing transition towards sustainable and resilient agri-food systems to protect, restore and promote biodiversity. Agroecological practices include agricultural land expansion and intensification to meet rising food, fibre and energy demands (Figure 6). These developments have brought negative impact on natural habitats and biological functions; consequently, reducing the resilience and productivity of agricultural systems and biodiversity. The anthropological pressure on biodiversity related to unsustainable use of ecosystems and land conversion for agriculture, use of chemical inputs and phytosanitary products. These contribute to among others, the decline of crop pollinators and other animals that maintain the diversity of ecosystems, impacts on water quality including pollution and other ecosystem services.

***Figure SEQ Figure * ARABIC 7:*** *Clove farming in Zanzibar*

Intensification and specialized cultivation e.g. monoculture, using improved genetic resources and the forsake of local varieties and breeds that are potentially adapted to the climatic conditions has been on the increase. Strategies included in this plan are geared on complementing 'environmentally friendly' practices that manage, regulate and support ecosystem services to enhance agricultural productivity as well as biodiversity. They build on synergistic services such as pollination, pest control, promoting agronomic and economic benefits with great interest to farmers, and options for potential upscale of agroecological practices. Some priority actions include: development and implementation of sustainable agricultural practices that promote healthy ecosystems and upscale of agroecological practices. Others are on determining the agro-ecological food systems and practices and soil management. On governance, actions will involve strengthening the institutional and community capacity on ecological management and restoration of agricultural landscapes.

## 2.4 Threatened and Endangered Species

Tanzania is home to the 10th highest total number of IUCN Red Listed threatened species in the world. Due to its endowment as one of the 12 biodiversity rich countries in the world, Tanzania has the second highest number of threatened species in Africa including some critically endangered and the vulnerable. As of 2019, Tanzania had at least 511 threatened species recorded that include a substantial number of endangered ones[10]. Some of the endangered wildlife species include large mammal such as the African elephants (*Loxodonta africana*), Black rhino (*Diceros bicornis michaeli* and *D. b.minor*), Cheetah, Wild dogs, Thomson gazelle (*Eudorcas thomsonii*), Lesser kudu (*Tragelaphus imberbis*), Ader's duiker and Puku (*Kobus vardoni*). Others are the Chimpanzee, Kima punju, Zanzibar red colobus and Udzungwa red colobus. The smaller species include the Pangolin (*Smutsia temminckii, S. gigantae, Phataginus tricuspis*), Kihansi spray toad, White-backed vulture (*Gyps africanus*), Pemba Scops Owl, Sokoke pipit (*Anthus sokokensis*) and a variety of birds confined to patches of coastal forests, Usambara hills, Saadani National Park, Kilombero Game Reserve and Rukwa valley.

[10] IUCN RedList, January 2023 Classification

# CHAPTER THREE

# 3.0 SITUATION ANALYSIS

## 3.1 Biodiversity Trends and Status

Tanzania has recorded significant advancement in protecting key ecosystems and biodiversity at levels that surpass the 2020 Aichi Targets and post 2020 GBF targets. It has set aside about 40% of its total area (6.5% of marine and 33.5% of terrestrial) under protection. This progress is largely grounded on policies, legislations, strategies and institutions developed and implemented towards conservation of natural resources and ecosystems that harbor critical biodiversity. Based on various national reports and assessments, Tanzania has recorded significant positive biodiversity trends as summarized in Table 2.

**Table 2: Positive Biodiversity Trends**

| Priority area | Trends on biodiversity |
|---|---|
| Increase in biodiversity conservation | • Increased area under protection including establishment, protection and restoration of biodiversity rich areas comprising National parks, Game and forest reserves and MPAs with significant conservation status (24 NFRs, 21 NPs, 24 GCAs and 40 WMAs).<br>• Flagship species conservation and protection both endemic and threatened species (elephants and rhinos)<br>• Secured ecosystems such as wetlands, catchments, coral reefs and landscapes including parks and reserves. |

| Priority area | Trends on biodiversity |
|---|---|
| Economic contribution | • Contribution to GDP through biodiversity related investments, revenues from user fees from parks, employment creation and multiplier benefits from biodiversity-based tourism value chain.<br>• Biodiversity-related income from optional utilization such as organic farming. |
| Contribution to social services | • Co-management and access to benefits sharing arrangements<br>• Diversification of livelihoods and incomes from alternative interventions such as seaweed farming, ecotourism and beekeeping. |
| Political importance | • Development of vibrant policies development, planning and financing i.e. mainstreaming of biodiversity conservation in policies, legal frameworks and strategies (Vision 2050, Blue Economy, Carbon markets and clean energy development.<br>• Development of institutions charged with biodiversity related management responsibilities. |

Although there has been a notable decline in the abundance and distribution of some animal species, there are also remarkable achievements in protecting endangered species as demonstrated by the six meta-populations. The black rhinos (*Diceros bicornis michaeli*) increased steadily from 148 in 2016 to 205 in 2020, and estimated to be about 253 individuals in all the metapopulations under NCA, TANAPA and TAWA combined (Figure 10 and 11). Similarly, the population of wild dogs (*Lycaon pictus*) has been on the increase in their natural free range and translocated sites.

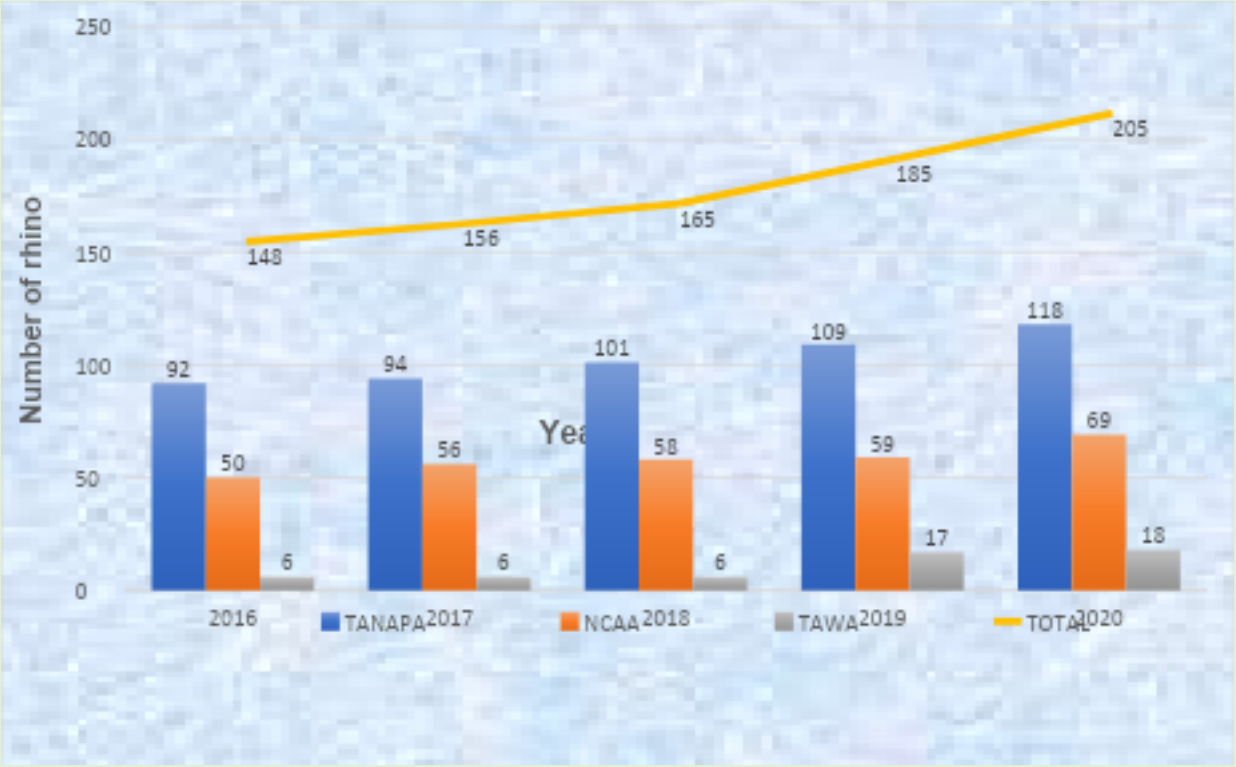


**Figure 9: Rhino population trends under three Management Authorities from 2016 to 2020**

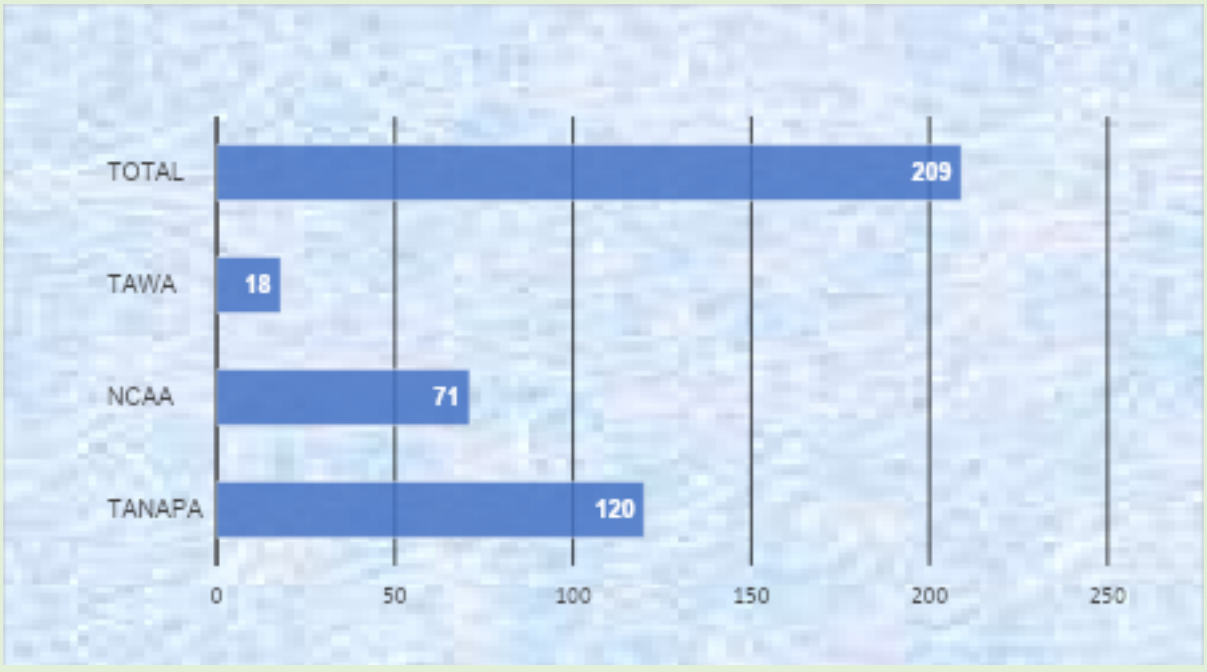


**Figure 10: Rhino population from different metapopulations under three Management Authorities reported in 2021**

While there were fluctuations of Elephants (*Loxodonta africana*) populations as a keystone species between 1998 and 2006 due to anthropogenic factors, an overall

increase of 16% from 868 individuals in 1986 to 7,061 individuals in 2020 was registered in Serengeti District as summarized in the census reports (Figure 12). Notable population growth was recorded from 6,087 in 2014 to 7,061 in 2020. These population trends suggest fairly stable key ecosystems management, reduced poaching and enhanced law enforcement by respective authorities.

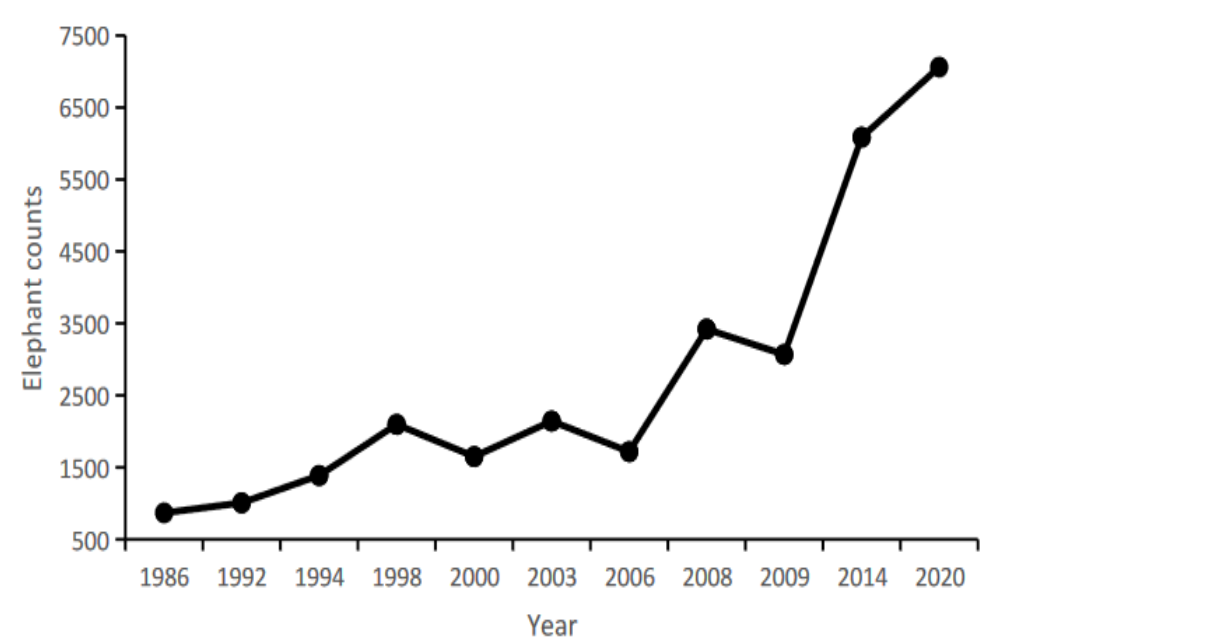


**Figure 11: Trends in elephant population in the Serengeti ecosystem from 1986 to 2020** (Source: TAWIRI)

The Buffalo (*Syncerus caffer*) populations have also increased from 55,411 in 2014 to 69,075 individuals in 2020 (Figure 13) with the highest number of individuals (73%) in Serengeti National Park (50,321).

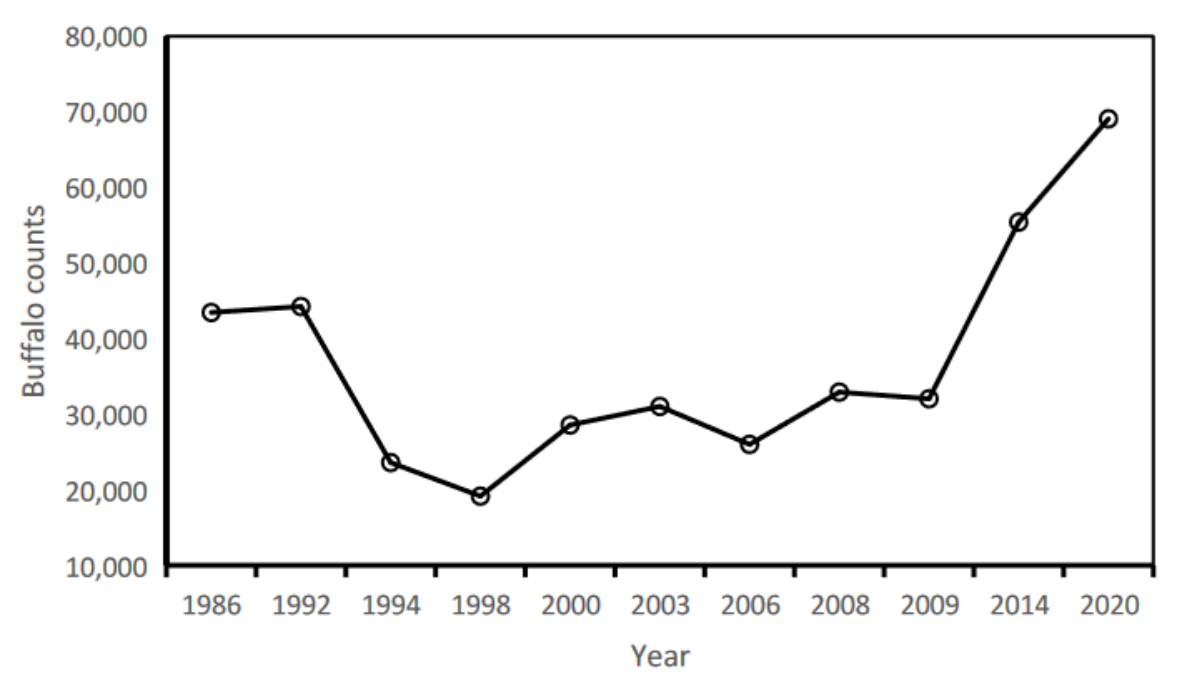


**Figure 12: Population trends of buffaloes in the Serengeti ecosystem from 1986 to 2020** (Source: TAWIRI)

The giraffes (*Giraffa camelopardalis*) survey in the Serengeti ecosystem in 2020 showed a population of 6,680 individuals with the highest concentration in Serengeti National Park, Maswa Game Reserve, Loliondo Game Controlled Area and NCA (Figure 14).

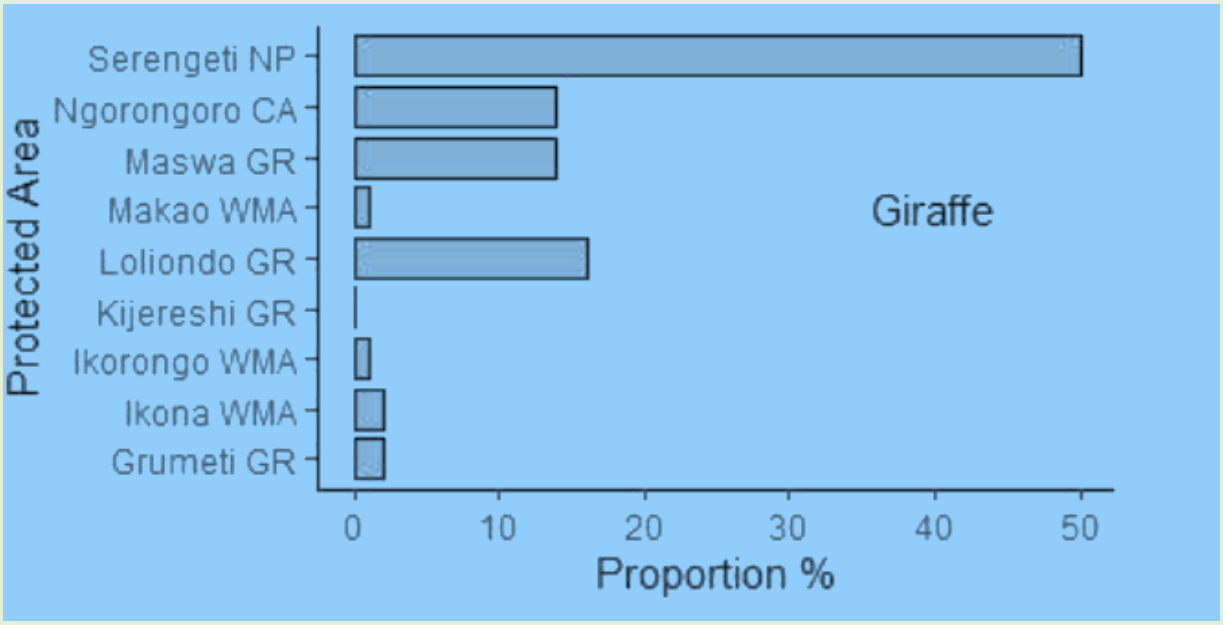


**Figure 13: Distribution of Giraffes in the Serengeti ecosystem in 2020** (Source: TAWIRI)

In the coastal and marine ecosystems, Tanzania recorded significant improvement in the seagrasses with stunning abundance in the entire coastline covering about 280,000 ha. The Coral reefs covering about 3,580 $km^2$ of the coastline have also recorded significant recovery owing to expansion of marine protected areas, reduced illegal and unregulated fishing practices and improvement in law enforcement. The mangrove forests management with about 110,787 ha has also been improved focusing on emerging options for climate change mitigation under the "Blue Carbon" model. Improvements owe to among others, implementation of community-based restoration approaches and introduction of alternatives livelihood options.

## 3.2 Regressive Trends

Tanzania has experienced a number of biodiversity loss challenges. These include habitat fragmentation and degradation, proliferation of invasive species, overexploitation of biological resources, and pollution in critical ecosystems. Tanzania's Sixth National Report on Implementation of NBSAP II (2019) notes regressive trends on biodiversity that include i) habitat loss, degradation and fragmentation of terrestrial, freshwater and coastal and marine ecosystems; ii) unsustainable exploitation of wildlife, forests and aquatic biodiversity resources; iii) spread of invasive alien species in terrestrial, freshwater and marine environments; iv) environmental pollution; and v) climate change impacts. These regressive trends are a result of: (i) inadequate integration of biodiversity management in sector priorities, (ii) unharmonized sectoral policies interventions, laws and strategies, (iii) inadequate governance and enforcement capacity, (iv) limited sustainable livelihood opportunities for poor, rural resources dependent communities, and (Mo) increasing climate change impacts resulting in sea level rise, flooding and droughts.

Studies indicate that land degradation has been on the increase from 42% in 1980 to 50% in 2012 and further to 80% (whereby 46% is moderate and 34% is highly degraded) as of 2018[11]. On deforestation and forest degradation, Mainland Tanzania's annual deforestation rate is estimated to be about 469,420 ha, with highest rate (about 40%) recorded in Western zone. Deterioration of water sources include fluctuations in water levels in all major lakes, and reduced river discharge in the nine water basins. There have also been trends on rising of water level in major lakes i.e. in Lakes Rukwa, Tanganyika and Victoria, attributed to increased sediments load resulting from unsustainable land use activities in the upstream catchment areas.

Wetlands have also been degraded, with most of them encroached and shrinking due to expansion of land uses including expansion of agriculture, grazing and settlements. Some

[11] National Environmental Master Plan for Strategic Interventions (2022 – 2032)

of the affected wetlands include the Ihefu wetlands, the Usangu plains, Ruaha river, Lake Manyara, Ruaha National Park and some downstream ecosystems in the Rufiji basin. The impacts range from lost ecological functioning and impaired energy production in major hydropower plants in Mtera dam, Kidatu, Pangani and Julius Nyerere Hydropower Plant. Proliferation of invasive species has been recorded with a total of 220 invasive and potentially invasive species where 87% are aliens and 13% native. These invasive species have adversely impacted the livestock grazing land for livestock and wildlife areas (Ngorongoro and Serengeti), loss of agricultural land and crops, loss of fisheries biodiversity and impairment of transport services in water bodies. Degradation of wildlife habitat has also been one of the challenges on increasing loss of threatened species that account for about 2,100 threatened species. On coastal and marine ecosystems, habitat degradation is noted in the decrease of mangrove cover and coral reefs.

Climate change impacts in Tanzania are associated with temperature increases, rainfall shift and variability with associated flooding, prolonged drought, sea level rise, spread of bush fires and spread of invasive species, and ecosystem shifts or transformation. Environmental pollution has also been on the increase predominantly the surface water pollution, land and soil pollution, marine and coastal pollution, chemical pollution and waste pollution.

On environmental governance, the country has engaged in various policy, legal and institutional frameworks that have produced notable positive results on biodiversity conservation. The country however still experiences a number of governance issues including, inadequate institutional capacity, inadequate enforcement and human resource, and low public awareness.

## 3.3 Lessons learnt from the NBSAP (2015-2020)

### *a) Policy development and Institutional reforms*

Tanzania implemented a number of measures including formulation of policies and legal frameworks to enhance biodiversity management. The policy development and establishment of key institutions facilitated informed decisions and prioritization of biodiversity conservation in key sectors. Such institutions include Tanzania Wildlife Management Authority (TAWA), Tanzania Agricultural Research Institute (TARI), Zanzibar Agricultural Research Institute (ZARI) and Tanzania Forest Services Agency (TFS).

### *b) Enhanced management of critical biodiversity habitats*

A number of conservation programs implemented contributed to enhanced protection of flora and fauna that resulted in securing most of the protected areas, elevation of conservation status of protected areas including Gombe-Masito-Ugala, RUMAKI and Jozani-Chwaka bay to Man and Biosphere reserve areas and designation of three game reserves (Burigi, Biharamulo, Kimisi) as National Parks. The measures also supported restoration of fragmented and degraded terrestrial and marine ecosystems and the loss of habitats such as the two corridors of Litumbandyosi and Gesimasowa gazzeted as Game reserves. Several programmes have been implemented to enhance biodiversity conservation in different ecosystems including integrated ecosystem management and landscape restoration.

*c) Capacity measures*

Implementation of NBSAP (2015-2020) was partially effective due to inadequate institutional capacity in terms of human resources, infrastructure and finance. This Strategy builds in capacity development targets and actions for the respective stakeholders.

*d) Strengthened Regional and Bilateral Cooperation*

Sustained national biodiversity involved enhanced trans-boundary biodiversity resources including water, wildlife and fishes. Tanzania enhanced cooperation with neighboring countries through the regional bodies and adopted measures for management of the trans-boundary biodiversity resources including Memorandum of Understanding (MoU) between: a) Mozambique and Tanzania on full protection and movement of elephants between Selous Game Reserve (Tanzania) and Niassa (Mozambique) to secure the two elephant corridors; b) Tanzania and Malawi on Songwe River transboundary water resources and; c) Tanzania and Kenya on cross border wildlife security. The cooperation revolved around harmonization of policies, laws and strategies related to trans-boundary biodiversity resources. It also implied engagement in joint technical and steering forums.

*e) Provision of ecosystem services*

The NBSAP (2015-2020) supported a number of programs to restore and safeguard ecosystems that provided essential services related to water, forestry, fishery, wildlife and contributing to health, livelihoods and well-being that took into account the needs of women, local and vulnerable communities. Due to infancy of key institutions and benefits sharing arrangements, the level of benefits, community engagement and participation in decision making related to biodiversity conservation was modest.

*f) Contribution to Climate resilience*

Implementation of the Strategy enhanced conservation and restoration of ecosystem resilience and contribution of biodiversity both on ground and blue carbon stocks that contributed to climate change mitigation and adaptation.

*g) Research development*

The design and implementation of most projects/programs was challenged by limited scientific information and data, including resource assessments and valuation of ecosystems to inform planning and management decisions. This was mainly limited by inadequate resources for research work. The emerging biodiversity conservation initiatives call for informed decisions supported by practical innovations.

*h) Resource mobilization*

Implementation of the Strategy was moderate in most targets as constrained by available resources, mainly from government subventions, bilateral and multilateral agreements, grants, private sector and individual contributions. The resources mobilization measures were partially effective as most of the established funds were not predictable and reliable. Biodiversity conservation in the country was inadequately funded owing to none prioritization in some sectors as well as the LGAs, with most of biodiversity conservation initiatives not being effectively implemented.

*i) Monitoring and Evaluation*

NBSAP II was implemented and reported routinely and the Annual National reports delivered as per the CBD Reporting[12]. The review of NBSAP (2015-2020) implementation noted that the M&E for NBSAP (2015-2020) was devoid of a robust framework to collate and consolidate reports from sectors and Executing Agency/Implementing Partners. The indicators, in particular at target level, were only consolidated in the preparation of National CBD Reports. While baseline data existed largely at programme and project levels, an inclusive monitoring system for routine data collection, analysis and consolidation was absent. At strategy level, NBSAP (2015-2020) was not reviewed at midterm and a comprehensive final evaluation was not undertaken in 2020. Most of the information was developed and maintained at sector/institutions level where monitoring platforms were not synchronized. As such, the actual achievement levels were largely provided by the partner reporting systems. Respective planning and monitoring at sector and districts levels was principally done by specific project staff who had monitoring

[12] https://chm.cbd.int/pdf/documents/nationalReport6/245938/1

responsibilities using performance Tracking Tools, Baseline reports, Midterm Review reports and specific studies.

In the absence of a consolidated monitoring and reporting platform, adaptive management strategies were not evident. Documentation and sharing of lessons derived from the implementation process was also limited. Based on these flaws, NBSAP III will require a robust M&E framework.

# CHAPTER FOUR

# 4.0 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORKS

## 4.1 Policies

Tanzania is renowned for its abundant biodiversity and ecosystems, making it one of the world's key centers of biodiversity. The biodiversity resources play a pivotal role in the national economy. Most of the biodiversity in the country including terrestrial, coastal and marine is protected and managed under respective policies and legislation within relevant sectors of Mainland Tanzania and Zanzibar. Under these policies, a number of biodiversity management interventions have been implemented including, strengthening management and conservation of ecosystems; promoting participatory resource management approaches; and promoting alternative livelihood activities for the resources dependent communities.

Tanzania also updated a number of macro and sector specific policies that guide management of biodiversity, between 2015 and 2020. The macro level strategies and plans responding to these policies were also developed including the Five Years Development Plan (FYDPIII 2020-2025), Zanzibar Development Vision 2050, the Zanzibar Blue Economy Policy (2022); Tanzania National Blue Economy Policy and its implementation Strategy, (2024), and the National Environmental Master Plan for Strategic Interventions (2022 – 2032). The Tanzania Development Vision (TDV) 2050. These instruments attribute sustainable development and high-quality livelihood to sound environment and the country's biodiversity conservation focusing on, among others, harnessing the nature-based tourism potential. Other recent instruments formulated since the development of the NBSAP (2015-2025):

### a) The National Environmental Policy (2021)

The National Environmental Policy (NEP)2021 is an overall framework guiding document for conservations initiatives. It also focuses on reducing biodiversity loss and improving e ecosystems services.

### b) National Gender and Women's Development Policy (2023)

The National Gender and Women's Development Policy (2023) aims at promoting gender equality and empowering women across all spheres of life. The Policy provides a clear link to biodiversity, as it promotes women's participation in natural resource management, decision-making, recognizing that gender equality is crucial for sustainable biodiversity conservation efforts.

## 4.2 Legislation

### a) Environmental Management Acts

The EMA (2004) serves as the key legislation guiding the implementation of the Environmental Policy (2021), establishing a comprehensive administrative and institutions framework for environment including biodiversity conservation and sustainable use of its genetic resource at all levels.

The Zanzibar Environmental Management Act No. 3 of 2015 guides Environmental management for sustainable development and ensure sustainable use of the environment. In 2024, the Act was amended to include emerging issues in the context of biodiversity conservation, sustainable utilization and trade including regulations on biosafety, biotechnology, gene editing and genetic modified organisms.

### b) Wildlife Conservation Act (2022)

The Wildlife Conservation Act, CAP 283 supports conservation of wildlife and ensures protection, management and sustainable utilization of wildlife resources, habitat and ecosystems. It also entails the management of national parks through protection and promotion of the biodiversity conservation.

### c) The Land Act (2019) Version of 2023

The Land Act No.4, Cap.113 categorizes land into three typologies which are public land, village land, and reserved land. The Act reconciles the land use interests including sustainable natural resources conservation and development. The Land Act No. 4 of 1999 as amended in 2003 is a framework for land management with a focus on secure tenure equitable access and sustainable development with ongoing revisions and improvements.

### d) The Water Resources Management Act (2009)

The Water Resources Management Act No. 11 of (2009) controls and protect water resources and puts in place a regime of water rights to govern access to water use and pollution control. The Act provides measures for flood mitigation and control for the purpose of preventing or minimizing the risk of flooding, flood damage and water pollution through discharge permits of effluents to water bodies including the underground strata. The law requires of water utilization permits by various users to be granted by relevant authorities. Forest, wildlife protected areas and wetlands, provide the main sources and water catchments that are governed by respective laws.

### e) The Forest Act (2002)

The Forest Act No. 14 of 2002 is meant to ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility; and promote and enhance the contribution of the forest sector to the sustainable development, through conservation and management of forest resources. Similarly, the Zanzibar Forest Resources Management and Conservation Act of 1996 provides for sustainable management and conservation of forest resources. The Forests in Zanzibar include "all wild animals, wild plants, components of biodiversity and other living and non-living natural resources for which trees provide habitat, shelter or food or which are associated with forest ecosystems". For protection and management purposes, the Act provides for the creation of forest reserves, nature forest reserves, special forest management areas and community forest management areas. The Act specifically mentions biodiversity conservation as one the purposes for managing Nature Forest Reserves.

### f) Water Supply and Sanitation Act, 2019

The Water Supply and Sanitation Act of 2019 aims to ensure sustainable management, adequate operation of water supply and sanitation services. It also supports biodiversity through promotion of sustainable water management practices, protecting and conservation of ecosystems, and preventing pollution in aquatic life.

### g) Plant Health Act, 2020

The Plant Health Act support biodiversity management as it promotes protection of plant health by regulating the introduction and spread of pests and diseases, which can impact native plant species and, the overall biodiversity of an ecosystem.

### h) Deep-Sea Fisheries Management and Development Act, 2020

The "Deep-Sea Fisheries Management and Development Act, 2020" creates responsibility in managing, conserving, and developing fisheries within Tanzania's Exclusive Economic Zone (EEZ) and oversight in all activities related to deep-sea fishing and ensure sustainable use of fishery resources. The Act support biodiversity management and conservation in deep-sea with provisions to protect threatened and endangered species. It also regulates fishing gear to minimize bycatch, and monitor the marine environment.

### i) Tanzania Investment Act, 2022

Tanzania Investment Act, 2022 is a legislation which has a direct relationship with biodiversity conservation and sets a prerequisite for investors to conduct an Environmental and Social Impact Assessment (ESIA) to ensure the valued Ecosystems are preserved.

### j) Environmental Management (control and management of Mercury and mercury compounds) Regulations, 2020

The "Environmental Management (Control and Management of Mercury and Mercury Compounds) Regulations" set rules and guidelines to regulate the handling, storage, use, and disposal of mercury and its compounds. It also aims to minimize pollution and protect human health, ecosystems and species from mercury exposure.

### k) The Environmental Management (Control and Management of Carbon Trading) Regulations, 2022 and its Amendment of 2023

These Regulations provides legal guidance on the management of carbon trade and ensure biodiversity sustainability. It also supports the country's contribution towards global efforts on reduction of greenhouse gases emissions as committed in the Nationally Determined Contribution (NDC).

## 4.3 Strategies, Plans and Programs

### a) National Climate Change Response Strategy

The National Climate Change Response Strategy (NCCRS) 2021-2026 aims to enhance the national resilience to adverse impact of climate change and enable the country to

pursue low emission development pathways to achieve the sustainable development by adopting adaptation mitigation and crosscutting strategies, control ozone Depleting Substances and hydrofluorocarbons. Climate actions outlined in the strategy include nature-based solutions, ecosystems-based adaptation options and low emission development pathways, all of which enhances biodiversity conservation.

### b) National Forest Policy Implementation Strategy (NFPIS) (2021-2031)

This National Forest Policy Implementation Strategy aims at ensuring sustainable forest and tree resources management. The strategies include: (i) establishment of tenure arrangements for forests and trees to restrict forest land conversion; (ii) building capacity for germplasm production and management for indigenous and exotic species; (iii) promoting establishment of botanical gardens; (iv) establishing and managing tree seed sources and seed banks; (v) establishment of new reserves and upgrading of forest reserves into Nature Forest Reserves (NFRs); (vi) facilitating compliance to forest health and forests protection; (vii) developing urban forest and tree management initiatives; and (viii) supporting agro-forestry innovations. Through these actions, the strategy supports sustainable forest ecosystems management in particular the biodiversity hotspots in the Eastern Arc Mountains and coastal forests.

### c) National Environmental Master Plan for Strategic Interventions (2022–2032)

The National Environmental Master Plan for Strategic Interventions (NEMPSI) aims to guide coordinated environmental interventions at all levels, based on spatial variation of environmental challenges and intervention options. It guides the implementation of environmental interventions for the environmental challenges.

NEMPSI has identified key biodiversity challenges and proposes strategic interventions including: addressing loss of wildlife habitat and biodiversity, ecosystem restoration, land use planning, and sustainable biodiversity conservation.

### d) The Rural Energy Master Plan 2022/23 - 2029/30

The Rural Energy Master Plan (REMP) (2022/23 - 2029/30) is a government strategy aimed at increasing access to sustainable energy services in rural areas, focusing on expanding electricity access through initiatives such as home solar systems and

mini-grids, aligning with the goal of achieving universal energy access by 2030. The Master plan is implemented by the Rural Energy Agency (REA) and includes plans for clean cooking solutions as well, that will contribute to reduction in use of fuelwood.

### e) National Action Plan for Artisanal and Small-Scale Gold Mining (2020–2025)

The "National Action Plan for Artisanal and Small-Scale Gold Mining (2020-2025)" is intended to ensure reduction in use of mercury in the artisanal and small-scale gold mining sector, and where possible, eliminate its use in line with the Minamata Convention on Mercury. It outlines actions to address associated environmental, health, and socio-economic challenges and promote sustainable mining practices. The Action Plan has a significant relationship with biodiversity, as artisanal and small-scale gold mining (ASGM) activities have negative impacts on ecosystems, including soil degradation, water pollution, and habitat destruction.

### f) National Invasive Species Strategy and Action Plan (2019–2029)

The National Invasive Species Strategy and Action Plan (NISSAP) aims at preventing the introduction and spread of new invasive species, while also managing and reducing the negative impacts of existing priority invasive species. It enhanced national capacity for research and management of invasive species and protecting the country's biodiversity, ecosystem services and livelihoods. The NISSAP has a direct and significant relationship with biodiversity as its focus is on preventing the spread and managing the impacts of invasive species which can severely impair ecosystems and species diversity.

### g) National Disaster Management Strategy (2022–2027)

The National Disaster Management Strategy (NDMS) (2022-2027) is a plan aimed at protecting communities and property from disaster impacts by promoting a comprehensive disaster risk reduction culture. It focuses on effective and efficient disaster risk-sensitive actions across various sectors to achieve sustainable development and outlines steps to address key disaster risks, manage humanitarian responses, and implement recovery measures. The Strategy aims to mitigate disaster risks which can significantly impact ecosystems and biodiversity. It incorporates climate change adaptation measures and promotes sustainable land management practices and protection of vulnerable habitats

## 4.4 Multilateral Environmental Agreements

Tanzania is a Party to various Multilateral Environmental Agreements (MEAs) as summarized hereunder:

### a) The Convention on Biological Diversity or Biodiversity - CBD (1992)

The convention on biological diversity is a mutual treaty adopted in 1992 aiming to conserve biodiversity, sustainable use of its components and ensure the fair and equitable sharing of benefit arising from the genetic resources. Tanzania entered into force to CBD in 1996 to ensures biodiversity and ecosystems are conserved, sustainability of its resources and fairly access and sharing of genetic resources.

### b) United Nations Framework on Convention on Climate Change - UNFCCC (1992)

The United Nations Framework Convention on Climate Change (UNFCCC) aims to limit the effects of climate change. The UNFCCC supports measures to address climate change which is crucial for protecting biodiversity, and establishes strategies for mitigating climate change (like reforestation) that also benefit biodiversity conservation. Tanzania entered into force to UNFCCC in 1996 aiming to address the impacts of climate change in the protection of environment including biodiversity.

### c) The United Nations Convention to Combat Desertification UNCCD (1992)

The UNCCD aims to combat desertification and mitigate the effects of drought, particularly in arid, semi-arid, and dry sub-humid areas. Tanzania entered in to force in 1996 to ensure sustainable land management practices; to improve the livelihoods of people and protect ecosystems; and halting the reversing land degradation and contribute to biodiversity health and ecosystems.

### d) Minamata Convention on Mercury (2013)

The Minamata Convention on Mercury adopted in 2013 to ensure the protection of human health and the environment from anthropogenic emissions and release of mercury and mercury compound from the mining activities. Tanzania ratified the convention in

2020 to ensure the protection of biodiversity from mercury pollution arise from the mining activities.

### e) Nagoya-Kuala Lumpur on Liability and Redress to the Cartagena Protocol on Biosafety (2020)

The Protocol is a supplementary agreement to the Cartagena Protocol on Biosafety, which is a supplement to the Convention on Biological Diversity. The protocol addresses the safe handling, transport, and use of living modified organisms (LMOs). Tanzania ratified the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress in 2022 for the purpose of ensuring that there is a safe handling, use and transporting the living modified organism Tanzania

### f) The Nagoya Protocol on Access Benefit Sharing on Genetic Resources 2010

Tanzania ratified the Nagoya protocol in 2018, the objective of the protocol is to ensure the fair and equitable sharing of benefit arising from the utilization of genetic resources including access to information on genetic resources including technological transfer.

### g) The Southern African Development Community SADC Protocol on Environmental Management for Sustainable Development (2022)

The Southern African Development Community SADC Protocol on Environmental Management for Sustainable Development is an agreement between SADC member states for the purpose of promoting sustainable use of natural resources, manage transboundary environmental issues, and effectively address climate change impacts within the region. SADC prioritizes environmental protection including biodiversity conservation as a key element for sustainable development across the Southern African region. The SADC Protocol on Environmental Management for Sustainable Development and aims to conserve ecosystems and their biodiversity.

### h) SADC Protocol on Gender and Development (2008)

The SADC Protocol on gender and Development aims to empower women eliminates description and archive gender equality and equity in the SADC Region, including Tanzania through gender responsive legislation, policies programmes and Projects.

Tanzania entered into force to this protocol in 2020 to ensure equality and empowerment of women in knowledge and decision-making in the management of natural resources.

## 4.5 Institutional arrangements

demonstrated by the signing of the Convention of Biological Diversity (CBD) and other International Agreements. At national level development and implementation of the previous National Biodiversity Strategy and Action Plans demonstrates her commitment on sustainable biodiversity conservation. The Vice President's Office is mandated to coordinate the preparation and implementation of various policies, legislation, strategies, guidelines and programs related to biodiversity conservation in the country.

## 4.6 Country Biodiversity SWOC Analysis

The analysis of strengths, weakness, opportunities and challenges determines the influence of internal and external factors for executing the strategy and informs implementation strategies. Table 3 summarizes the key criteria and their respective SWOC analysis.

**Table 3: SWOC Analysis**

| Strength | Weakness |
|---|---|
| • Alignment with the CBD GBF and respective protocols<br>• Presence of national biodiversity conservation related priorities.<br>• Recognizes biodiversity including habitats, ecosystems and species<br>• Compliance with sector policies and implementation of their strategies and plans.<br>• Existence of sector implementation strategies and plans<br>• Existence of mechanisms for stakeholders' involvement including communities and operational community-based conservation schemes. | • Insufficient climate change adaptation and mitigation initiatives<br>• Low programs for integrated landscape/ecosystems management leading to habitat loss, fragmentation and degradation due to competing land uses<br>• Limited actions on Invasive alien species control<br>• Inadequate awareness program on environmental conservation. |

| Opportunities | Challenges |
|---|---|
| • Extensive reserved land and marine areas with significant biodiversity<br>• Integration of biodiversity conservation plans in most sector policies<br>• Presence of Development Partners and NGOs willing to support biodiversity conservation programs<br>• Presence of legal requirements for community engagement and participation in conservation (eg. WMAs, BMUs, WUAs).<br>• Presences of policy guidance on engagement of private sectors and civil societies Organization on biodiversity conservation interventions. | • Insufficient financing for biodiversity conservation<br>• Low public and stakeholders' awareness on best practices in biodiversity conservation. |

# CHAPTER FIVE

# 5.0 THREATS TO BIODIVERSITY

The biodiversity in Tanzania is seriously affected by decline in ecosystem quality, species abundance, diversity and distribution. Tanzania is home to the 10th highest total number of IUCN Red Listed threatened species in the world, with about 2,100 threatened species. Of these, 895 are plants, 841 are non-plants and the remaining 364 are other small groups of species[13]. The main threats to biodiversity include habitat loss and degradation, overexploitation of plant and animal species, environmental pollution, introduction and spread of invasive species, excessive abstraction of water resources, exploration and extraction of oil and gas, climate change impacts and genetic erosion.

## 5.1 Habitat Loss, Degradation and Fragmentation

Terrestrial ecosystems in Tanzania have been significantly altered by many anthropogenic factors leading to, not only habitat loss and degradation, but also decline in biodiversity. The key driver factors of anthropogenic activities such as urbanization, agriculture, grazing, deforestation, and industrialization and many others play a significant role in destruction of biodiversity[14]. Other serious threats to habitats include fuelwood gathering, mineral and aggregate mining, illegal logging, and infrastructure development. Furthermore, extensive wildfires, horizontal expansion of unplanned settlements and shifting farming practices, are largely responsible for the loss of wildlife habitats and biodiversity. For example, the extreme loss of forest biodiversity is estimated at 4% due to increased logging of valuable timber species like Mninga (*Pterocarpus angolensis*), Mvule (*Milicia excelsa*), and Mpingo (*Dalbergia melanoxylon*). Similarly, infrastructure development isolated habitat in the Pugu and Ruvu South Forest Reserve in 2021, removing about 3% of forest cover.

[13] NEMPSI (2022). National Environmental Master Plan for Strategic Interventions (2022-2032). United Republic of Tanzania, Vice President's Office, Department of the Environment, June 2022.

[14] IUCN-WCPA (2019). International Union for Conservation of Nature- World Commission for Protected Areas (IUCN-WCPA). Recognizing and reporting other effective area-based conservation measures (OECMs). World Commission on Protected Areas Task Force on OECMs. Protected Area Technical Report Series No 3.

The coastal and marine ecosystem degradation is attributed to the conversion of mangrove forests to agricultural land and salt production and climate change. The impact of mangrove degradation includes habitat loss and a decline in fish stock, nursery grounds, species densities, biomass and livelihood opportunities. The majority of threats to mangrove ecosystems stems from their diverse uses. These threats encompass unregulated harvesting of mangrove poles, timber, boat building, charcoal, and firewood for both domestic and commercial purposes, as well as conversion to rice farms, saltpans, infrastructure development, and pollution. Seagrass habitats are threatened by unsustainable fishing practices, especially the use of drag nets (beach seines and trawls), eutrophication caused by excessive nutrient input into coastal waters from land-based sources and activities, and gleaning, which involves digging and turning sediments and trampling over seagrasses. Others include coastal infrastructure projects, offshore oil and gas exploration, climate change impacts, and ocean acidification, pose threats to seagrasses. The degradation of inland water habitats emanates from excessive abstraction of water for agricultural use, uncoordinated and unplanned livestock watering, uneven distribution of water and increasing competing water demand due to rapid increase in human population. The inland water ecosystems are mainly affected by deforestation, unsustainable agriculture, land and water catchment degradation in the highlands, uncontrolled irrigation and overgrazing. Impacts on the ecosystems include high sediment in the water bodies, increased soil erosion, and reduced ecosystem quality to provide respective services. Flooding for instance, can result in high river discharge, whereas low river discharge impacts on ecosystem-dependent species and loss of hydrological services such as water supply, hydroelectric power generation, and commercial river transport that affects livelihood and socio-economic activities. Wetland degradation has serious impacts on wildlife habitat and respective biodiversity with loss of freshwater fishery species and birds.

## 5.2 Overexploitation of Plant and Animal Species

Overdependence on ecosystem services and increasing human population growth and associated anthropogenic activities aggravate the overexploitation of terrestrial and aquatic plant and animal species. Unsustainable harvesting of natural resources and excessive abstraction of water resources are the major causes of biodiversity loss in the country. This problem is worsened by the growing demand for some plant and animal products. About 90 percent of the households in Tanzania depend on biomass energy (firewood and charcoal) for cooking, hence overexploitation of forest resources. This contributes significantly to the loss of 469,420 Hectares of forests annually.

Wildlife is under pressure from unsustainable exploitation of the animal species. Poaching and illegal wildlife trade are twin conservation threats and root cause for wildlife biodiversity loss. Except for the Serengeti and Lake Manyara-Tarangire ecosystems, most ecosystems have shown decline in the larger carnivores such as lions (*Panthera leo*), leopards (*Panthera pardus*), cheetahs (*Acinonyx jubatus*), and wild dogs (*Lycaon pictus*). Among the herbivore's, affected populations are the elephants (*Loxodonta africana*), Giraffe (*Giraffa camelopardalis*), buffalo (*Syncerus caffer*), Black rhino (*Diceros bicornis*) and antelopes. The highly threatened species are the rhinos and elephants due to poaching, mainly for ivory and rhino horn in Asian markets. For instance, the subpopulation of black rhino (*D.b.minor*) in the Selous ecosystem has declined from 50 individuals in 2008 to only 5 individuals in 2023.

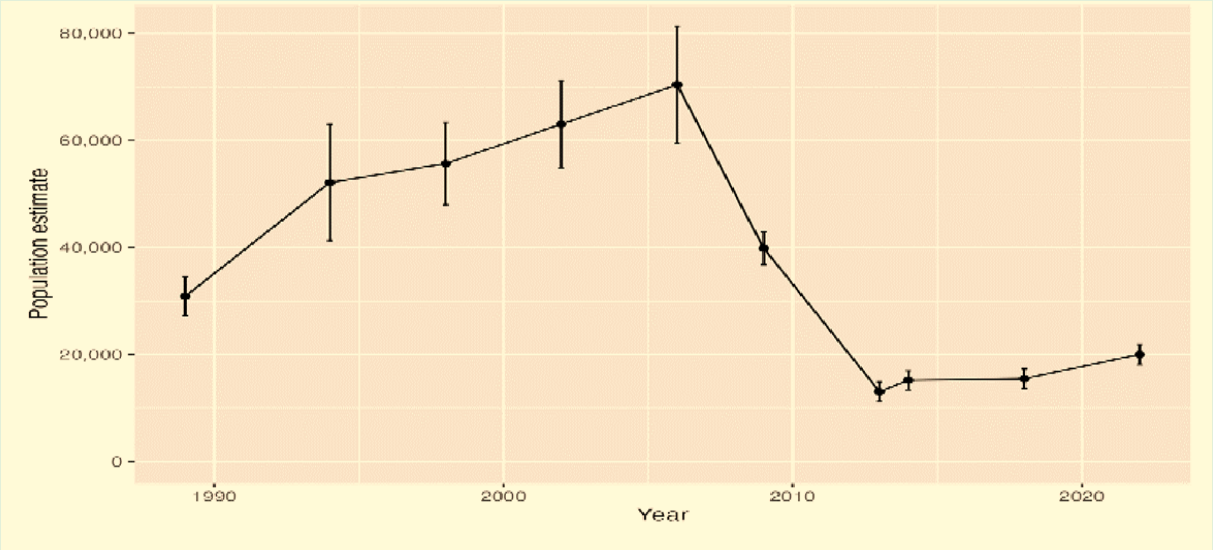


**Figure 14: Elephant population trend in the Selous ecosystem from 1989 to 2022** (Source: TAWIRI)

Tanzania has historically been known for two sub populations of puku, in Kilombero valley and in Rukwa valley. Recently, the species population has declined largely due to anthropogenic pressures. In the 2022 survey, puku were estimated at 496 in Kilombero valley and recorded a restricted distribution in the ecosystem (Figure 16).

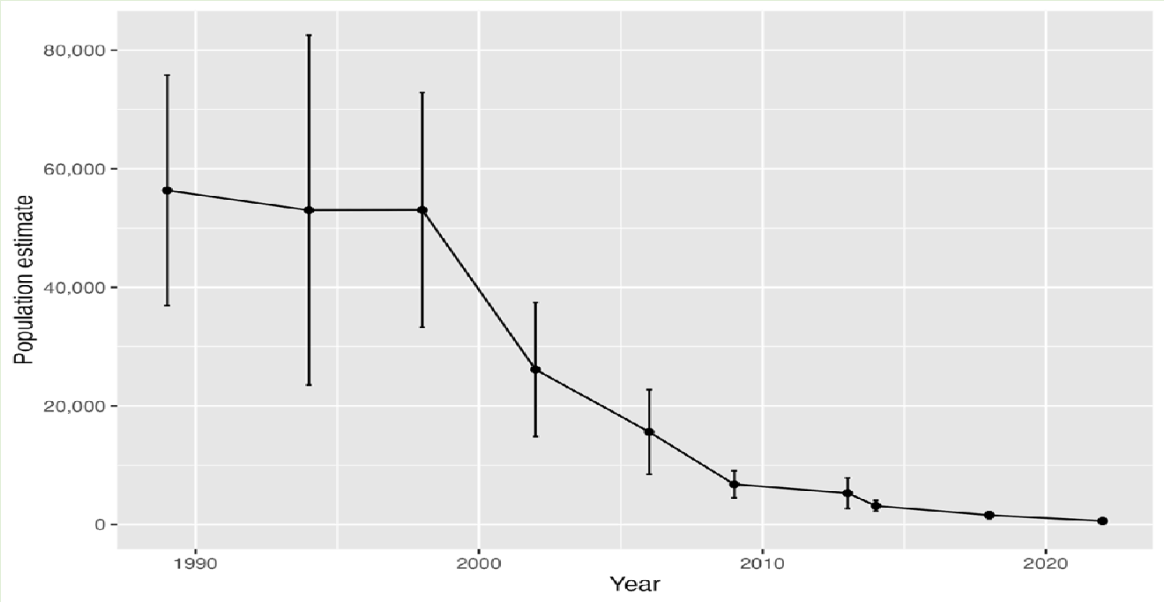


**Figure 16: Puku population trend in the Kilombero valley from 1989 to 2022** (Source: TAWIRI)

Marine fisheries depletion stems from overfishing, degradation of aquatic environment and destructive fishing methods. These aggravate destruction of the breeding sites and nutrients availability. In Tanzania, over 10 million people depend on coastal and marine resources for their livelihoods. The freshwater fisheries depletion emanates from overfishing, degradation of aquatic environment due to water resources mismanagement and excessive abstraction of water for various uses mostly irrigated farming and livestock grazing. Destructive fishing means aggravates destruction of the breeding sites and nutrients availability.

## 5.3 Pollution

The forms of pollution experienced countrywide include air pollution; noise and vibration; surface water pollution; land and soil pollution; marine and coastal pollution; chemical pollution; and waste pollution. Tanzania manages only 30% of the solid wastes in urban areas on the other hand 80% of the Local Government Authorities (LGAs) have inadequate waste treatment facilities[15]. Disposal of untreated sewage into the open

[15] CAWM (2023). College of African Wildlife Management, Mweka-Kilimanjaro, Tanzania. SADC-EU Strengthening Research and Innovation (R&I) in Natural Resources Management (NRM) and Waste Management (WM) in Malawi, Mozambique, Tanzania and Zambia. Baseline Survey Report. The Southern African Development Community (SADC) Secretariat. August, 2023.

environment and water bodies such as rivers and the ocean affect the fragile biodiversity ecosystems. Most aquatic habitats are polluted from excessive levels of industrial fertilizers, herbicides and pesticides used in agriculture that find their way into aquatic systems. Heavy metals from industries and mining activities, and sewage waste, accumulate in aquatic systems and affect water quality and species and detrimental health effects in the food chain.

Most of solid and liquid wastes in cities and towns in Tanzania are left untreated and the cities and urban areas face challenges which include solid waste management. In marine, pollution is from sources and non-point sources (e.g., agriculture, wastewater, solid waste, and lost fishing gear. Currently, an estimated 150 million metric tons of plastics are disposed in the oceans worldwide, with 5 to 13 million metric tons added annually. Marine pollution has adverse impacts on fish populations, coral reefs, ocean health, and human health in the food chains. Solutions to waste management require new policies toward strengthening the regulatory framework, and establishing a circular economy by reducing, recycling, and reusing plastic waste, behavior change by consumers and industries, investments, innovation by private sector interventions.

The main pollutants in Tanzania include a) Sulfur dioxide in the air, which is caused by industrial production (cement, lime, plaster), fossil fuel combustion from thermal plants and vehicle exhausts; b) Particulate matter in the air and environment emanating from biomass burning including cooking with firewood, charcoal, forest fires and burning of solid wastes. Additionally, particulate matter is also caused by industrial emissions, from cement, lime, plaster and fossil fuel combustion; c) Heavy metals like mercury, arsenic, and cadmium mainly in water are caused by industrial emissions for iron and steel, gold mining, and environmental wastes; d) Chemicals include a wide range of chemicals that have varying health effects and risks caused by industrial plastic production, agricultural pesticides, herbicides, and fungicides; and e) organic wastes emanating from agricultural wastes, runoff, sewage runoff and industrial emissions.

Key efforts to curb plastic wastes include banning importation and local production of single use plastic bags, which were the main persistent organic pollutants (POPs), and promoting production of reusable and use of degradable materials. This act has tremendously reduced the level of environmental pollution from plastic bags.

## 5.4 Invasive Species

Tanzania has about 220 recorded invasive and potentially invasive species (NEMPSI, 2022). The invasive species pose a substantial impact on agriculture, livestock and delivery of ecosystem services. Out of the 220 potential invasive species in Tanzania about 75% have been documented as invasive species of which 87% are aliens and 13% native and cause serious problems to the ecosystems (NEMPSI, 2022). These Invasive species have negatively impacted the livestock sector, causing loss of livestock grazing land, loss of agricultural land and crops, decline in aquatic and terrestrial ecosystems, reduced wildlife habitats and reduced quality of tourism attractions as noted in Ngorongoro Conservation Area (NCA), Arusha, Lake Manyara, Mahale Mountains and Serengeti National Parks. Indian house crow (*Corvus splendens*) for instance has had severe biodiversity loss of small fauna in coastal areas including Zanzibar and now spread to inland regions.

In the NCA alone, 143 potential invasive species have been documented and five species are already invasive with serious threats in the NCA rangelands. These include *Guternbegia cordifolia, Parthenium hysterophorus, Bidens shimperai, Heliotropium steudneri,* buffalo grass (*Eleusine jaegeri*) *and Datura stromonium.* In western Serengeti the area is mainly invaded by *Chromoleana odorata* and *Opuntia humifusa*. These have implication on deteriorated rangeland, disappearance of palatable grass species and reduced carrying capacity from the declined on total biomass and feed resource base. Arusha National Park (ANP), is invaded by a notorious Mauritius thorn (*Caesalpinia decapetala*) with about 10%[2] of the park affected by the invasive species. The Lake Manyara National Park (LMNP) designated as a UNESCO Man and Biosphere Reserve is classified as a degraded rangeland due to reduced ecological and hydrological functions, and the presence of invasive species. It is estimated that about 24% of the LMNP area below the rift wall is occupied by bush plants that replace grassland areas, hence reducing grazing land, obscured visibility of game animals and reduce tourists' game drive experience. The Mahale Mountains National Park (MMNP), has also been seriously invaded by *Senna spectabilis* has encroached about 871ha of the park which is replacing fruit

***Figure 17:*** *Invasive species in Arusha National Park*

trees that are the main food for endangered Chimpanzee (*Pan troglodytes*). The species have also reduced the home range of the respective primate due to depleted food resources. The bush plants also obscure visibility of chimpanzee during visitors' tracking in the park.

In agricultural and livestock rangelands there are three regions that are seriously affected by invasive species. The Arusha region in the north is highly affected by *Parthenium hysterophorus* (Santa-Maria weed) and *Guternbegia cordifolia*; the Dodoma region in central Tanzania is seriously affected by Kongwa weed (*Astripomea hyoscyamoides*); and the Manyara region, is heavily infested by *Parthenium hysterophorus* and Kongwa weed. The Kongwa weed is reported to occupy more than 26,600 hectares (70%) of the entire Kongwa Ranch area which is 38,000 hectares.

Invasive species in the Inland water ecosystems have also been on the increase in Lake Victoria basin and in the adjacent water bodies, rivers and ponds in western corridor of the Serengeti National Park that are heavily invaded by water hyacinth (*Eichhornia crassipes*) and the current *Salvinia molesta*. Water hyacinth affects aquatic life with interfered availability of dissolved oxygen to aquatic species and reduction of nutrients in sheltered bays, breeding sites and nursery grounds.

## 5.5 Oil and Gas Exploration and Extraction

Tanzania has three commercialized natural gas production plants: Songo Songo in Lindi region, Mnazi Bay in Mtwara Region and Mkuranga in Pwani Region. According to the Tanzania Investment Centre, there are 22 oil companies undertaking exploration activities for oil and gas in the country as well as 22 oil and gas storage terminals located along the coast of Dar-es-Salaam, Tanga and Mtwara receiving petroleum products from marine vessels.

Oil and gas exploration and production may have a wide range of biodiversity impacts including deforestation, wildlife habitat fragmentation, pollution of marine ecosystems and soil and water sedimentation. The National Natural Gas Policy of Tanzania 2013 acknowledges potential negative impact on marine ecology including disturbance of fish habitat. The gas flaring in the natural gas processing plants emits carbon dioxide to the atmosphere with potential effects on human health, environment and biodiversity.

## 5.6 Genetic Erosion

Tanzania pledged in NBSAP 2015-2020 to develop and implement strategies to reduce genetic erosion and to maintain genetic diversity of cultivated plants, farmed and domesticated animals and their wild relatives. Despite the strategies, neither the extent of genetic diversity declines nor the impact of such decline has been established. Some programs are in place to address the decline in genetic diversity. In Zanzibar Green Legacy Programme (2023-2033) is being implemented. Equally, all natural resources sector research institutions through the respective sector research master plans have implemented genetic resources development including agriculture, livestock, forest, wildlife and fisheries. Progress has been made in ex situ conservation of plant and crops. Several actions are proposed in this NBSAP, including strengthening existing and establishing new gene banks, conducting inventory and documentation of species status.

## 5.7 Underlying Causes of Biodiversity Loss and Degradation

### a) Socioeconomic and cultural causes

The socio-economic and cultural environment plays a significant role in biodiversity conservation owing to the various factors associated with human behavior, societal values, economic activities and cultural practices. Shifting cultivation in many communities, deforestation in water catchment area, farming along river banks and lake shore areas are some of the common economic activities in local communities. Their impacts include habitat degradation, soil erosion and siltation in wetlands, and fragmentation of critical ecosystems. While a good proportion of villages in the country have land use plans, their implementation and enforcement of legal frameworks is inadequate. Some cultural beliefs and practices such as setting forest fires as a sign of bravery routinely degrade forest ecosystems. Pastoralism that embraces nomadic practice with huge livestock herds contribute to degradation of fragile ecosystems including catchment areas and wetlands. On the aquatic ecosystems, traditional fishing practice that include poor and illegal fishing, have contributed to depletion of some fish stocks, degraded nesting areas and destruction of corals and breeding sites.

### b) Climate change

Climate change impacts have negative impacts on biodiversity conservation as they affect habitats, water availability in the ecosystems and increased temperatures that influence forests, marine, aquatic and wildlife species, and the genetic diversity within

species [16]. The biggest effect on biodiversity conservation is habitat loss and fragmentation, exacerbated by variability in precipitation often inclined to prolonged droughts. The Climate change impacts include changes in species distribution, altered timing of biological events, extinction of vulnerable species, shifts in ecosystem structures and function. Other impacts are ocean acidification, changes in water availability, intensification of invasive species, disruption of migratory species, reduced resilience and changes in ecosystem services. The impacts also include shifts in ecosystem structure and composition, disruption of ecological interactions, ocean ecosystems and coral reefs, forest ecosystem changes, ecosystem fragmentation, and soil degradation.

### c) Inadequate policies, legal and institutional responses

This NBSAP has reviewed and analyzed several policies and legislation on biodiversity conservation, sustainable utilization and benefit sharing. Most policies were reviewed in recent years but owing to emerging challenges on biodiversity, continuous review is evident. Awareness on biodiversity values and benefits in the general public and decision makers remains low, leading to inadequately integration of biodiversity principles in the overall development agenda including development planning and funding.

[16] IPBES (2019). Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. The Global Assessment Report on Biodiversity and Ecosystem Services: Summary for Policy Makers. Biodiversity, Ecosystem Services, Sustainability, Quality of Life. ISBN: 978-3-947851-13-3.

# CHAPTER SIX

# 6.0 THE STRATEGY: PRINCIPLES, GOALS, TARGETS AND ACTIONS

## 6.1 Vision

*In line with Tanzania's development vision 2050 and the Global Biodiversity Framework and Targets, the Tanzania NBSAP Vision is: By 2030 Biodiversity loss reversed, conserved, restored and used sustainably for socio-economic development.*

## 6.2 Mission

*Take effective action to halt and reverse biodiversity loss through protection, restoration, and management of ecosystem.*

## 6.3 Principles governing the Strategy

In order to achieve the stated vision and mission, building on lessons and practices from the Aichi Biodiversity Targets of the Strategic Plan for Biodiversity (2015–2020), the NBSAP (2025-2030) will be guided by the following principles:

(a) To realize the three objectives of the Convention and take into account the four strategic goals of the post 2020 GBF.

(b) Identify and prioritize national targets and the actions required to contribute to the implementation of the objectives of post 2020 GBF.

(c) Ensure stakeholders engagement in implementation of the strategic goals of post 2020 GBF.

## 6.4 Strategic Goals

The overarching goal of NBSAP (2025-2030) is to reduce loss of Biodiversity, promote the value of Biodiversity and significantly improve integrity of ecosystem.

The NBSAP provides a strategic planning framework for conservation and sustainable use of biodiversity, as well as advocating for equitable sharing of the benefits accrued from utilization of biological resources. It further builds on and consolidates achievements in the implementation of NBSAP 2015 - 2020. NBSAP (2025-2030) builds on the four post 2020 GBF targets.

## 6.5 National Biodiversity Priority Targets (2025-2030) and Alignment with Kunming-Montreal Global Biodiversity Frameworks

The NBSAP (2025-2030) aligns with the Kunming-Montreal Global Biodiversity Frameworks (KMGBF) and prioritizes 125 actions of the 23 targets (as detailed in Annex 1). It also provides an opportunity for reviewing the implementation of the NBSAP 2015 – 2020. The National Biodiversity Priority Targets ascribes to the Four Strategic Goals of the KMGBF.

### STRATEGIC GOAL A: PROTECT AND RESTORE

The national priorities under this objective focuses on building integrity (maintain, enhance and restore), connectivity and resilience of all ecosystems, reduce species extinction and maintaining genetic diversity within populations.

**Target 1:**

By 2030, priority terrestrial, inland waters and coastal and marine areas are under participatory, biodiversity-inclusive spatial planning, including at least 25% of coastal and marine ecosystems within the territory of URT; at least 40% of terrestrial ecosystems; at least 15% of rivers and streams; and at least 40% of lakes, wetlands, and other inland waters conserved.

**Strategic Actions**

(a) Develop territorial zoning plans at all levels, including the institutional arrangements and spatial-temporal management measures.
(b) Identify forest conservation initiatives to protect Tanzania's vital ecosystems and adaptation of sustainable farming techniques to reduce land degradation and further strengthen law enforcement on conservation
(c) Establish a national monitoring system for rivers and streams, land use changes, zoning and pollution control in the rivers and streams
(d) Identify wetlands, lakes and inland waters that are potential for agriculture and sustainable fishing activities respectively are conserved

**Key indicators**

Indicators include: 25% of Coastal and marine areas conserved; 40% of terrestrial areas conserved; 15% of rivers and streams conserved; 40% of lakes conserved.

**Stakeholders**

The stakeholders are mainly sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, CBOs, and NGOs especially Women and Youth groups.

**Target 2:**

By 2030, at least 30% of degraded ecosystems are under effective restoration.

**Strategic Actions**

(a) Identify and map degraded areas of terrestrial, inland waters, coastal and marine ecosystems
(b) Develop and review as appropriate Sectoral Restoration Strategies and plans of terrestrial, inland waters, coastal and marine ecosystems
(c) Implement ecosystems restoration plans
(d) Assess degraded areas and gazette as ESA or EPA
(e) Improve local (traditional) skills by direct involvement of community in implementing ecosystem restoration activities

**Key indicators**

Main indicators are: the maps of degraded areas developed; restoration plans and strategies; number of plans implemented; number of programs developed and implemented; and hectares of degraded area gazetted and protected.

**Stakeholders**

Main stakeholders are the sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, CBOs, and NGOs including Women and Youth groups.

**Target 3.**

By 2030, areas important for biodiversity and associated ecosystem services are conserved, at least 25% of marine and coastal areas; 43.5% of terrestrial ecosystems; 25%

of inland water inclusive of at least (40% (≈82,400 km) of river and streams; and 50% of wetlands).

**Strategic Actions**

(a) Develop and implement management plans for terrestrial, inland waters, coastal and marine ecosystems
(b) Conserve important biodiversity areas (hotspots, corridors, and buffers).
(c) Conserve areas of inland waters
(d) Conserve areas of river and streams
(e) Conserve areas of wetlands
(f) promote diversification of nature-based alternative livelihood and sustainable use of resources

**Key indicators**

The main indicators include: number of management plans developed and implemented; Area under conservation; terrestrial areas under conservation; conservation status; areas of rivers of streams under conservation; number of alternative income generating activities implemented; and areas of wetlands under conservation.

**Stakeholders**

The main stakeholders are the sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, Youth groups, women groups, local community, CBOs, and NGOs.

## STRATEGIC GOAL B: PROSPER WITH NATURE

Under this goal, NBSAPs actions will enhance a sustainable management and use of biodiversity and ecosystem functions.

**Target 4-1:**

By 2030, the loss of genetic diversity of native, wild and domesticated terrestrial, coastal and marine and inland waters ecosystems reduced by 30%.

**Strategic Actions**

(a) Establish inventory of genetic diversity of native, wild and domesticated terrestrial, coastal, marine and inland waters species
(b) Develop and implement plans to reduce loss and enhance recovery of genetic diversity of species

(c) Strengthen existing and establish new seed and gene banks

**Key indicators**

Key indicators are: Number of data set; number of plans; and number of established and updated gene banks.

**Target 4-2:**

By 2030 the extinction of known threatened species of terrestrial, coastal and marine, and inland waters ecosystems is prevented by 30%.

**Strategic Actions**

(a) Update inventory of threatened species
(b) Promote conservation and monitoring programs for threatened species in all ecosystems
(c) Establish and strengthen implementation of programs for re-introduction of locally extinct species

**Key indicators**

Main indicators are: Inventory of threatened species; number of monitoring programs; number of programs; and number of species re-introduced.

**Target 4-3:**

By 2030, human-wildlife conflicts reduced by 40%.

**Strategic Action**

(a) Promote Human-Wildlife Conflict mitigation programs and technologies
(b) Enhance awareness and outreach programs to promote human-wildlife co-existence
(c) Restore and protect wildlife corridors, buffer zones and migratory routes

**Key indicators**

The indicators include: Number of programs; Number of awareness and outreach campaigns; number of communities reached; and Number of secured, restored and protected wildlife corridors, buffer zones and migratory routes, Number of human-wildlife conflict incidences and impacts reported.

**Stakeholders**

The main sectors are those responsible for Environment, Local government authorities (LGA's), Blue economy and fisheries, Agriculture, Forestry, Wildlife,

Land, Water, livestock, Youth groups, women groups, farmers groups, local community, CBOs, and NGOs, research and academic institutions

**Target 5-1:**

Ecological integrity through safe, sustainable, legal harvesting and trade of wild flora and fauna in terrestrial, freshwater, coastal and marine ecosystems are enhanced by 2030.

**Strategic Actions**

(a) Enhance enforcement/compliance of regulatory frameworks on harvesting and trade of wild flora and fauna

(b) Promote community management and co-management in terrestrial, Coastal, and Marine.

(c) Strengthen data collection, monitoring, and information management on terrestrial and aquatic resources

(d) Promote regional cooperation on management of transboundary waters, shared natural resources and migratory species

**Key indicators**

The key indicators include: level of compliance; number of community participatory programs; number of data set developed

**Stakeholders**

Stakeholders are the sectors responsible for Environment, Local government authorities (LGA's), Blue economy and Fisheries, Agriculture, Livestock, Forestry, Wildlife, Legislation, Land, Water, Trade and Finance, Academic and Research Institutions

**Target 5-2:**

Ensure sustainability of fisheries from inland and marine in Tanzania (small pelagic; tuna and tuna-like species; prawns; octopus and reef fish, and tilapia; catfish and sleek lattes) ensured by 2030.

**Strategic Actions**

(a) Promote sustainable fishery practices

(b) Strengthen capacities of local communities on sustainable fisheries

**Key indicators**

The key indicators are: Awareness programs; Improved fishery practices; Number of technologies adopted; Number of capacity building programs; and Number of communities.

**Stakeholders**

The main stakeholders are the sectors responsible for Environment, Local government authorities (LGA's), Blue economy and Fisheries, Agriculture, Livestock, Forestry, Wildlife, Legislation, Land, Water, Trade and Finance, CBOs, NGOs, Private and Public Sectors

**Target 5-3:**

Effective monitoring of large-scale fisheries in Tanzania's Exclusive Economic Zone strengthened by 2030.

**Strategic Actions**

(a) Install electronic monitoring systems and improve existing human observer systems on three industrial flagged vessels

(b) Build human resource capacity on Exclusive Economic Zone (EEZ) large scale fisheries management

(c) Strengthen monitoring and management of industrial marine fishing vessels

**Key indicators**

Key indicators are: the number of installed automated observer systems; number of staffs trained; number of programs; and reduced illegal fishing activities.

**Stakeholders**

The main stakeholders are the sectors responsible for Environment, Local government authorities (LGA's), Blue economy and Fisheries, Agriculture, Livestock, Forestry, Wildlife, Legislation, Land, Water, Trade and Finance, PMO-LYED

## STRATEGIC GOAL C. SHARE BENEFITS FAIRLY

The actions under this goal will focus on reducing pollution and minimizing the impacts of climate change on habitats and ecosystems.

**Target 6:**

Reduce the rates of introduction of invasive alien species by 50% and minimize their impact on biodiversity and ecosystem functions and services by 2030.

**Strategic Action**

Enhance the Implementation of National Invasive Species Strategy and Action Plan (2019 – 2029)

**Key indicators**

Main indicators are: rate of introduction and spread of invasive alien species.

**Stakeholders**

Main stakeholders are the sectors responsible for Environment, Fisheries, Agriculture, Forestry, Wildlife, Water, Blue economy, Livestock, Trade, Finance, Legislation and Local government authorities, academic and research institutions

**Target 7:**

By 2030, at least 50% of pollution is reduced from all sources.

**Strategic Actions**

(a) Promote the use of sustainable waste management practices and technologies
(b) Strengthen enforcement of legislation on pollution control
(c) Enforce and strengthen implementation of corporate social responsibility (CRS)

**Key indicators**

Main indicators are: number of environmentally friendly technologies adopted; and amount of waste reduction.

**Stakeholders**

Main players are the sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Wildlife, Land, Livestock, Water, Trade, Legislation, Finance, and Local government authorities, Youth groups, women groups, CBOs, NGOs, PMO-LYED

**Target 8:**

Minimize the impact of climate change on terrestrial, freshwater, coastal, and marine habitats, and other vulnerable ecosystems, to maintain their integrity and build resilience, by 2030.

**Strategic Actions**

(a) Promote Nature based solutions in adaptation interventions
(b) Strengthen Climate early warning systems and emergency, preparedness and response plan
(c) Promote blue and green carbon offset projects.
(d) Promote implementation of climate resilience concept in all aspects

**Key indicators**

Key indicators are: Number of programs using Nature based solutions; Improved access to climate information; Number of communities with access to climate information; Number of blue and green carbon projects; and Number of communities reached, number of emergence preparedness and response plan developed and implemented, amount of Carbon sequestration removed and reduced.

**Stakeholders**

Main stakeholders are the sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Livestock Wildlife, Land, Water, Infrastructure, Education, Planning and Finance, and Local government authorities, NCMC, Private Sector, Youth groups, women groups, local community, CBOs and NGOs.

## STRATEGIC GOAL D: INVEST AND COLLABORATE

This goal forms the core of this Strategy, and targets will focus on capacity-building, informed participation, technical and scientific cooperation, and access to and transfer of technology and financial resources mobilization.

**Target 10:**

By 2030, Enhanced Application of biodiversity-friendly practices in agriculture, fisheries aquaculture, and forestry for long-term productivity and support to food security and conservation are enhanced by 2030.

**Strategic Actions**

(a) Promote sustainable agricultural practices and technologies

(b) Promote sustainable fisheries and aquaculture practices and technologies

(c) Promote integrated forest management practices and technologies

**Key indicators**

Key indicators are: Number of aquaculture farms under sustainable practices; number of technologies adopted; and number of technologies and practices applied, number of sustainable fisheries practices applied

**Stakeholders**

Main stakeholders are: the sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Livestock, Wildlife, Land, Water, Local government authorities, Youth groups, women groups, farmers groups, CBOs and NGOs, Academic and Research Institutions

**Target 11:**

By 2030, nature's contributions to people's are Restored, maintained and enhanced.

**Strategic Action**

Promote and implement NbS and EbA programs to restore, maintain and enhance ecosystem functions

**Key indicators**

The indicators include: Number of programs on Nature Based Solutions and Ecosystem Based Adoptation (NbS and EbA) developed and implemented; and Number of communities and institutions practicing NbS and EbA.

**Stakeholders**

Sectors responsible include those on Environment, Blue Economy,Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Education, Livestock and Local Government Authorities (LGA's), Youth groups, women groups, CBOs and NGOs.

**Target 12:**

By 2030, Blue and green spaces are integrated into urban plans for human well-being and biodiversity conservation.

**Strategic Actions**

(a) Identify/Map areas to establish blue and green spaces.

(b) Develop and implement programs for establishment of green and blue spaces

(c) Promote urban gardening

**Key indicators**

The indicators include: Number of areas identified and mapped; Number of programs developed and implemented; and Number of green and blue spaces established.

**Stakeholders**

Main stakeholders include sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Land, Water, Infrastructure and Blue economy, Youth groups, women groups, local community, CBOs and NGOs.

**Target 13:**

By 2030, Guidelines and regulations supporting access to genetic resources and the fair and equitable sharing of benefits arising from their utilization implemented.

**Strategic Actions**

(a) Enhance compliance of regulation and guidelines on Access and Benefit Sharing (ABS)

(b) Enhance capacity on Access and Benefit Sharing (ABS)

(c) Strengthen multisectoral cooperation on access and benefit sharing

(d) Establish a functional National ABS information system

**Key indicators**

Indicators to be tracked include: Registered/Recorded benefits; and Number of capacity building initiatives conducted, creation programs, Number of multisectorial cooperated.

**Stakeholders**

Main stakeholders are sectors responsible for Fisheries, Health, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Livestock, and Local government authorities, Youth groups, women groups, local community, CBOs, and NGOs.

**Target 17:**

By 2030, Capacity for implementation of biosafety measures strengthened

**Strategic Actions**

(a) Develop and implement capacity building programs on biosafety

(b) Review and implement policies and legal frameworks related to biosafety

**Key indicators**

The indicators for this target include number of programs developed and implemented; and updated National biosafety frameworks.

**Stakeholders**

Stakeholders are sectors responsible for Environment, Wildlife, Livestock, Fisheries, Agriculture, Forestry, Legislation, Land, Water, Education, Trade, Planning and Finance, Blue economy, Youth groups, local community, CBOs, NGOs and Local government authorities.

**Target 19:**

By 2030, at least USD 20 million per year mobilized from public and private sector for effective implementation of the National Biodiversity Strategic and Action Plan (NBSAP 2025-2030).

**Strategic Actions**

(a) Develop and implement resource mobilization strategy/plan to increase biodiversity funding

(b) Mainstream biodiversity issues in annual planning and budgeting at national and sub-national levels

(c) Develop market-based financing options for biodiversity (green bonds. Blue/Nature bonds/ carbon credits, Payment for Ecosystem Services (PES) and Polluter Pays Principle)

**Key indicators**

Key indicators are: Resource mobilization strategy; amount of funds mobilized; Budget allocated; Number of market-based financing options; and amount of funds raised from market-based financing options.

**Stakeholders**

Key stakeholders are the sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Livestock, Forestry, Wildlife, Land, Water, Education, Trade, Planning and Finance, NGOs, development partners, CBOs and Local Government Authorities.

**Target 20:**

By 2030, Capacity building, technology transfer, and scientific and technical cooperation for biodiversity strengthened.

**Strategic Actions**

(a) Conduct capacity needs assessment for scientific and technical cooperation

(b) Develop and conduct capacity building programs

(c) Develop and strengthen capacity to undertake biodiversity research

**Key indicators**

The indicators include: Number of assessments conducted; Number of relevant stakeholders trained; Number of programs conducted; Number of biodiversity related research publications;

**Stakeholders**

Main stakeholders are: sectors responsible for Environment, Education; Blue Economy and Fisheries, Agriculture, Forestry, Wildlife, Land, Water, Livestock, Planning and Local Government Authorities, Academic and Research Institutions, Information and Technology.

**Target 21:**

Accessibility of the best available data, information and knowledge to decision makers, practitioners and public to guide effective and equitable governance are integrated into participatory management of biodiversity By 2030.

**Strategic Actions**

(a) Strengthen National Biodiversity Data Portal for collection, analysis, storage and dissemination of biodiversity related information including Clearing house mechanism

(b) Development of relevant policy briefs for informed decision-making on biodiversity related interventions

(c) Strengthen regional cooperation in biodiversity conservations.

(d) Identify, document and promote use of traditional knowledge that enhance biodiversity conservation

(e) Provide tools and resources to relevant stakeholders to enhance access of the biodiversity knowledge

(f) Promote use of media to disseminate information on biodiversity related issues

**Key indicators**

The indicators include: Improved knowledge and accessibility; Number of policy briefs developed; Number of joint programs developed and implemented; and Traditional knowledge identified, documented and promoted, tools and resources distributed, number of media involved.

**Stakeholders**

Key stakeholders are sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Wildlife, Land, Water, Livestock, Communication, Information-technology, NGOs, youth groups, local community, elderly, Local Government Authorities and Education.

**Target 22:**

By 2030, participation in decision-making and access to justice and information related to biodiversity for all enhanced.

**Strategic Actions**

(a) Strengthen engagement of multi-stakeholders in decision making

(b) Multi-stakeholders' capacity building on biodiversity related activities

**Key indicators**

Indicators to track the target include: number of programs; and groups of multi-stakeholders engaged.

**Stakeholders**

Key stakeholders are sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Wildlife, Land, Water, Livestock, Local Government Authorities and Education, local community, elderly and faith-based actors.

**Target 23**

By 2030, gender equality and responsiveness in the implementation of the National biodiversity strategy and action plan enhanced.

**Strategic Action**

Enhance gender inclusiveness in biodiversity actions.

**Key indicators**

The indicators include number of women, youth , men , children, elderly and people with disability involved in planning and implementation of biodiversity plans.

**Stakeholders**

Key stakeholders are the sectors responsible for Environment, Blue economy and Fisheries, Agriculture, Forestry, Wildlife, Land, Water, Livestock, Education, Local Government Authorities as well as NGOs, PMO-LYED

## 6.6 Integration and Alignment with Biodiversity Related Conventions

Tanzania is a Party to and has ratified a number of global biodiversity related conventions and agreements, the specific years to which the conventions were ratified is shown in the brackets. These include the Convention on Biological Diversity (CBD) - (1996); the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1979); the Ramsar Convention on Wetlands (2000); the World Heritage Convention (1977); and the UN Convention to Combat Desertification (UNCCD) (1997); the United Nations Convention on the Law of the Sea (1985). the Convention on Migratory Species (CMS) (1999) and the Convention for the Protection of World Cultural and Natural Heritage (1977); Others are the United Nations Framework Convention on Climate Change (1996); and also, the Southern African Development Community (SADC) Forestry Protocol (2002). The NBSAP contributes and aligns with this national commitment.

# CHAPTER SEVEN

# 7.1 IMPLEMENTATION MECHANISM AND RESOURCE MOBILIZATION

## 7.2 Institutional Arrangement

Implementation arrangement for NBSAP is guided by the Environmental Management Act (EMA), 2004. At the national level, Ministries and Departments are responsible for the implementation through participatory process for formulation, development and implementation of sector policies and legislation. MDAs will also be responsible for aligning the NBSAP with their sector plans, projects, programmes, strategies, and budget for strategic interventions. The President's Office-Regional Administration and Local Government (PORALG) works closely with Local Government Authorities (LGAs) through their respective departments, in collaboration with lined sector ministries to implement NBSAP.

To effectively implement the NBSAP, several information management tools have been established, including National Clearing-House Mechanism (CHM). The CHM will support implementation of the NBSAP 2025-2030 in various ways, including: Strengthening coordination and collaboration among key stakeholders); Increase public awareness on the status of biodiversity and NBSAP 2025-2030 implementation; Improving access to NBSAP 2025-2030 that will be uploaded to the CHM website to track progress of implementation of the national action plans; and Provision of reliable and accurate biodiversity information relevant to sound decision-making on the sustainable utilization of Tanzania's biodiversity. Owing to the need for informed decision making resulting from mainstreamed biodiversity in key sectors, initiative to establish sufficient biodiversity information centres in different institutions and to strengthen the existing information centres and databases in the country are necessary. A mechanism will be put in place information centres and databases to feed into the national database and website.

## 7.3 Financing and Resource Mobilization

The NBSAP (2025/26 - 2029/30) prioritized 125 actions from 23 targets. The estimated financing need to implement the prioritized actions is USD 1.5 billion, an average of USD 300 million per year. Biodiversity finance flows include private and public financial resources such

as government subventions, bilateral and multilateral agreements, grants, private sector and individual contributions that used to conserve and restore biodiversity, investments in commercial activities that produce positive biodiversity outcomes and the value of the transactions in biodiversity-related markets. In this regard, biodiversity finance is derived from the sources explained below:

(a) **Government Budgets:** The government allocates funds to implement programmmes, projects and activities related to biodiversity conservation. These projects and activities are budgeted in the biodiversity-relevant sectors such as agriculture, forestry, marine and fisheries, water, land management and urban planning, and wildlife management.

(b) **Conservation fees:** These fees are primarily from tourism activities in the national parks, forest/nature reserves, and marine conservation areas. Fees collected by the conservation authorities are retained to fund conservation activities. Conservation fees are collected by Tanzania National Parks Authority (TANAPA), Ngorongoro Conservation Area Authority (NCAA), Tanzania Wildlife Authority (TAWA), and Tanzania Forest Services (TFS). For the case of Zanzibar, conservation fees are collected by the Department of Marine Conservation, which manages the Marine Protected Areas (MPAs), and the Department of Forestry, which manages Jozani National Park and other Forest and Nature Reserves in Zanzibar.

(c) **Taxes and levies:** These are charged for different activities. For example, levies are charged for the extractive use of forest products, and the proceeds are used for forest conservation.

(d) **Conservation Trust Funds (CTF) and Nature-Based Solutions (NbS):** CTFs are blended finance (public and private) which aimed to fund public institutions for biodiversity conservation projects. However, the aimed to address societal challenges while providing environmental, social, and economic benefits. These solutions are rooted in protecting, sustaining, and restoring natural or modified ecosystems to address biodiversity loss, disaster risks, and water or food security.

(e) **Bilateral and multilateral cooperation:**
Potential sources of funds for NBSAP implementation from the international community include GEF, Kunming Biodiversity Fund (KBF), Global Biodiversity Framework Funds (GBFF) the World Bank, EU among others. GEF serves as financial

mechanism for a number of conventions including Convention on Biological Diversity (CBD).

(f) **Corporate Social Responsibility (CSR):** Businesses/corporations fund biodiversity conservation voluntarily by setting aside a portion of their funds to fund biodiversity conservation. On the other hand, businesses or corporations may be mandated by law to finance biodiversity conservation as part of mitigation measures from negative impacts to biodiversity resulting from their business activities. In Tanzania, businesses whose activities pose a threat to biodiversity are required by law to have mitigation plans and budgets for addressing identified threats to biodiversity.

(g) **Public Private Partnership (PPPs):** PPPs are created to foster collaborations between the public and private sector and optimally divide counterparty risks. PPPs can generate financial resources for biodiversity conservation in protected areas or biodiversity hotspots.

(h) **Biodiversity Credits:** The credits are "verifiable, quantifiable and tradeable units of restored or preserved biodiversity over a fixed period" that "offer a potentially robust and scalable mechanism for increasing nature positive investment." The voluntary biodiversity credits markets represent a significant opportunity for private sector finance to contribute to the protection and recovery of nature by supporting measurable and verifiable biodiversity outcomes.

(i) **Carbon Credits:** These refers to incentives to compensate greenhouse gases emissions by funding project that reduce or remove carbon dioxide from the atmosphere, with each credit representing one metric ton of C02 equivalent. Companies or individuals can purchase carbon trade to offset their emissions. Carbon credit projects include reforestation and afforestation. Payments for such projects help countries and stakeholders achieve long-term stability in forest conservation financing. The credits are intended to help reduce climate change impacts from forest loss and degradation by making forests more valuable. The carbon fund remunerates participant countries according to negotiated contracts for verifiable emission reduction (ERs).

(j) **Payment for Ecosystem Services (PES):** Under a PES scheme, payments of cash or other resources are made by those who benefit from ecosystem services, such as downstream water consumers, cities, and hydropower companies, to ecosystem

service providers, such as farmers' land trusts and stewards of protected areas. These schemes may offer an opportunity to provide adaptation benefits, such as flood control resulting from afforestation. The most common payment for ecosystem services in Tanzania including payment for water services through Urban Water Supply and Sanitations Authorities whereby, part of collection goes to water basins protection initiatives.

(k) **Green Bonds:** These are fixed-income financial instruments specifically issued to raise funds for projects with positive environmental or climate benefits. These bonds enable governments, companies, and organizations to access capital markets for financing green projects while providing investors with a way to support sustainability initiatives. In Tanzania, CRDB Bank has been accredited by GCF, and it has a financing window for businesses that qualify for financing under green finance criteria. Tanga Urban Water Supply and Sanitation (Tanga - UWASA) has established the Tanga water green bond to promote investment in management and sustainability of water resources.

# CHAPTER EIGHT

# 8.0 MONITORING, EVALUATION AND REPORTING

## 8.1 Overview

Monitoring for the NBSAP implementation denotes checking progress against targets and documentation of results, processes and experiences to inform decision-making and learning processes. The monitoring will involve systematic data collection, analysis and use of information to track progress towards the objectives. Monitoring, Evaluation, and Reporting will be carried out during the implementation of NBSAP (2025-2030). This will be undertaken at all levels of implementation using the standard reporting systems within MDAs, Private sectors and Civil Society Organizations as indicated in the Results matrix in Annex 2. Baseline assessment has been placed against the targets and performance indicators in the Monitoring Matrix in Annex 1.

The Monitoring and Evaluation systems will be based on government structures both in the sectors, districts and partner systems, including the Technical Implementation Reports (Quarterly Progress Reports/Annual Progress Reports). These reports will contribute to the production of the National periodic CBD Report.

The mid-term review (MTR) will be conducted after three years of NBSAP (2025-2030) implementation and the final evaluation will be conducted in 2030. The overall purpose of the MTR is to assess progress on achievement of the goal and set targets, identify early signs of success or challenges and specify necessary adaptive management changes required in order to set the Strategy on-track towards and to improve outcomes and the intended results. The MTR will also contribute to knowledge management, sharing and learning and will promote accountability on the implementing of CBD.

The evaluation will focus on assessing expected and achieved outcomes implementation processes, in order to register achievements or challenges.

## 8.2 Monitoring and Evaluation Framework

The Monitoring and Evaluation Framework of this NBSAP is composed of three elements: (i) the baseline; (ii) priority targets and actions and (iii) target indicators. These elements are indicated in Annex 1. The evaluation will employ the six standard international OECD DAC evaluation criteria covering the relevance, coherence, effectiveness, efficiency, impact and sustainability aspects[17]. Two types of evaluations will be carried out namely internal evaluation and external evaluation. Internal evaluations will be carried using internal evaluators within implementing institutions. External evaluations will involve both mid-term and terminal evaluations; the former will be done after three years and the latter at the end of the NBSAP (2030). The reviews will be participatory, transparent and consultative to incorporate lessons from the implementing stakeholders.

## 8.3 Data Collection, Analysis and Reporting

Data collection will involve desk review of existing reports and publications from implementing parties; field visits; surveys and case studies. Data collected will be analyzed against the target indicators and maintained in the national databases. Reports to be generated include (i) Progress reports; (ii) Review reports; (iii) Evaluation reports; (iv) Studies and surveys reports; and (v) Policy briefs.

These reports will be shared with stakeholders through various platforms including the CHM. In addition, stakeholders' meetings will be organized to share progress towards achieving the NBSAP (2025-2030) objectives.

## 8.4 Feedback Mechanism

Special feedback mechanism will be established to receive and disseminate information on the overall biodiversity management as well as implementation of the NBSAP (2025-2030). This will include in person meetings, virtual meetings and online platforms. The following feedback mechanisms will be employed:

**i)** National Integrated Environmental Information Management Systems (Environmental Dash board)

**ii)** Presentation of periodic Biodiversity Report and submit to the Parliamentary Committee.

[17] The Organization for Economic Co-operation and Development (OECD DAC)/ Development Assistance Committee

iii) National Stakeholder Forums including National Evaluation Workshops to be conducted following each evaluation (mid-term in 2028, final in 2030) to share findings and lessons learned.

iv) Publications of relevant reports (e.g evaluation reports, case studies, research papers) through CHM.

## ANNEX 1: NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP) 2025-2030

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| **STRATEGIC GOAL A: PROTECT AND RESTORE** | | | | | | |
| **Target 1:** Plan and manage all areas to reduce biodiversity loss | **Target 1:** By 2030, priority terrestrial, inland waters and coastal and marine areas are under participatory, biodiversity-inclusive spatial planning, including:<br><br>(a) At least 25% of coastal and marine | 1.1 Develop territorial zoning plans at all levels, including the institutional arrangements and spatial-temporal management measures. | 6.5% of coastal and marine ecosystems with spatial plans | 25% of coastal and marine conserved | Conservation reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, CBOs, and |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | ecosystems within the territory of URT | | | | | NGOs especially Women and Youth groups |
| | (b) At least 40% percent of terrestrial ecosystems are conserved | 1.2 Identify forest conservation initiatives to protect Tanzania's vital ecosystems and adaptation of sustainable farming techniques to reduce land degradation and further strengthen law enforcement on conservation | 33.5% of terrestrial ecosystem with spatial plans | 40% Terrestrial areas conserved | Conservation reports | |
| | (a) At least 15% of rivers and streams | 1.3 Establish a national monitoring | 6.5% of rivers and streams under conservation | 15% Areas of rivers and | Conservation reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | are conserved, | system for rivers and streams, land use changes, zoning and pollution control in the rivers and streams | | streams conserved | | |
| | (b) At least 40% of lakes, wetlands, and other inland waters are conserved | 1.4 Identify wetlands, lakes and inland waters that are potential for agriculture and sustainable fishing activities respectively are conserved | 10% of wetlands are conserved | 40% Areas of wetlands identified and conserved | Conservation reports | |
| **Target 2:** Restore 30% of all degraded | **Target 2:** By 2030, at least 30% of areas of degraded ecosystems | 2.1 Identify and map degraded areas of terrestrial, inland waters, coastal | Land Degradation Neutrality Report (2018) | Maps of degraded areas | Reports and Maps | Sectors responsible for Environment, Planning, Local government authorities |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| ecosystems | are under effective restoration | and marine ecosystems | | | | (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy |
| | | 2.2 Develop and review as appropriate Sectoral Restoration Strategies and plans of terrestrial, inland waters, coastal and marine ecosystems | Limited restoration plans | Restoration plans and strategies | Area under restoration<br>Restoration Reports | |
| | | 2.3 Implement ecosystems restoration plans | Inadequate implementation of the restoration plans | Number of plans implemented | Area under restoration<br>Restoration Reports, | |
| | | 2.4 Asses degraded areas and gazette as ESA and EPA | Land Degradation Neutrality Report | hectares of degraded area gazette and protected | Restoration reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | 2.5 Improve local (traditional) skills by direct involvement of community in implementing ecosystem restoration activities | Inadequate local involvement programs | Number of programs developed and implemented | Reports | |
| **Target 3:** Conserve 30% of land, waters, and seas | **Target 3.** By 2030, areas important for biodiversity and associated ecosystem services are conserved (a) At least 25% of marine and coastal | 3.1 Develop and implement management plans for terrestrial, inland waters, coastal and marine ecosystems | Limited ecosystem management plans | Number of management plans developed/ updated Area under conservation | Management plans under implementation | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | areas are conserved<br>(b) At least 43.5% of terrestrial ecosystems are conserved | 3.2 Conserve important biodiversity areas (hotspots, corridors, and buffers). | 33.5% of terrestrial are under conservation | Terrestrial Areas under conservation. | • Areas under restoration<br>• Restoration reports | Trade, Finance, Livestock and Blue economy, CBOs, and NGOs. |
| | (c) At least 25% of inland water conserved | 3.3 Conserve areas of inland waters | | Conservation status | | |
| | | 3.4 Conserve areas of river and streams | 6.5% areas of rivers and streams are under conservation | Areas of Rivers of streams under conservation | Rivers and streams<br>Restoration reports | |
| | (d) 40% (~82,400 km) of river and stream lengths | 3.5 Conserve areas of wetlands | 10% of wetland areas is under conservation | Areas of wetlands under conservation | Wetlands<br>Conservation reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | (e) 50% of wetlands | 3.6 Promote diversification of nature-based alternative livelihood and sustainable use of resources | Inadequate use of alternative income generating activities | Number of alternative income generating activities implemented | Reports | |
| **STRATEGIC GOAL B: PROSPER WITH NATURE** | | | | | | |
| **Target 4:** Halt species extinction, protect genetic diversity, and manage human-wildlife conflicts | **Target 4-1:** By 2030, the loss of genetic diversity of native, wild and domesticated species reduced by 30% . | 4.1 Establish/Strengthen inventory of genetic diversity of native, wild and domesticated species | Limited data set on genetic diversity | Number of data set | Data set and inventory | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, |
| | | 4.2 Develop and implement plans to reduce loss and enhance recovery of genetic diversity of species | Limited plans | Number of plans | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | 4.3 Strengthen existing and establish new seed and gene banks | Limited seed and gene banks. | Number of established and updated seed and gene banks | Reports | Livestock and Blue economy, CBOs, and NGOs, research and academic institutions. |
| | **Target 4-2:** By 2030 the extinction of known threatened species of terrestrial, coastal, marine, and inland waters ecosystems is prevented by 30% | 4.4 Update inventory of threatened species | Limited data on threatened species | Inventory of threatened species | Inventory reports<br>Number of threatened species | |
| | | 4.5 Promote conservation and monitoring programs for threatened species in all ecosystems | Limited programs | Number of monitoring programs | Reports<br>Number of programs | |
| | | 4.6 Establish and strengthen programs for re-introduction | • Limited programs | Number of programs<br>Number of species | Report<br>Number of programs | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | of locally extinct species | | re-introduced | | |
| | **Target 4-3:** By 2030, human-wildlife conflicts reduced by 40%. | 4.7 Promote Human-Wildlife Conflict mitigation programs and technologies | Limited interventions/technologies | Number of programs | Reports | |
| | | 4.8 Enhance awareness and outreach programs to promote human-wildlife co-existence | Limited awareness and outreach programmes | Number of awareness and outreach campaigns;<br>Number of human-wildlife conflict incidences and impacts reported | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | | | Number of communities reached | | |
| | | 4.9 Restore and protect wildlife corridors, buffer zones and migratory routes | Tanzania wildlife corridors assessment, Prioritization, and action plan (2022-2026). | Number of secured, restored and protected wildlife corridors, buffer zones and migratory routes | Area restored<br>Restoration reports | |
| **Target 5:**<br>Ensure sustainable, safe and legal harvesting and trade of | **Target 5-1:** Ecological integrity through safe, sustainable, legal harvesting and trade of wild flora and | 5.1 Enhance enforcement/compliance of regulatory frameworks on harvesting and trade of wild flora and fauna | Inadequate enforcement and compliance of legal frameworks | Level of compliance | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| wild flora and fauna | fauna in terrestrial, freshwater, coastal and marine ecosystems are enhanced by 2030. | 5.2 Promote community management and co-management in terrestrial, Coastal, Marine. | Limited community participation programs. | Number of Community participation programs | Reports | Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, Academic and Research Institutions, CBOs, NGOs, Private and Public Sectors, PMO-LYED |
| | | 5.3 Strengthen data collection, monitoring, and information management on terrestrial and aquatic resources | Limited data set | Data set developed | Reports | |
| | | 5.4 Promote regional cooperation on management of transboundary waters, shared natural resources and | Limited programs | Number of programs | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | migratory species | | | | |
| | **Target 5-2:** Ensure sustainability of fisheries from inland and marine waters by 2030. | 5.5 Promote sustainable fishery practices | Inadequate awareness and technologies for sustainable fisheries | Awareness programs<br><br>Improved fishery practices<br><br>Number of technologies adopted | Reports | |
| | | 5.6 Strengthen capacities of local communities on sustainable fisheries | Inadequate capacity at community level. | Number of capacity building programs Number of communities | Capacity building reports | |
| | **Target 5-3:** Monitoring of large-scale fisheries in Tanzania's | 5.7 Install electronic monitoring systems and improve existing human observer | One outdated EMS in place (Pacific Star), | Number of installed automated observer systems | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | Exclusive Economic Zone strengthened by 2030. | systems on three industrial flagged vessels | | | | |
| | | 5.8 Build human resource capacity on Exclusive Economic Zone (EEZ) large scale fisheries management | Limited human resources | Number of staffs trained<br><br>Number of programs | Reports | |
| | | 5.9 Strengthen monitoring and management of industrial marine fishing vessels | Inadequate management and monitoring | Reduced illegal fishing activities | Reports | |
| **STRATEGIC GOAL C. SHARE BENEFITS FAIRLY** | | | | | | |
| **Target 6:** Reduce the | **Target 6:** Reduce the rates of introduction | 6.1 Enhance the Implementation of National Invasive Species | National Invasive Species Strategy and Action Plan (2019 – 2029) | Reduced rate of introductio n and | Reports<br>Area free from | Sectors responsible for Environment, Planning, Local |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| introduction of invasive alien species by 50% and minimize their impact | of invasive alien species by 50% and minimize their impact on biodiversity and ecosystem functions and services by 2030 | Strategy and Action Plan (2019 -2029) | | spread of invasive alien species | invasive species | government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, academic and research institutions |
| **Target 7:** Reduce pollution to levels that are not | **Target 7:** By 2030, at least 50% of pollution is reduced from all sources | 7.1 Promote the use of sustainable waste management practices and technologies | Inadequate waste management technologies | Number of environmentally friendly technologies adopted | Reports<br>Technologies adopted | Sectors responsible for Environment, Planning, Local government authorities (LGA's), |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| harmful to biodiversity | | | | Amount of waste reduction | | Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, CBOs, NGOs, PMO-LYED |
| | | 7.2 Strengthen enforcement of legislation on pollution control | Limited law enforcement<br>% of reduction of pollution | | Reports | |
| | | 7.3 Enforce and strengthen implementation of corporate social responsibility (CRS) | | | | |
| **Target 8:** Minimize the impacts of climate change | **Target 8:** Minimize the impact of climate change on terrestrial, freshwater, coastal, and marine | 8.1 Promote Nature Based solutions in adaptation interventions | Limited use of nature-based solution | Number of programs using Nature based solutions | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| on biodiversity and build resilience | habitats, and other vulnerable ecosystems to maintain their integrity and build resilience by 2030. | 8.2 Strengthen climate early warning systems | Inadequate climate information | Improved access to climate information<br><br>Number of communities with access to climate information | Reports | Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, NCMC, Private sector, Youth groups, women groups, local community, CBOs, and NGOS. |
| | | 8.3 Promote blue and green carbon offset projects. | Limited number of blue and green carbon projects. | Number of blue and green carbon projects<br><br>Number of communities with access to climate information | Reports<br>Project/programs | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | 8.4 Promote implementation of climate resilience concept in all aspects | | Number of emergence preparedness and response plan developed | Reports | |
| **STRATEGIC GOAL D: INVEST AND COLLABORATE** | | | | | | |
| **Target 10:** Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry | **Target 10:** Target 10: By 2030, Enhanced application of biodiversity-friendly practices in agriculture, fisheries aquaculture, and forestry for long-term productivity and support improved | 10.1 Promote agroecology practices and technologies | Limited technologies | Number and types of technologies promoted | Report | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, |
| | | 10.2 Promote ecological aquaculture practices and technologies | Inadequate use of sustainable aquaculture practices and technologies | Number of aquaculture farms under sustainable practices<br>Number of technologies adopted | Reports | |
| | | 10.3 Promote agroforest | Limited use of integrated forest | Number of Technologi | Sector Performanc | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | crop production to food security, human healthy and biodiversity conservation. | and integrated forest management practices and technologies | management practices and technologies | es and practices applied | e and Evaluation Reports in Agriculture, and Livestock | Livestock and Blue economy, farmers groups, CBOs, and NGOs, Academic and Research institutions. |
| **Target 11:** Restore, maintain and enhance nature's contributions to people | **Target 11-1:** By 2030, nature's contributions to people's are Restored, maintained and enhanced | 11.1 Promote and implement NbS and EbA programs to restore, maintain and enhance ecosystem functions | Limited of NbS and EbA programs | Number of programs developed and implemented<br><br>Number of communities and institutions practicing NbS and EbA | Reports | Ministries responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | **Target 11-2:** Integrate Natural-Capital into National accounting and budgeting systems | 11.2 Promote Natural-Capital valuation programs | Limited data on Natural-Capital value | Natural-Capital Data | Reports | Livestock and Blue economy |
| | | 11.3 Integrate Natural-Capital stocks into National wealth accounting | Limited data on Natural- Capital stocks | Natural – Capital stocks | Reports | |
| **Target 12:** Enhance green spaces and urban planning for | **Target 12:** By 2030, Blue and green spaces are integrated into urban plans for human well-being | 12.1 Identify/Map areas to establish blue and green spaces. | Limited blue and green spaces | Number of areas identified and mapped | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, |
| | | 12.2 Develop and implement programs for | Limited programs | Number of programs developed and | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| human well-being and biodiversity | and biodiversity conservation | establishment of green spaces | | implemented | | Wildlife, Legislation Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy |
| | | 12.3 Promote urban gardening. | Limited urban gardens | Number of urban gardens established. | Reports | |
| **Target 13:** Increase the sharing of benefits from genetic resources, digital sequence information and tradition | **Target 13:** By 2030, Guidelines and regulations supporting access to genetic resources and the fair and equitable sharing of benefits arising from their | 13.1 Enhance compliance of regulation and guidelines on Access and Benefit Sharing (ABS) | ABS Regulations and Guidelines (2023) | Registered/ Recorded benefits | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, |
| | | 13.2 Enhance awareness on Access and Benefit Sharing (ABS) | Limited awareness on Absence of communication strategy | Number of awareness creation programs | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| al knowledge | utilization implemented. | | | | | Livestock and Blue economy. Youth groups, women groups, local community, CBOs, and NGOs. |
| | | 13.3 Establish a functional National ABS information system | ABS Regulations and Guidelines (2023) | National ABS information system | Reports | |
| **Target 17:** Strengthen biosafety and distribute the benefits of biotechnology | **Target 17:** By 2030, Capacity for implementation of biosafety measures strengthened | 17.1 Develop and implement capacity building programs on biosafety | Limited programs on biosafety | Number of programs developed and implemented | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, |
| | | 17.2 Review and update National biosafety frameworks | New genetic engineering technologies | Updated National biosafety frameworks | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | | | | | Livestock and Blue economy, Youth groups, local community, CBOs, NGOs and Local government authorities |
| **Target 19**<br>Mobilize USD 200 billion per year for biodiversity from all sources, including $30 billion through | **Target 19:**<br>By 2030, at least USD 20 million per year mobilized from public and private sector for effective implementation of the National Biodiversity Strategic and | 19.1 Develop and implement a resource mobilization strategy/plan to increase biodiversity funding | Limited funding | Resource mobilization strategy<br>Amount of funds mobilized | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, |
| | | 19.2 Mainstream biodiversity indicators in annual planning and budgeting at national and | Limited budget allocation for biodiversity conservation | Budget allocated | Annual budget plans | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| internati onal finance. | Action Plan (NBSAP 2025-2030). | sub-national levels | | | | Trade, Finance, Livestock and Blue economy, Youth groups, local community, CBOs, NGOs and Local government authorities |
| | | 19.3 Develop market-based financing options for biodiversity (green bonds. Blue/Nature bonds/carbon credits, PES and Polluter Pays Principle) | Limited market-based financing options | Number of market-bas ed financing options<br>Amount of funds raised from market-bas ed financing options | Reports | |
| **Target 20**<br>Strengthen capacity building, technolo gy transfer, | **Target 20:**<br>By 2030, Capacit y building, technology transfer, and scientific and technical cooperation | 20.1 Conduct capacity needs assessment | Limited capacity | Number of assessment s conducted | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, |
| | | 20.2 Develop and conduct capacity building programs | Limited capacity building programs | Number of staff trained<br>Number of programs conducted | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| and scientific and technical cooperation for biodiversity. | for biodiversity strengthened | 20.3 Develop and strengthen capacity to undertake biodiversity research | Inadequate information and capacity | Number of biodiversity related research publications<br>Number of staff trained | Sectors reports responsible for Environment and Biodiversity management | Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy, Academic and Research Institutions, Information and Technology |
| **Target 21:**<br>Ensure that knowledge is available and accessible to | **Target 21:**<br>By 2030, ensure that knowledge is available and accessible to guide the implementation of | 21.1 Strengthen National Biodiversity Data Portal for collection, analysis, storage and dissemination of biodiversity related | Limited information | Improved knowledge and accessibility | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| guide biodiversity action | biodiversity action plan | information including Clearing House Mechanism | | | | Wildlife, Legislation Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy |
| | | 21.2 Development of relevant policy briefs for informed decision-making on biodiversity related interventions | Limited information | Number of policy briefs developed | Policy briefs | |
| | | 21.3 Strengthen regional cooperation in biodiversity conservation. | Limited cooperation | Number of joint programs developed and implemented | Sectors reports responsible for Environment and Biodiversity management | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| | | 21.4 Identify, document and promote use of traditional knowledge that enhance biodiversity conservation | Limited information | Traditional knowledge identified, documented and promoted | Reports | |
| | | 21.5 Provide tools and resources to relevant stakeholders to enhance access of the biodiversity knowledge | Limited tools and resources | | Reports | |
| | | 21.6 Promote use of media to disseminate information on biodiversity related issues | Inadequate promotion of biodiversity related issues | Number of media involved | Reports | |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| **Target 22:** Ensure participation in decision-making and access to justice and information related to biodiversity for all. | **Target 22:** By 2030, participation in decision-making and access to justice and information related to biodiversity for all enhanced | 22.1 Promote engagement of community in decision making | Limited participation | Number of programs. Groups of community engaged | Reports | Sectors responsible for Environment, Planning, Local government authorities (LGA's), Fisheries, Agriculture, Forestry, Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy |
| **Target 23:** Ensure gender equality and a | **Target 23** By 2030, gender equality and responsiveness in the | 23.1 Enhance inclusiveness of all social group including women, youth, children people | Limited gender inclusion | No of Women, Local elders Youth and People with Disability | Reports | Sectors responsible for Environment, Planning, Local government authorities |

| KM-GBF Targets | NBSAP 2025-2030 Targets | Proposed actions | Baseline (2024/2025) | Indicator | Source of verification | Responsible institutions |
|---|---|---|---|---|---|---|
| gender-responsive approach for biodiversity action. | implementation of the National biodiversity strategy and action plan enhanced | with special needs and elders in biodiversity actions.<br><br>23.2 Develop strategies and guidelines on the inclusion of women youth, children elderly people with special needs in biodiversity actions | | involved in planning and implementation of biodiversity plans | | (LGA's), Fisheries, Agriculture, Forestry Wildlife, Legislation, Land, Water, Infrastructure, Education, Trade, Finance, Livestock and Blue economy |