THE NATIONAL PLAN OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS AND RAYS

2026–2035

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PREFACE

The United Republic of Tanzania (URT) boasts a distinctive marine environment, encompassing the Indian Ocean and the waters surrounding the islands of Mafia and the Zanzibar Archipelago. These ecosystems, which include coral reefs, seagrasses, and mangrove forests, support a variety of globally endangered species. Current records confirm the presence of 98 chondrichthyan species (57 sharks, 40 rays, and one chimaera) in URT's marine waters. To safeguard this rich biodiversity, URT has established several Marine Protected Areas (MPAs)—totalling 6 in Zanzibar and 15 in Mainland Tanzania—which serve as crucial sanctuaries for threatened species.

In alignment with its commitment to marine conservation and sustainable resource management, the URT has enacted comprehensive legislation to govern the use of living aquatic resources. Notably, the Deep Sea Fisheries Management and Development Act of 2020 governs resource exploitation in the Exclusive Economic Zone (EEZ). In territorial waters, the Fisheries Act of 2003 (Mainland Tanzania) and the Fisheries Act No. 7 of 2010 (Zanzibar) regulate the sustainable use of marine resources. The URT is a signatory to several international agreements aimed at marine conservation, including the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the Convention on the Conservation of Migratory Species of Wild Animals (CMS). Moreover, the URT actively participates in regional initiatives such as the Indian Ocean Tuna Commission (IOTC), the Southwest Indian Ocean Fisheries Commission (SWIOFC), and the Nairobi Convention to collaborate on conservation strategies.

In addition to these legislative measures, the URT has implemented strategies to conserve at-risk marine life, particularly through its National Biodiversity Strategy and by investing in capacity building, education, and public awareness.The formulation of this National Plan of Action for the Conservation and Management of Sharks and Rays represents a culmination of these steadfast efforts. The URT expresses its gratitude to the government agencies, coastal communities, civil society organisations, private sector, and development partners for their invaluable contributions to developing and reviewing this plan. The URT remains committed to working with all stakeholders to implement this plan, ensuring the preservation of its marine heritage for future generations.

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The Government of the United Republic of Tanzania expresses its sincere gratitude to the FAO and all stakeholders for their support and dedication. Special appreciation is extended to the Ministry of Livestock and Fisheries (Mainland Tanzania), the Ministry of Blue Economy and Fisheries (Zanzibar), and the Tanzania-European Union Blue Economy Programme (Technical Assistance) for their invaluable contributions and guidance.

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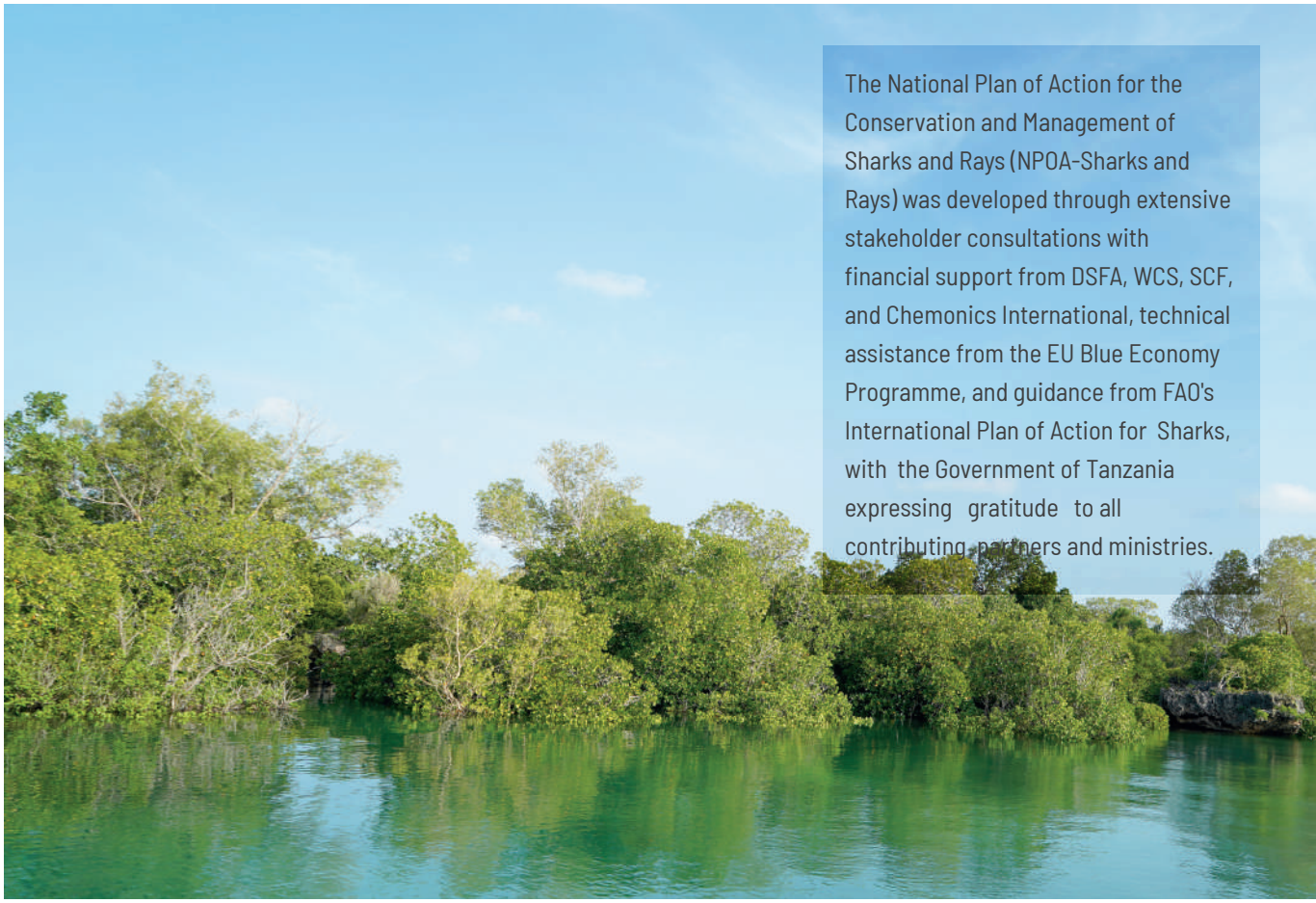


The National Plan of Action for the Conservation and Management of Sharks and Rays (NPOA-Sharks and Rays) was developed through extensive stakeholder consultations with financial support from DSFA, WCS, SCF, and Chemonics International, technical assistance from the EU Blue Economy Programme, and guidance from FAO's International Plan of Action for Sharks, with the Government of Tanzania expressing gratitude to all contributing partners and ministries.

EXECUTIVE SUMMARY

Sharks and rays are ecologically vital and provide valuable food and income for Tanzania's coastal communities. However, fishing pressure has become unsustainable, and the populations of these vulnerable species are declining. Of the 98 confirmed species in the United Republic of Tanzania (URT), 55 (56%) are now at risk of extinction, with 10 species listed as Critically Endangered on the IUCN Red List. This crisis threatens not only marine biodiversity but also the livelihoods and food security of the communities that depend on these resources.

The key drivers of this decline include weak fisheries management, insufficient species-specific data for decision-making, the degradation of critical habitats, and the pervasive threat of Illegal, Unreported, and Unregulated (IUU) fishing. These challenges are compounded by limited stakeholder engagement, low public awareness, and gaps in aligning national policies with regional and international conservation commitments.

In response to these challenges and in fulfilment of its obligations under international frameworks like the FAO's International Plan of Action for Sharks (IPOA-Sharks) and the Indian Ocean Tuna Commission (IOTC), the URT has developed this inaugural National Plan of Action for the Conservation and Management of Sharks and Rays (NPOA-Sharks) for 2026–2031.

This NPOA provides a comprehensive, science-based framework to guide all stakeholders. Its primary goal is to ensure the long-term conservation and sustainable use of shark and ray populations in Tanzanian waters. This will be achieved through six strategic objectives: 1. Strengthen sustainable fisheries management to prevent overfishing. 2. Enhance data collection and research to support evidence-based decisions. 3. Protect threatened species and critical habitats like nursery grounds. 4. Minimise bycatch and combat IUU fishing through better technology and enforcement. 5. Strengthen stakeholder engagement, compliance, and public awareness. 6. Align national management with regional and global conservation frameworks.

The plan outlines specific actions, defines institutional responsibilities, and establishes a monitoring and evaluation framework to track progress. Key performance indicators to be achieved by 2031 include:

1. Sustainable Fisheries Management—Conduct stock assessments for 5+ priority species and establish science-based size limits for at least 10 species.
2. Data and Research—Establish a centralised national database for shark and ray data and achieve 100% observer coverage (human or electronic) on the industrial fleet.
3. Habitats and Species Protection—Designate at least 50,000 ha of new protected areas for sharks and update 5+ MPA management plans with specific shark conservation measures.
4. IUU and Bycatch Reduction—Achieve over 90% compliance with the 'fins-naturally-attached' policy and increase fisheries inspection efforts by 50%.
5. Stakeholder Engagement—Train at least 500 key stakeholders (fishers, officers) and support 10+ communities in developing and gazetting local conservation bylaws.
6. International Alignment—Achieve 100% timely submission of international reports (e.g., CITES) and harmonise at least 2 key national laws with global standards.

LIST OF ABBREVIATION

AIS	Automatic Identification System
BMU	Beach Management Unit
BRUV	Baited Remote Underwater Video
CAS	Catch Assessment Survey
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMMs	Conservation and Management Measures
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COFI	Committee on Fisheries (Food and Agriculture Organization)
CPUE	Catch Per Unit Effort DMC Department of Marine Conservation
DSFA	Deep Sea Fishing Authority EEZ Exclusive Economic Zone
EIA	Environmental Impact Assessment
EM	Electronic Monitoring
FAO	Food and Agricultural Organization of the United Nations
GDP	Gross Domestic Product IOC Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IPOA-Sharks	International Plan of Action for the Conservation and Management of Sharks
IORA	Indian Ocean Rim Association
IUCN	International Union for the a of Nature
IUU	Illegal, Unreported, and Unregulated
KAP	Knowledge, Attitudes, and Practices
LGA	Local Government Authority
MATT	Multi-Agency Task Team

MBEF	Ministry of Blue Economy and Fisheries
MCA	Marine Conservation Area
MCU	Marine Conservation Unit
MLF	Ministry of Livestock and Fisheries
MPA	Marine Protected Area
MPRU	Marine Parks and Reserves Unit
NDF	Non-Detriment Finding
NFP	National Focal Point
NGO	Non-Governmental Organisation
NPOA-Sharks	National Plan of Action for the Conservation and Management of Sharks and Rays
OECM	Other Effective Area-based Conservation Measure
RFMO	Regional Fisheries Management Organization
RPOA-Sharks	Regional Plan of Action for Sharks
SADC	Southern African Development Community
SAR	Shark Assessment Report
SCF	Shark Conservation Fund SDGs Sustainable Development Goals
SFC	Shehia Fishery Committee
Sharks-MOU	Memorandum of Understanding on the Conservation of Migratory Species of Sharks
SUZA	State University of Zanzibar
SWIOFC	South West Indian Ocean Fisheries Commission
TAFICO	Tanzania Fisheries Corporation TAFIRI Tanzania Fisheries Research Institute
TRA	Tanzania Revenue Authority
UDSM	University of Dar es Salaam
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
URT	United Republic of Tanzania
VMS	Vessel Monitoring System
VPO	Vice President's Office
WCS	Wildlife Conservation Society
WIO	Western Indian Ocean
WWF	World Wide Fund for Nature

GLOSSARY

Abundance—The total number of individuals in a stock or population.

Adaptive Management—A structured, iterative process of decision-making that aims to reduce uncertainty over time by learning from the outcomes of management actions.

Artisanal Fishery—A small-scale fishery, often using traditional fishing techniques and vessels, typically for local consumption or sale. Also referred to as small-scale fishery.

Baseline—The initial state or condition against which future changes are measured. It serves as a reference point for monitoring and evaluating the impact of an intervention.

Batoid—A group of cartilaginous fishes, commonly known as rays and skates, characterised by flattened bodies and enlarged pectoral fins that are fused to the head.

Biodiversity—The variability among living organisms and includes a measure of the number of species and diversity within species.

Biomass—The total weight of a group or standing stock of a species.

Bycatch—Part of a catch of a fishing unit taken incidentally.

Catch—Total number or weight of fish caught by the fishing operations. Catch includes retained catch and discards.

Chondrichthyan—Any member of a diversity group of cartilaginous fishes that include the sharks, skates, rays and chimaeras.

Co-management—A partnership arrangement in which responsibility for the management of resources is shared between the government and resource users (e.g., local communities).

Collapse—The reduction of stock to levels at which production is negative compared to historical levels.

Conservation—Act of maintaining, enhancing and protecting natural resources and ecosystems.

Demersal—Living in proximity to the bottom and depending on it.

Directed Fishery—Fishing that is directed at a certain species or a group of species.

Discard—To release dead or alive species to the sea.

Ecosystem Approach to Fisheries (EAF)—A management approach that strives to balance diverse societal objectives by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions.

Ecotourism—Travel that is undertaken to witness and experience the unique natural or ecological quality of particular sites or regions.

Elasmobranchs—A group of cartilaginous fishes that comprises sharks, rays and skates but excludes chimaeras.

Endemic—A species that is native to and restricted to a particular geographic region.

Exclusive Economic Zone (EEZ)—A sea zone prescribed by the United Nations Convention on the Law of the Sea over which a state has special rights regarding the exploration and use of marine resources. It stretches from the baseline

out to 200 nautical miles from its coast.

Finning—The practice of removing fins and discarding the carcasses, usually related to sharks and shark-like rays.

Fishing Effort—The measure of fishing intensity.

Habitat—An array of resources, physical and biotic factors present in an area.

Highly Migratory Species or Stocks—Marine organisms whose life cycles include large-scale systematic movement patterns.

Indicator—A quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.

Landing—The part of the catch that is brought ashore.

Logical Framework (Logframe)—A management tool used to improve the design of interventions. It involves identifying strategic elements (inputs, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure.

Longline—Fishing gear where short lines with hooks are attached to longer main lines at regular intervals.

Management—The act of taking measures affecting a resource and its exploitation with a view to achieving certain objectives, such as the maximization of the production of that resource.

Migration—Systematic movement of animals from one place to another, often related to season, usually involving a return movement.

Migratory Species—Organisms that move over national boundaries and hence require international cooperation.

Non-consumptive—Activities that do not involve the harvesting or removal of fish or other aquatic organisms from the environment.

Non-Detriment Finding (NDF)—A scientific assessment required under CITES to ensure that the international trade of a particular species will not be detrimental to its survival in the wild.

Observer Programme—A programme that places trained, independent specialists (observers) on board fishing vessels to collect scientific data, monitor compliance with regulations, and report on fishing activities.

Optimal—Most favorable.

Other Effective Area-based Conservation Measure (OECM)—A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity.

Pelagic—Species associated with being away from the coast and either close to the surface or in the water column.

Precautionary Approach—Ability to exercise prudent foresight to avoid unacceptable or undesirable situations. This principle, therefore, promotes that measures be implemented to prevent the degradation of the ecosystem where there are threats of serious or irreversible damage, even in the absence of scientific certainty.

Rational Use—Decisions on resource utilization are consistently derived from conclusions given the available information.

Sharks—For this document, the term sharks will

be applied to all Chondrichthyes (i.e., sharks, rays, Guitar fishes, Wedge Fishes and chimaeras).

Stakeholder—An entity (individual or organization) having a stake or interest in a physical resource, ecosystem service, institution, or social system or someone who may be affected by public policy.

Stock—A sub-population of a particular species of fish for which intrinsic parameters (growth, recruitment, mortality, fishing mortality) are the only significant factors in determining population dynamics.

Stock Assessment—The process of collecting, analysing, and reporting demographic information to determine changes in the abundance of fishery stocks in response to fishing, and, to the extent possible, to predict future trends of stock abundance.

Sustainable Use—Actions that maintain the long-term production of a renewable resource.

Target—A specific, measurable level of performance or achievement that is expected to be reached within a given timeframe.

Traceability—The ability to track a product through all stages of production, processing, and distribution, from catch to the final consumer.

Transshipment—The act of transferring catch from one fishing vessel to another, either at sea or in port.

1. INTRODUCTION

1.1. THE STATE OF SHARKS AND RAYS IN TANZANIA

Sharks and rays, collectively known as chondrichthyans, play a vital role in maintaining the ecological balance of marine ecosystems both globally and in Tanzania. In Tanzania, their fisheries are predominantly artisanal. However, these species are increasingly threatened by unsustainable practices such as bycatch, habitat degradation, and Illegal, Unreported, and Unregulated (IUU) fishing. The growing international demand for shark products particularly fins, meat, and cartilage has further intensified exploitation, putting many species at risk of extinction.

Recent research has identified significant knowledge gaps related to species diversity, population trends, nursery grounds, and trade flows, especially in Zanzibar and along the mainland coast. These gaps are compounded by limited species-specific data collection, low observer coverage, and weak monitoring systems, resulting in a lack of reliable scientific data to guide effective management. Consequently, many species remain unprotected, leaving marine ecosystems increasingly vulnerable to collapse.

1.2. RATIONALE AND GENESIS OF THE PLAN

1.2.1. International and Regional Context

The global decline of shark and ray populations has raised widespread conservation concerns. In response, the United Nations Convention on the Law of the Sea (UNCLOS, 1982) established foundational principles for the sustainable governance of marine resources. Building on this, the Food and Agriculture Organisation (FAO) developed the International Plan of Action for the Conservation and Management of Sharks (IPOA–Sharks) in 1999. This voluntary framework calls on states whose fisheries impact shark populations to develop national plans (NPOAs) to ensure their conservation and sustainable use.

As a contracting party to regional platforms like the Indian Ocean Tuna Commission (IOTC) and the South West Indian Ocean Fisheries Commission (SWIOFC), and a signatory to the Convention on the Conservation of Migratory Species of Wild Animals (CMS), Tanzania is obliged to implement conservation measures. These include reporting shark catches, enforcing finning bans (requiring fins to be naturally attached), and protecting vulnerable species. These regional bodies promote harmonised approaches to shark conservation in the Western Indian Ocean, requiring member states to align their efforts with regional strategies.

1.3. NATIONAL CONTEXT AND DEVELOPMENT PROCESS

At the national level, the Fisheries Act No. 22 of 2003 (Mainland) and the Fisheries Act No. 7 of 2010 (Zanzibar), along with the Deep-Sea Fisheries Management and Development Act, Cap 388 of 2020, mandate the conservation and sustainable use of all aquatic resources, including vulnerable species like sharks and rays. However, despite these legal mandates and the fact that several species in Tanzanian waters are classified as threatened or endangered on the IUCN Red List, a specific and comprehensive national framework for shark and ray management has been absent. This gap has hindered effective policy implementation, resulting in fragmented enforcement, weak data systems, and limited stakeholder participation.

In fulfilment of these international, regional, and national obligations, Tanzania has developed this inaugural National Plan of Action for Sharks and Rays (NPOA–Sharks and Rays). The plan was formulated through a comprehensive and consultative process spearheaded by the Deep Sea Fishing Authority (DSFA), the Ministry of Livestock and Fisheries (Mainland Tanzania), and the Ministry of Blue Economy and Fisheries (Zanzibar). Information was sourced from scientific research, national legislation, and stakeholder consultations involving government agencies, research institutions, fishers, the private sector, and conservation partners. This inclusive approach ensures the plan reflects broad perspectives and addresses the on-the-ground realities of shark and ray management.

1.4. PURPOSE AND OBJECTIVES

The purpose of this NPOA–Sharks is to provide a clear roadmap for the period 2026–2031 to promote the long-term conservation, management, and sustainable use of sharks and rays in the United Republic of Tanzania (URT). It serves as the government's formal commitment to meeting its international obligations and establishes a framework to guide conservation efforts at all levels. The plan also emphasizes the socio-economic benefits of sustainable shark and ray fisheries, which support the livelihoods of coastal communities, and fosters collaboration among all stakeholders to ensure the long-term survival of these species while supporting the nation's blue economy and biodiversity conservation goals.

The main objective of this plan is to ensure the long-term conservation and sustainable management of sharks and rays in Tanzania's waters by implementing science-based policies, reducing overexploitation, and safeguarding critical habitats, in line with national priorities and international commitments. Specifically, the objectives are to:

- Strengthen sustainable fisheries management by implementing science-based catch limits, size regulations, and seasonal closures to prevent overfishing of sharks and rays in both targeted and incidental fisheries.
- Enhance data collection and research to improve species-specific catch reporting, biological studies, and stock assessments to inform evidence-based decision-making and monitor population trends.
- Protect threatened species and critical habitats by identifying and designating marine protected areas (MPAs) and nursery grounds for endangered sharks and rays.
- Minimise bycatch and Illegal, Unreported, and Unregulated (IUU) Fishing by

promoting bycatch reduction technologies and enforcing anti-finning regulations (fins-attached policies).

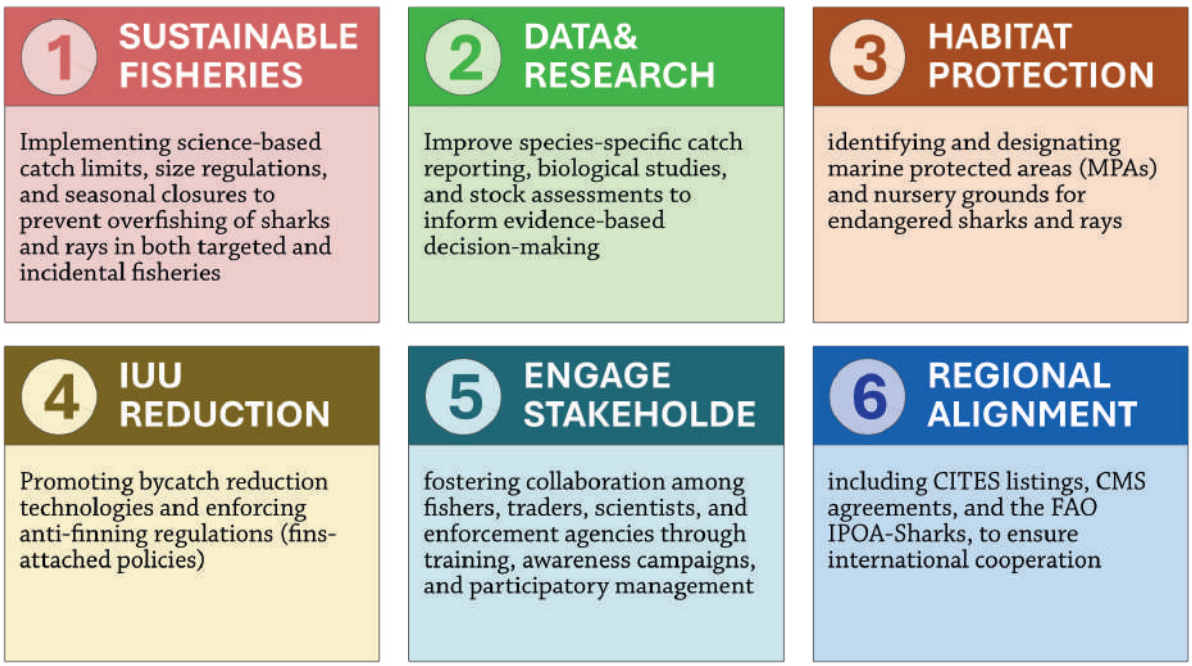
- Strengthen stakeholder engagement and compliance by fostering collaboration among fishers, traders, scientists, and enforcement agencies .
- Align Tanzania's shark and ray management with regional and global conservation frameworks, including CITES listings, CMS agreements, and the FAO IPOA-Sharks, to ensure international cooperation.

1.5. SCOPE OF THE NPOA–SHARKS

This NPOA–Sharks (2026–2031) applies to all marine waters of the United Republic of Tanzania (URT), including the coastal waters of mainland Tanzania and Zanzibar, the Exclusive Economic Zone (EEZ), and areas where URT-flagged vessels operate. The plan covers all chondrichthyan species (sharks, rays, and chimaeras), particularly those subject to regulations on retention, trade, and handling. It addresses all relevant fishing activities, gear types, and the entire value chain, from domestic use to transboundary and international trade.

1.6. STRUCTURE OF THE PLAN

This National Plan of Action is structured into six chapters—Chapter One introduces the plan's background, rationale, purpose, objectives, scope, and development process. Chapter Two describes the state of shark and ray fisheries in Tanzania, including fishing methods, species composition, and catch levels. Chapter Three outlines the policy, legal, and institutional frameworks governing shark and ray management. Chapter Four identifies the key conservation issues, their causes, and their effects. Chapter Five presents the strategic interventions and prioritised actions to address the identified issues. Chapter Six details the institutional arrangements for implementation and the framework for monitoring, evaluation, and review of the plan.



2. DESCRIPTION OF SHARK FISHERIES IN TANZANIA

2.1. CHONDRICHTHYAN FISHERIES OF TANZANIA

The fisheries sector in the URT is substantially artisanal and small-scale fisheries, primarily supporting the livelihoods of coastal communities (Silas, 2020). In parallel, commercial and industrial operations also exist, including international trade. However, the sector is plagued by illegal fishing practices. Across all these scales of operation, a wide array of shark and ray species (collectively referred to as chondrichthyans) are regularly harvested.

Sharks, in particular, represent a historically and economically significant resource within URT. Their oil is traditionally used in boat maintenance, meat serves as an affordable protein staple, and sharks and rays generate income through fin trade (Bultel et al., 2015) . Between 1950 and 2010, sharks and rays were estimated to constitute approximately 7% of the total marine fish catch in URT waters (Bultel et al., 2015). Artisanal targeting of sharks has deep cultural roots, especially in Zanzibar, yet in recent decades, the sustainability of these fisheries has markedly declined (Shehe & Jiddawi, 1997) . Recent data highlights significant shifts in catch composition and fishing strategies.

From July 2017 to March 2019, monitoring by WCS across three fish markets on Unguja Island revealed declining landings of reef-associated sharks. Simultaneously, ray landings increased substantially. These trends suggest a strategic shift by local fishers toward rays in response to dwindling shark populations (pers. comm.). At present, rays constitute 85% of the recorded chondrichthyan catch at these sites, while sharks make up only 15%.

Further north, in Pemba Island, WCS data from February to May 2019 indicates that artisanal fishers target large migratory shark species. These species, typically captured by offshore pelagic (tuna) fishing vessels, include 25 of the 40 elasmobranch species listed on CITES Appendix II known to occur in URT waters. Notably, these catches remain unreported in National Catch Assessments and to the Indian Ocean Tuna Commission (IOTC), largely due to the dispersed nature of small landing sites. Such underreporting has serious implications. Many of the captured elasmobranchs face extinction threats as per IUCN Red List criteria and are not adequately managed under national, regional, or international conservation frameworks. As a result, the current fishing practices risk undermining obligations under CITES, IOTC resolutions, and the FAO Code of Conduct for Responsible Fisheries.

Between 2003 and 2012, URT reported the second-largest shark catch among the ten Western Indian Ocean (WIO) states under the Nairobi Convention—contributing 26.5% of the reported catch to the FAO (FAO, 2015). URT's mean annual shark catch exceeded 5,500 metric tons during this period. However, total removals are likely significantly underestimated, with actual catches estimated to be up to 77% higher than those officially reported (Jacquet et al., 2010; Bultel et al., 2015) . Moreover, the lack of

data on shark and ray bycatch, and the absence of reporting on discarded or unutilised incidental catches, further hinders sustainable management (Everett et al., 2015). While URT exerts a notable regional impact on chondrichthyan populations, particularly in the WIO, this influence is poorly documented and governed by weak legislative and regulatory frameworks.

2.1.1. Artisanal fisheries

Artisanal fishers in the United Republic of Tanzania (URT) operate traditional vessels ranging from non-motorised dugout canoes (approx. 3 m) to 11 m boats with inboard engines (Silas, 2022). Fishing activities are typically conducted within 8 km of the anchorage point, primarily around reef areas. Commonly used gears include manually operated drift nets, anchored gillnets, ring nets, hand lines, and bottom-set longlines (MLF, 2018). These methods are broadly non-selective for sharks, though catch composition varies with depth and location.

The most recent frame survey identified 9,242 vessels and 53,035 artisanal fishers (MLF, 2018) . Targeted chondrichthyan fishing employs bottom-set gillnets—locally called Jarife—up to 450 m in length with mesh sizes between 20–40 cm, alongside longlines and handlines. Incidental catches also occur via drift and bottom-set gillnets.

In 2024, the artisanal tuna fishery reported 23.68 mt of shark landed to the IOTC, compared with 5,407 mt of tuna and 702.91 mt of swordfish (URT, 2024 National Report to IOTC-SC). Historical records from Zanzibar document evolving catch profiles. Interviews in the 1990s identified 26 shark species (Shehe & Jiddawi, 1997), while surveys in 2004 recorded 16 species, including Carcharhinus amblyrhynchos, C. macloti, C. obscurus, Rhizoprionodon acutus, and Squatina africana (Schaeffer, 2004) . However, catch surveys from 2019–2023 across Mainland Tanzania and Zanzibar revealed 72 chondrichthyan species—67% of confirmed URT species (van Beuningen et al., 2023). Notably, S. africana, once dominant in the 1990s, was not observed in recent records (WCS, unpublished).

Regional catch composition varied: in Mainland Tanzania and Unguja Island, whiprays (Maculabatis ambigua, Himantura uarnak) and scalloped hammerhead sharks (Sphyrna lewini) were most prevalent. On Pemba Island, bluespotted maskray (Neotrygon caeruleopunctata) and silky sharks (Carcharhinus falciformis) dominate. Threatened species comprised 44% of catches in Mainland sites, 47% in Unguja, and 53% in Pemba (WCS, unpublished). Many CMS, CITES-listed, and IOTC-prohibited species are also present in catches across URT, highlighting the need for continued species-level monitoring and reinforced conservation and management measures.

2.1.2. Industrial fisheries

The industrial fishing sector in URT's Exclusive Economic Zone (EEZ) is predominantly

dominated by Distant Water Fishing Nations, employing large-scale longline and purse-seine vessels with a primary focus on tuna extraction from the subsurface and surface levels, respectively—these methods of fishing result in the unintended capture of Chondrichthyes species as bycatch. The industrial fishery reported 4.11mt (Unpublished data DSFA, 2024) of incidental catches of sharks in 2023. Despite regulatory provisions mandating the reduction of bycatch, inadequate comprehensive monitoring poses challenges to enforcement. The effective tracking of industrial fishing operations within URT's EEZ is hindered by insufficient infrastructure and monitoring resources, making it difficult to ascertain the extent of foreign vessel activities in deep offshore waters.

Consequently, ensuring comprehensive control over fishing activities becomes improbable, leading to instances of non-compliance with regulations. Documented evidence reveals occurrences of illegal fishing by foreign fleets operating within URT's EEZ. These activities include unauthorised exploitation of marine resources, contravening national regulations, and undermining sustainable fishing practices (Chimungeni-Brassington et al. 2016) . To address these challenges, the URT is striving to strengthen monitoring and enforcement mechanisms within its maritime jurisdiction by upgrading its monitoring tools and equipment including Vessel Monitoring System (VMS), Automatic Identification System (AIS), Installation of Electronic Monitoring cameras in flag vessels and deployment of qualified Fisheries Observers on board fishing vessels, and enhancing collaboration with international partners to combat illegal fishing activities effectively. Additionally, capacity-building initiatives are enhanced for local fisheries management authorities to improve their ability to monitor and regulate fishing operations even within the territorial waters where sharks are caught.

2.2. MONITORING AND REPORTING

URT fisheries are monitored for catch and effort using catch returns, creel surveys, voluntary monitoring, interviews, observers, or frame surveys; also, some biological monitoring for species compositions, lengths and weights, size composition, reproductive states, and otolith collection is carried out (Silas 2022). The collection of fisheries statistics in URT began in the 1960s, recording the catch of every vessel in several villages and extrapolating monthly catches using a frame survey of vessels and gear to obtain annual estimates (Nhwani 1980) . Despite improvements in data collection in the late 1980s, data remained underreported and/or unreported, due to separate systems of reporting between agencies involved in data collection. As a result, the reconstructed total marine catch in URT from 1950 to 2010 was 77% higher than that reported to the FAO (Jacquet et al. 2010) .

Artisanal fishery catch data collection is mandatory under the Fisheries Regulations Act of 2009. Data is collected via a Catch Assessment Survey (CAS), which is designed to function across a large area with scattered landing sites and limited personnel. However, this system has faced significant challenges. Historically, data has been underreported; a reconstruction of total marine catch from 1950 to 2010 was 77% higher than the official figures reported to the FAO (Jacquet et al. 2010).

A major weakness has been the lack of species-specific data. Before 2015, the CAS grouped all chondrichthyans as a single category of “sharks and rays,” preventing any meaningful species-level analysis. Since 2017, a collaborative project involving WCS, TAFIRI, and CORDIO-East Africa has led to improvements, with some common species now recorded at the species level.

Despite this progress, the reliance on Swahili common names, which can apply to multiple species within the same genus, continues to pose challenges for accurate reporting and meeting regional data requirements.

2.3. STATUS OF BIOLOGICAL AND ECOLOGICAL KNOWLEDGE

Research on chondrichthyans (sharks, rays, and chimaeras) in Tanzania has historically been limited and remains sparse in comparison to neighbouring countries in East Africa. Most of the published studies to date have focused on shark fisheries, trade dynamics, and large charismatic species, while basic biological and ecological information on many species remains incomplete or absent.

One of the earliest efforts to document marine species in Tanzania was Bianchi's (1985) field guide, which listed at least 26 shark species and 18 ray species in Tanzanian waters. However, more recent assessments estimate the presence of at least 62 shark species and 42 ray species within the country's exclusive economic zone, although the actual number is likely higher (WCS unpublished data; SMARTCAS database). The limited taxonomic studies available suggest that current species inventories are incomplete, particularly for deep-sea and less conspicuous species.

There have been no formal stock assessments or population studies conducted for most chondrichthyans in Tanzania. Research efforts have largely focused on species of high economic or conservation concern. Notably, the endangered whale shark (Rhincodon typus) is known to aggregate off Mafia Island and Zanzibar, with studies documenting their seasonal presence and movement patterns (Rowat, 2007; Potenski, 2008; Cagua et al., 2015; Rohner et al., 2015; Rohner et al., 2020). Another key area of research has been the assessment of sawfish (Pristis pristis) populations. Using local ecological knowledge, Braulik et al. (2020) documented a significant decline in sawfish populations and identified the Rufiji Delta as a potential nursery area for the largetooth sawfish, although further validation is required.

In a global comparative study, MacNeil et al. (2020) used baited remote underwater video (BRUV) to assess reef shark populations and found Tanzania to have among the lowest reef shark abundances recorded globally. Other unique records from Tanzania include the observation of the scalloped hammerhead (Sphyrna lewini) at a depth of 1,042 meters during a hydrocarbon exploration survey in the Ruvuma Basin—the deepest recorded observation of this species to date (Moore & Gates, 2015). Genetic studies have also contributed valuable insights into the population structure and connectivity of key species. Pirog et al. (2019a; 2019b) used genetic samples from specimens collected in Zanzibar to demonstrate high population connectivity of bull sharks (Carcharhinus leucas) across the Western Indian Ocean and tiger sharks (Galeocerdo cuvier) across the Indian Ocean basin. More recently, Groeneveld et al. (2024) conducted regional genetic assessments of wedgefishes (Rhynchobatus australiae and R. djiddensis) using samples from Zanzibar, contributing to a growing understanding of their population structures.

Despite these efforts, Tanzania still lacks comprehensive data on reproductive areas, critical habitats, seasonal movements, and species-specific catch composition for most chondrichthyan species. The absence of such information continues to hinder the development of effective, science-based conservation and management measures.

2.4. BIODIVERSITY AND CONSERVATION STATUS

2.4.1. Biodiversity

In Tanzania, current records identify 98 confirmed chondrichthyan species (Bennett et al. 2022), comprising 57 shark species from 23 families, 40 batoid species from 12 families, and one species of chimaera. An additional seven shark species and five batoid species are suspected to occur in Tanzanian waters, although these have yet to be officially verified (Bennett et al. 2022). Among WIO nations, Tanzania ranks fourth in chondrichthyan species richness, following South Africa, Mozambique, and Madagascar. The most prevalent shark family in Tanzania is Carcharhinidae (requiem sharks), with 19 species reported. Other shark families are represented by three or fewer species. Among batoids, Dasyatidae (whiptail stingrays) and Mobulidae (manta and devil rays) dominate, with 13 and seven species respectively.

Tanzania is home to at least one confirmed endemic chondrichthyan species, the Zanzibar guitarfish (Acroteriobatus zanzibarensis), although further taxonomic research is necessary to determine the full extent of its distribution. The recently described Anna's sixgill sawshark (Pliotrema annae) has so far only been observed around Zanzibar, though related specimens from Kenya and Somalia suggest it may have a broader range (Weigmann et al. 2020). Additionally, the Andaman legskate (Cruriraja andamanica), typically found in the Andaman Sea, has been recorded from a single specimen collected off Tanzania's coast (McEachran and Fechhelm 1982), but this occurrence still requires formal confirmation (Last et al. 2016c). Furthermore, 12 other species found in Tanzania are considered endemic to the WIO (Bennett et al. 2022).

Surveys of artisanal fisheries have also led to the identification of at least 17 previously unrecorded chondrichthyan species in Tanzanian waters (Temple et al. 2019; WCS unpublished data), although these findings await verification. Since 2011, 26 new chondrichthyan species have been formally described from the WIO, with seven of these confirmed to occur in Tanzania. These include Bythaelurus tenuicephalus (Narrowhead catshark), Carcharhinus humani (Human's whaler shark), Maculabatis ambigua (Baraka's whipray), Neotrygon caeruleopunctata (bluespotted maskray), Pliotrema annae, Pristiophorus nancyae (African dwarf sawshark), and Rhinobatos austini (Austin's guitarfish). Given the limited taxonomic studies conducted in the region, it is highly probable that additional, yet-undocumented chondrichthyan species occur within Tanzania's marine ecosystems.

2.4.2. Conservation Status of Chondrichthyans

Chondrichthyan populations in Tanzania have been under increasing pressure for several decades. Signs of overexploitation were already evident by the 1990s, with early reports documenting declining catch rates (Shehe and Jiddawi 1997). This trend has continued, and local fishers in Zanzibar have repeatedly attributed the noticeable reduction in shark catches to excessive fishing pressure—both legal and illegal (Schaeffer 2004; Barrowclift et al. 2017). These observations are supported by growing evidence that various fisheries, along with the ongoing demand from the shark fin trade, are negatively affecting chondrichthyan populations in Tanzanian waters. Combined with the inherently slow biological productivity of many sharks and rays—characterised by late maturity, slow growth, and low reproductive output—these pressures have led to the depletion of several species across the country's marine ecosystems. As a result of this sustained exploitation, Tanzania is now home to a significant number of threatened chondrichthyan species. According to the IUCN Red List (2021), 55 out of the 98 confirmed

species found in the country—approximately 56%—are currently at risk of extinction. This includes 25 species assessed as Vulnerable, 20 as Endangered, and 10 as Critically Endangered. Such high levels of threat underscore the urgent need for targeted conservation actions and stronger fisheries management.

While the majority of threatened species are not unique to Tanzania, a few are of particular conservation concern due to their limited distribution. Among the 14 chondrichthyan species found in Tanzania that are endemic to the Western Indian Ocean (WIO), two are listed as threatened: Acroteriobatus leucospilus (Endangered) and Pseudoginglymostoma brevicaudatum (Critically Endangered). In addition, Acroteriobatus zanzibarensis, believed to be the only species endemic to Tanzania, is currently classified as Near Threatened, while Pliotrema annae, another species that may be locally endemic, remains Data Deficient due to insufficient information.

One of the most alarming cases is that of the largetooth sawfish (Pristis pristis), a species that was once widespread in Tanzanian waters but has since undergone dramatic population declines. It is now listed as Critically Endangered. A nationwide assessment conducted by Braulik et al. (2020) found no evidence of the species in landings or field observations since 2014. This absence raises the possibility that P. pristis may now be locally extinct in Tanzania, echoing its disappearance from South African waters (Everett et al. 2015). Together, these findings reflect a worrying conservation outlook for Tanzania's chondrichthyans. Continued overexploitation, limited species-specific protections, and data deficiencies present significant barriers to effective conservation. Targeted research, enhanced monitoring, and strengthened enforcement of fishing regulations are urgently needed to halt further population declines and secure the future of these ecologically important species.

2.5. INTERNATIONAL TRADE

Authorities in both Mainland Tanzania and Zanzibar collect some level of data on shark and ray trade at the national level. However, the full extent of the trade chain—particularly for shark fins, meat, and other chondrichthyan products

					Threatened			
Country	NE	DD	LC	NT	VU	EN	CR	Total
ABNJ	3	8	20	6	7	11	1	19
Comoros	0	4	2	6	14	9	3	26
La Reunion	0	4	5	10	15	8	6	29
Mayotte	0	2	5	7	18	14	4	36
Kenya	0	9	12	11	21	16	10	47
Madagascar	3	15	17	17	28	21	7	56
Mauritius	1	4	8	11	15	11	6	32
Mozambique	3	15	31	17	29	24	12	65
Seychelles	0	14	9	10	24	17	5	46
Somalia	0	7	10	13	21	18	8	47
South Africa	2	14	40	22	37	29	11	77
Tanzania	0	14	15	14	25	20	10	55
WIO Total	6	37	64	28	44	32	13	89
Grand Total	18	155	529	124	180	121	90	391

By country, including Tanzania, in the Western Indian Ocean and globally (IUCN 2021).

ANBJ: areas beyond national jurisdiction; **CR**: Critically Endangered; **EN**: Endangered; **VU**: Vulnerable; **NT**: Near Threatened; **LC**: Least Concern; **DD**: Data Deficient. **Total Threatened** = sum of CR, EN and VU. Categories presented are for global IUCN assessments.

Figure 1. Numbers of chondrichthyan species classified in each IUCN Red List Category, by country, including Tanzania, in the Western Indian Ocean and globally (IUCN 2021).

—remains inadequately documented (Jiddawi 2015). While there has been a noticeable decline in the shark fin trade in Zanzibar in recent decades, attributed partly to the declining availability of targeted species, evidence suggests that illegal trade persists across borders, particularly with Kenya and Mozambique (Bennett et al. 2022). In such instances, shark and ray products are often smuggled across borders concealed among other fishery products to evade detection.

Historically, the most highly valued products have included the 'white' fins of species such as wedgefishes (Rhynchobatus spp.) and the Zanzibar guitarfish (Acroteriobatus zanzibarensis), which continue to be among the most exploited chondrichthyan species in Tanzania. Recent DNA barcoding studies conducted in Tanzanian markets have confirmed that a significant portion of the shark fin trade comprises species that are either threatened or listed under CITES. These findings underscore the need for enhanced monitoring of species composition within the domestic and export trade (Bennett et al. 2022).

Although Tanzania does not officially import shark and ray products, and there are no official records of CITES-listed chondrichthyan species being exported, the absence of a regulated import system means there is limited oversight. Existing trade monitoring mechanisms are hampered by a lack of standardised reporting, institutional coordination, and technical capacity for species identification and traceability.

Recent initiatives, including training in DNA barcoding and development of traceability tools, are beginning to address these gaps. However, more investment is needed to build national capacity in trade regulation and enforcement. Strengthening data collection, increasing awareness among customs and border officials, and aligning domestic trade measures with international obligations—particularly under CITES and the IOTC—will be essential steps in ensuring the sustainable and legal trade of shark and ray products from Tanzania.

2.6. SOCIO-ECONOMIC AND CULTURAL ENVIRONMENTS

Sharks and rays are integral to the socio-economic and cultural fabric of Tanzania's coastal communities. They are a vital source of protein and income, with meat, fins, and oil being highly valued products in both artisanal and commercial fisheries. The oil, for instance, is traditionally used as an anti-fouling agent for wooden fishing vessels.

Culturally, sharks hold significant spiritual meaning in some communities, where they are revered as sacred or connected to ancestral spirits, leading to taboos against killing them. However, this reverence coexists with economic exploitation driven by high demand, which threatens both the species and the marine ecosystems they support.

This creates a complex dynamic for conservation. While policies to regulate fishing (e.g., finning bans) and protect habitats (e.g., MPAs) are in place, they often conflict with the immediate livelihood needs of local fishers. Balancing conservation with economic realities is a central challenge. The growth of marine ecotourism, particularly shark and ray diving trips in areas like Mafia and Zanzibar, offers a promising, non-extractive economic alternative, but requires community support and robust infrastructure to be a viable substitute for fishing.

3. LEGAL, AND INSTITUTIONAL FRAMEWORKS

The NPOA - Sharks and Rays aligns with national, regional, and global development frameworks and is guided by legal and institutional frameworks at these three levels. These frameworks ensure the NPOA - Sharks and Rays meets international standards while addressing local and regional needs. However, Successful implementation of the NPOA - Sharks and Rays relies on strong partnerships and collaboration among all stakeholders, including government agencies, private sector actors, fishing communities, and international organisations. These linkages are critical for coordinating key intervention measures by leveraging inter-sectoral linkages which aim to create a sustainable and competitive fisheries sector that contributes to food security, economic growth, and environmental conservation. The plan's success ultimately depends on the collective efforts of all stakeholders, guided by a shared vision and commitment to sustainable fisheries conservation and management.

3.1. NATIONAL LEGISLATIONS

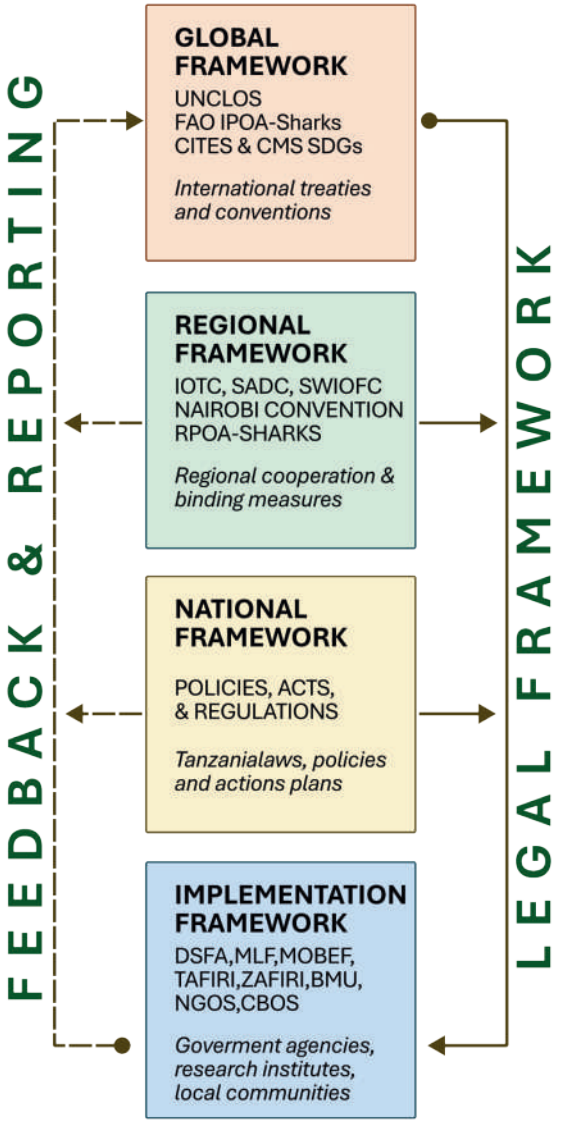
In the URT, the management of shark populations across both the Mainland Tanzania and Zanzibar is governed by a comprehensive array of national legislation and other legal frameworks. These frameworks serve as the backbone for regulating fishing activities and ensuring the conservation of marine resources, including sharks. They govern fishing practices in their respective territorial waters, ensuring that shark conservation measures are implemented across all maritime zones of URT. They promote responsible and sustainable fishing through provisions such as the prohibition of shark finning, mandatory landing of sharks with fins naturally attached, restrictions on discarding dead sharks at sea, and requirements for the safe release of live sharks when possible.

The Fisheries Act (No. 22 of 2003) (Mainland Tanzania): This Act regulates the exploitation of fishery resources, including licensing, gear control, and catch limits. It provides the legal basis for management plans and conservation measures for specific species, including sharks and rays, setting standards to ensure the long-term viability of their populations.

The Fisheries Act (No. 7 of 2010) (Zanzibar): This Act governs marine and inland fisheries in Zanzibar, with provisions for managing threatened and vulnerable species, including sharks. It encourages ecosystem-based and precautionary approaches and outlines measures for the conservation and sustainable use of marine resources within Zanzibar's jurisdiction.

The Marine Parks and Reserves Act (1994): This Act establishes the legal framework for creating and managing marine parks and reserves. While not specific to sharks, it is critical for their conservation by enabling the designation of protected areas where activities like fishing are restricted. These sanctuaries help reduce threats from overfishing and habitat degradation, supporting the long-term survival of sharks.

The Marine Conservation Unit Regulations of 2014: play an important role in shark and ray management by establishing guidelines for the creation and governance of Marine Conservation Areas (MCAs) in Zanzibar. These regulations prohibit destructive fishing practices such as the use of explosives, poison, and harmful gears that often result in high bycatch, including sharks and rays, or lead to habitat degradation. By protecting essential marine habitats—such as coral reefs, seagrass beds, and mangroves—that serve as critical breeding and nursery grounds for many shark species, the regulations help maintain healthy ecosystems that support shark populations. The regulations also promote habitat restoration through coral planting and mangrove reforestation, enhancing ecological resilience. Enforcement is supported through community-led patrols and the deployment of rangers, while public awareness and education initiatives help reduce both targeted and accidental shark catches. Collectively, these measures contribute to the holistic conservation of sharks and rays by minimizing threats, preserving habitats, and promoting sustainable community-based management practices within Zanzibar's coastal and marine zones.



The Deep-Sea Fisheries Management and Development Act (2020): This Act and its 2021 regulations provide the legal foundation for managing fisheries resources in the Exclusive Economic Zone (EEZ). Administered by the Deep-Sea Fishing Authority (DSFA), it applies to all fishing activities beyond territorial waters. The regulations directly support shark conservation by prohibiting finning (requiring fins to be naturally attached), banning the discard of dead sharks at sea, and mandating the safe release of live sharks caught unintentionally.

The Territorial Sea and Exclusive Economic Zone Act (1989): This Act defines the maritime boundaries of the URT and establishes legal authority over activities within these zones, including the regulation of shark fishing.

The Wildlife Conservation Act (No. 5 of 2009): This Act contributes to shark conservation by extending legal protection to all wildlife, including marine fauna within protected areas. It grants the government authority to declare species as protected, regulate their capture and trade, and establish marine reserves, indirectly supporting shark conservation by safeguarding habitats.

The Zanzibar Forest Resources Management and Conservation Act (No. 10 of 1996): This Act provides the legal basis for managing Zanzibar's biodiversity. It empowers authorities to regulate the exploitation and trade of wildlife resources, which supports the protection of shark habitats, particularly coastal and mangrove areas that serve as nurseries.

The CITES Regulations (2019) (Zanzibar): These regulations operationalize the Convention on International Trade in Endangered Species (CITES) in Zanzibar. They detail procedures for issuing permits, enforcing trade restrictions, and monitoring CITES-listed species, including many sharks and rays, ensuring that any trade is legal, traceable, and non-detrimental to wild populations.

The Environmental Management Act (No. 20 of 2004): This Act provides a comprehensive framework for environmental protection. While not specific to sharks, it contributes to their conservation by mandating the protection of biodiversity and ecosystems, requiring Environmental Impact Assessments (EIAs) for projects affecting marine environments, and promoting integrated coastal zone management.

The Zanzibar Environmental Management Act (2015): This Act provides a broad legal framework for environmental protection in Zanzibar, including the conservation of marine ecosystems. It supports the overall health of marine environments by addressing pollution, ecosystem protection, and sustainable resource use, thereby indirectly contributing to the protection of shark populations.

3.2. NATIONAL POLICIES

Recognizing increasing threats to shark populations from overfishing, bycatch, and illegal trade, these National Policy Framework brings together efforts from Mainland Tanzania, Zanzibar, and the Deep-Sea Fishing Authority (DSFA) to guide the sustainable conservation and management of sharks. It aligns with national, regional, and global commitments to ensure the protection of shark species for present and future generations.

The Wildlife Policy of Tanzania (1998): This policy aims to sustainably manage and conserve the nation's wildlife resources, while ensuring that wildlife conservation competes with other land uses and contributes to economic development and poverty alleviation. It promotes stakeholder participation, fair benefit sharing, and the exchange of information and expertise.

The National Fisheries Policy (2015): This policy recognizes the importance of conserving vulnerable and endangered species, including sharks. It promotes the sustainable management of shark populations through measures such as regulation of fishing practices, protection of critical habitats, and alignment with international agreements.

The Zanzibar Fisheries Policy (2022): This policy addresses shark management through its broader goals of marine biodiversity conservation and sustainable fisheries. It promotes the protection of critical shark habitats, supports the expansion of no-fishing zones, and strengthens monitoring systems to combat illegal fishing and reduce bycatch.

The National Blue Economy Policy (2024): This policy includes shark conservation within its broader emphasis on

sustainable fisheries and marine ecosystem protection. It highlights the establishment and enforcement of Marine Protected Areas (MPAs), coral reef restoration, and improved fisheries management as key tools to conserve marine biodiversity.

The Zanzibar Blue Economy Policy (2022): This policy explicitly calls for the sustainable use of marine biodiversity and the strengthening of scientific research and stock assessments. While it does not reference sharks by name, its provisions for ecosystem-based management and habitat protection inherently support shark conservation.

The National Fisheries Sector Master Plan (2021/22–2036/37): This long-term strategy for Mainland Tanzania incorporates shark conservation through its adoption of the Ecosystem Approach to Fisheries and Aquaculture. It calls for improved research, data collection, and monitoring systems and prioritizes strengthening Monitoring, Control, and Surveillance (MCS) to combat IUU fishing.

The Zanzibar Fisheries Master Plan (2023–2038): This plan promotes sustainable fisheries governance and the conservation of marine biodiversity. It supports shark conservation through ecosystem-based management, improved stock assessments, the expansion of MPAs, and the restoration of critical habitats.

The Tanzania Development Vision 2050: This vision emphasizes sustainable development, including the expansion of MPAs and the conservation of marine biodiversity to support fisheries and ecosystem health. These measures indirectly contribute to shark protection by preserving essential habitats and reducing unsustainable fishing impacts.

The Zanzibar Development Vision 2050: This long-term plan highlights the "blue development" pillar, aiming for sustainable and responsible management of marine and coastal resources. The call for intensified research and ecosystem-based planning inherently supports shark conservation through habitat protection and sustainable harvest policies.

3.3. REGIONAL LEGAL FRAMEWORK.

In the Western Indian Ocean, Shark species face mounting pressures from overexploitation, habitat degradation, and unregulated trade. As highly migratory and ecologically important species, their conservation requires coordinated regional action. These Regional legal frameworks provide a unified approach for countries in the Western Indian Ocean to sustainably manage and protect shark populations. They draw on shared commitments under regional instruments and global conventions, promoting collaboration, science-based management, and strengthened monitoring to ensure the long-term survival of sharks and the health of marine ecosystems.

The Regional Plan of Action for Sharks (RPOA-Sharks): This collaborative framework, adopted by countries in the Southwest Indian Ocean, implements the FAO's IPOA-Sharks at a regional level. It guides member states in assessing populations, identifying critical habitats, and adopting management measures to reduce shark mortality. By fostering regional cooperation, the RPOA-Sharks strengthens the ability of countries to manage shared shark populations sustainably.

The Indian Ocean Tuna Commission (IOTC): The IOTC plays a pivotal role through its binding resolutions, which are legally enforceable. Notable examples include prohibitions on finning (requiring fins to be naturally attached) and protection measures for vulnerable species like oceanic whitetip, silky, and thresher sharks. These resolutions reduce wasteful

practices and limit the exploitation of threatened species.

The Nairobi Convention: Administered by UNEP, this convention provides an overarching framework for marine and coastal environmental protection. While not focused exclusively on sharks, it supports ecosystem-based management and the conservation of essential shark habitats like coral reefs, mangroves, and seagrass beds.

The Southern African Development Community (SADC) Protocol on Fisheries (2001): This protocol promotes the conservation and sustainable use of shared fish stocks, explicitly including sharks and rays. It requires member states to apply precautionary and ecosystem-based approaches, harmonise policies, and cooperate on enforcement to combat IUU fishing.

The Southwest Indian Ocean Fisheries Commission (SWIOFC): Established by the FAO, SWIOFC facilitates regional coordination in fisheries governance. It provides technical guidance, promotes ecosystem-based management, and assists with data collection and stock assessments, helping countries implement the RPOA-Sharks and comply with international agreements.

3.4. GLOBAL LEGAL FRAMEWORK

The conservation and management of sharks and rays extend beyond national and regional efforts, relying heavily on global legal instruments that establish international standards and obligations. These include binding multilateral treaties and influential soft-law frameworks that regulate international trade, safeguard migratory species, and promote sustainable fishing practices worldwide. As a signatory to several of these global agreements, Tanzania is committed to implementing measures that fulfill its international responsibilities, actively contributing to the global mission of biodiversity conservation and responsible stewardship of marine resources, Key among these frameworks are;

The FAO International Plan of Action for Sharks (IPOA-Sharks, 1999): This voluntary instrument, developed by the Food and Agriculture Organization (FAO), is the principal global framework for shark conservation. It calls on all states whose fisheries catch sharks to develop and implement a National Plan of Action (NPOA) to ensure the conservation and sustainable management of these species. It provides the foundational rationale for this entire document.

The Convention on International Trade in Endangered Species (CITES, 1973): CITES is a legally binding treaty that regulates international trade in endangered species to prevent it from threatening their survival. Many shark and ray species are listed under Appendix II, meaning their trade is strictly controlled. As a party to CITES, Tanzania is obligated to ensure that any trade in these species is legal, sustainable, and traceable, primarily through the issuance of permits based on scientific Non-Detriment Findings (NDFs).

The Convention on the Conservation of Migratory Species (CMS, 1979): Also known as the Bonn Convention, the CMS provides a legal framework for protecting migratory species, including many sharks and rays that cross international borders. Species are listed under Appendix I (requiring strict protection) or Appendix II (requiring international cooperation). The CMS Sharks Memorandum of Understanding (Sharks-MOU) is a key non-binding instrument under this convention that aims to enhance the conservation of migratory sharks.

The United Nations Convention on the Law of the Sea (UNCLOS, 1982): overarch "constitution for the oceans," governing the rights and responsibilities of states in all uses of marine resources. It obliges states to conserve and manage living marine resources, including highly migratory species like sharks, and to cooperate through regional and global organizations to ensure their sustainability.

The Sustainable Development Goals (SDGs): Adopted by the United Nations in 2015, the SDGs provide a global policy framework for sustainable development. Goal 14 (Life Below Water) specifically calls for the conservation and sustainable use of marine resources. Target 14.4 aims to end overfishing and restore fish stocks, including sharks, through science-based management, reinforcing the objectives of this NPOA.

3.5. INSTITUTIONAL MANAGEMENT AND DEVELOPMENT FRAMEWORK

Successful implementation of this NPOA relies on strong partnerships among government agencies, research institutions, the private sector, civil society, and local communities. The key institutions and their primary roles are outlined below.

3.5.1. National Institutional Framework

A coordinated network of national institutions across Mainland Tanzania and Zanzibar will lead the implementation of this plan:

Policy and Management:

Ministry of Livestock and Fisheries (MLF) (Mainland) & Ministry of Blue Economy and Fisheries (MBEF) (Zanzibar): Provide overall policy direction, legal oversight, and management for fisheries in territorial waters.

Deep Sea Fishing Authority (DSFA): Manages and regulates all fisheries resources in the Exclusive Economic Zone (EEZ), enforces IOTC resolutions, and spearheads the coordination of this NPOA.

Vice President's Office (VPO) - Division of Environment: Oversees national environmental policy and compliance, including the implementation of the Environmental Management Act.

Research and Academia:

Tanzania Fisheries Research Institute (TAFIRI) & Zanzibar Fisheries and Marine Resources Institute (ZAFIRI): Provide the primary scientific advice for management through stock assessments, biological and ecological studies, and monitoring.

University of Dar es Salaam (UDSM) & State University of Zanzibar (SUZA): Contribute through specialised research, academic training, and building national technical capacity.

Conservation and Protected Areas:

Marine Parks and Reserves Unit (MPRU) (Mainland) & Department of Marine Conservation (DMC) (Zanzibar): Manage Marine Protected Areas (MPAs) that serve as critical habitats and refuges for sharks and rays.

Enforcement and Legal:

CITES Management and Scientific Authorities: Regulate and monitor international trade in CITES-listed species, issue permits, and conduct Non-Detriment Findings (NDFs).

Tanzania Revenue Authority (TRA): Monitors and controls the import and export of products at border points, playing a key role in enforcing CITES trade regulations.

Attorney General's Office: Provides legal counsel and guidance on the review and harmonisation

of national legislation with international obligations.

Judiciary and Law Enforcement Agencies: Responsible for the prosecution of fisheries-related offenses and enforcing legal sanctions.

Community and Local Governance:

Local Government Authorities (LGAs): Implement and enforce fisheries regulations at the district and local levels.

Beach Management Units (BMUs) (Mainland) & Shehia Fishery Committees (SFCs) (Zanzibar): Serve as the primary community-level institutions for co-management, monitoring, and stakeholder engagement.

3.5.2. Regional and Global Institutional Framework

Tanzania's efforts are integrated with regional and global bodies that provide legal mandates, technical guidance, and platforms for cooperation:

Regional Fisheries Management and Cooperation:

Indian Ocean Tuna Commission (IOTC): A Regional Fisheries Management Organisation (RFMO) that sets binding conservation and management measures for tuna and associated species, including many sharks.

Southwest Indian Ocean Fisheries Commission (SWIOFC): An advisory body that facilitates regional collaboration on fisheries governance and science.

Southern African Development Community (SADC): Promotes regional integration and cooperation on the conservation of shared fish stocks through its Protocol on Fisheries.

Nairobi Convention: A regional platform for cooperation on the protection and sustainable development of the marine and coastal environment.

Global Conservation and Trade:

Food and Agriculture Organization (FAO): Provides global standards and voluntary instruments, including the Code of Conduct for Responsible Fisheries and the IPOA-Sharks.

Convention on International Trade in Endangered Species (CITES): A legally binding treaty that regulates international trade in threatened species.

Convention on the Conservation of Migratory Species (CMS): An environmental treaty that provides a global platform for the conservation of migratory animals and their habitats.

4. KEY CONSERVATION AND MANAGEMENT ISSUES

Six key issues were identified during the development of this National Plan of Action for the Conservation and Management of Sharks and Rays (NPOA-Sharks). These issues were refined and consolidated following an extensive consultation process and a thorough review of relevant national and regional documents. The following sections detail these key issues, their underlying causes, and their resulting impacts on shark and ray populations and the broader marine ecosystem

4.1. UNSUSTAINABLE EXPLOITATION & INADEQUATE MANAGEMENT

Causes

- Open-access nature of artisanal fisheries leading to high fishing pressure.
- High international demand for shark and ray products (fins, meat, etc.).
- Outdated or ineffective policy, legal, and institutional frameworks.
- Degradation of critical habitats from coastal development and pollution.
- Limited awareness of shark biology and ecological importance

Effects

- Overfishing leading to the decline of shark and ray populations.
- Increased number of species classified as threatened on the IUCN Red List.
- Loss of biodiversity and degradation of marine ecosystem health.
- Negative impacts on food security, income, and livelihoods for coastal communities.
- Weakened national contribution to regional and global biodiversity targets.

4.2. INSUFFICIENT DATA & SCIENTIFIC KNOWLEDGE

Causes

- Inadequate and inconsistent funding for fisheries research and monitoring.
- Weak data collection systems lacking standardized, species-specific protocols.
- Fragmented data management systems hindering access and collaboration.
- Limited technical capacity and training for species identification.
- Poor integration of local and traditional ecological knowledge (LEK/TEK).

Effects

- Poor understanding of population status, life history, and ecological trends.
- Inability to develop and implement effective, science-based management measures.
- Management decisions based on incomplete or inaccurate information.
- Failure to meet data reporting requirements for regional and international bodies.

4.3. DEGRADATION OF CRITICAL HABITATS & THREATS TO VULNERABLE SPECIES

Cause

- Widespread use of non-selective and destructive fishing gear.
- High levels of bycatch of non-target, juvenile, and threatened species.
- Weak enforcement of regulations on bycatch mitigation and finning.
- Physical destruction and pollution of essential habitats (e.g., nurseries).
- Lack of legally protected areas specifically for shark and ray conservation.

Effects

- Accelerated decline of threatened, endangered, and protected species.
- High mortality of juveniles, compromising future population recruitment.
- Permanent loss of critical habitats, reducing ecosystem carrying capacity.
- Reduced long-term productivity and resilience of coastal fisheries.

4.4. PERVASIVE ILLEGAL, UNREPORTED, & UNREGULATED (IUU) FISHING

Causes

- Insufficient Monitoring, Control, and Surveillance (MCS) capacity.
- Limited at-sea and port-side enforcement of fisheries laws.
- High economic incentives for unregulated fishing driven by market demand.
- Lack of viable alternative livelihoods for coastal communities.
- Poor coordination and intelligence sharing among enforcement agencies.

Effects

- Significant loss of government revenue and economic benefits.
- Rapid and unmanaged depletion of shark and ray stocks.
- Undermining of legal fishing operations and conservation efforts.
- Distortion of scientific data, making accurate stock assessments impossible.
- Damage to marine habitats from destructive and illegal fishing practices.

4.5. INADEQUATE STAKEHOLDER ENGAGEMENT & PUBLIC AWARENESS

Causes

- Low public awareness of the ecological roles and conservation status of sharks.
- Limited involvement of local communities in decision-making and management.
- Insufficient communication and outreach programs for fishers and traders.
- Lack of incentives for adopting sustainable practices and complying with regulations.
- Economic factors that prioritize short-term extractive use over long-term conservation.

Effects

- Weak compliance with fisheries regulations and conservation measures.
- Low stakeholder buy-in and support for the NPOA-Sharks.
- Continued unsustainable fishing practices due to a lack of understanding.
- Missed opportunities for non-extractive

economic activities (e.g., ecotourism).

- Difficulty in establishing transparent and traceable seafood supply chains.

4.6. INSUFFICIENT ALIGNMENT WITH INTERNATIONAL & REGIONAL OBLIGATIONS

Causes

- Gaps between national legislation and international agreements (IOTC, CITES, etc.).
- Limited technical and financial capacity to implement international commitments.
- Poor institutional coordination for managing and reporting on treaty obligations.
- Lack of awareness among key stakeholders of Tanzania's global responsibilities.

Effects

- Risk of non-compliance, potentially leading to trade restrictions or sanctions.
- Weakened negotiating position and credibility in regional fisheries bodies.
- Inability to access international funding and technical support.
- Failure to contribute effectively to the management of shared and migratory stocks.

5. ISSUES, STRATEGIC INTERVENTIONS AND ACTIONS

To effectively address the complex challenges surrounding shark conservation and management in Tanzania, this section outlines the key issues identified through national consultations, scientific assessments, and stakeholder inputs. It presents targeted strategic interventions and prioritized actions aligned with international frameworks such as the FAO IPOA-Sharks, UNCLOS, and IOTC resolutions. The goal is to ensure sustainable utilization, strengthen compliance, and enhance national capacity to safeguard shark populations and their habitats.

5.1. STRENGTHENING SUSTAINABLE FISHERIES MANAGEMENT OF SHARKS AND RAYS

Issue 1: Declining shark and ray populations due to overfishing in both targeted and incidental fisheries.

Over the past five decades, shark and ray populations have collapsed due to unsustainable fishing practices in both targeted and bycatch fisheries. Today, more than one-third of all chondrichthyan species face extinction risk, with overfishing cited as the single most ubiquitous threat. Industrial fleet, especially longline vessels, accidentally catch an endangered species such as hammerhead sharks and manta rays at alarming rates, exacerbating ecosystem destabilisation. Critical habitats like coastal nurseries remain inadequately protected, with inconsistent enforcement of science-based measures (e.g., catch limits, size rules, seasonal closures) across jurisdictions. The present practice has led to ongoing declines, loss of apex predators, decreased ocean resilience, and threats to food security and livelihoods that depend on healthy marine ecosystems.

Objective 1: Strengthen Sustainable Fisheries Management by implementing science-based catch limits, size regulations, and seasonal closures to prevent overfishing of sharks and rays in both targeted and incidental fisheries.

Strategic Interventions and Actions

- Establish Science-Based Catch and Size Limits
- Conduct stock assessments for key shark and ray species to determine sustainable yield levels.
- Apply precautionary catch limits for data-deficient species.
- Set and enforce science-based minimum and maximum size limits to protect juvenile and breeding-age sharks and rays.
- Create adaptive management triggers to revise catch and size limits based on new data.

- Reduce Bycatch and Protect Vulnerable Species
- Mandate the use of selective fishing gear (e.g., circle hooks, deep-set longlines) and bycatch reduction technologies.
- Prohibit the retention of all CITES Appendix I listed species and other nationally protected species, mandating safe release protocols.
- Ban destructive fishing methods (e.g., bottom trawling) in sensitive habitats.
- Strengthen gear compliance monitoring through at-sea inspections and port sampling.
- Protect Critical Habitats and Life Stages
- Identify, map, and legally designate critical habitats such as nursery grounds and aggregation sites as protected areas.
- Promote community co-management of seasonal or permanent closures to ensure local compliance and support.
- Monitor ecosystem health and recovery within protected areas using scientific and community-based methods.
- Foster Stewardship and Alternative Livelihoods Provide training and incentives for fishers to adopt sustainable practices.
- Promote and support the development of alternative livelihoods (e.g., ecotourism, aquaculture) in shark-dependent communities.
- Establish and strengthen co-management arrangements that empower local communities in decision-making.
- Build Public Support for Sustainable Shark Fisheries Launch targeted awareness campaigns to reduce consumer demand for unsustainable shark products.
- Educate consumers and retailers about sustainable seafood choices and traceability.
- Promote and celebrate conservation success stories through national media and community events.

5.2. IMPROVE THE INFORMATION AVAILABLE TO INFORM MANAGEMENT OF SHARKS AND RAYS

Issue 2: Insufficient species-specific data quality and availability.

Tanzania, like many other coastal states in the Western Indian Ocean, faces significant challenges related to the collection, availability, and use of comprehensive data and scientific research on sharks and rays. Critical information—such as species-specific catch volumes, biological characteristics, habitat use, and stock assessments—is often incomplete, fragmented, or absent. Existing monitoring systems are limited in scope and are implemented independently by various agencies, resulting in data inconsistency, duplication, and limited accessibility.

In many cases, shark and ray landings are not recorded at the species level, and observer coverage remains low in both artisanal and industrial fisheries. The country also lacks a centralised database and formalised protocols to track shark trade and utilisation, making compliance with CITES and regional measures (such as those from IOTC) difficult. This paucity

of species-specific data hinders the implementation of science-based conservation and management strategies, including the setting of catch limits, identification of critical habitats, and development of bycatch reduction plans.

Without improved data collection, research coordination, and information sharing, Tanzania risks unsustainable exploitation and long-term population declines of sharks and rays, undermining both biodiversity conservation and the resilience of marine ecosystems.

Objective 2: Enhance data collection and research to improve species-specific catch reporting, biological studies, and stock assessments for evidence-based decision-making.

Strategic Interventions and Actions

- Enhance Species-Specific Data Collection Systems
- Assess existing data collection systems to identify gaps and opportunities for harmonisation.
- Develop and implement standardised, species-specific data collection protocols for catch, effort, and bycatch across all fisheries.
- Train enumerators, fisheries officers, and observers in shark and ray identification, biological sampling, and the use of digital data tools.
- Strengthen Monitoring and Observer Programs Expand observer coverage (human and electronic) on industrial and semi-industrial vessels to ensure robust data collection.
- Establish a comprehensive landing site monitoring program for the artisanal sector.
- Implement fishery-independent surveys (e.g., Baited Remote Underwater Video Systems) to supplement catch data.
- Promote Targeted Biological and Ecological Research
- Conduct targeted research on the life history, habitat use, movement patterns, and population structure of priority species.
- Support socioeconomic surveys to assess the role of sharks and rays in local livelihoods and trade networks.
- Encourage and support citizen science initiatives to gather data on sightings, landings, and habitat use.
- Establish a Centralised National Database
- Develop and maintain a centralised national database to integrate all fisheries, trade, research, and enforcement data on sharks and rays.
- Ensure the database is harmonised with other national fisheries information systems and is accessible to relevant stakeholders.
- Strengthen National and International Collaboration
- Align national research priorities and data standards with regional (IOTC, SWIOFC) and global (CITES, CMS) requirements.
- Foster formal partnerships with national and international research institutions, academia, and NGOs for joint studies and data sharing.

5.3. PROTECT THREATENED SPECIES & CRITICAL HABITATS

Issue 3. Increasing threat to shark and ray stocks and their habitats

Sharks and rays in URT marine waters are facing increasing threats from overfishing, habitat degradation, and weak spatial protection, posing a serious risk to their long-term survival and the ecological balance of marine ecosystems.

These species are particularly vulnerable due to their biological traits (such as slow growth, late maturity, and low reproductive rates), which make them highly susceptible to population decline. Despite their critical ecological roles as top predators and ecosystem regulators, sharks and rays are often targeted for their meat, fins, cartilage, and liver oil, or caught incidentally as bycatch in unregulated fisheries.

This exploitation is further exacerbated by the absence of legally designated sanctuary zones or nursery grounds that offer year-round protection during critical life stages. In addition, many of the key habitats essential for the survival of sharks and rays—such as coral reefs, seagrass beds, estuarine systems, and mangrove areas—remain under increasing pressure from coastal development, pollution, destructive fishing practices, and climate change.

The lack of scientific data and spatial mapping of shark and ray habitats further hinders evidence-based decision-making and prioritization for conservation. While URT has made progress in establishing Marine Conservation Areas (MCAs), Marine Protected and Reserve Areas (MPRAs), most do not explicitly focus on shark and ray protection or critical life-stage habitats. The fragmented approach to marine spatial planning, combined with limited enforcement and community engagement, undermines the effectiveness of existing protected areas. Addressing this issue requires urgent, coordinated action to identify and legally establish marine protected areas and nursery habitats that specifically target the conservation needs of endangered sharks and rays, while integrating them into broader marine biodiversity strategies and co-management systems.

Objective 3: Protect threatened species and critical habitats by identifying and designating marine protected areas (MPAs) and nursery grounds for endangered sharks and rays.

Strategic Interventions and Actions

- Identify and Map Critical Habitats
- Undertake ecological surveys to identify and map key breeding, nursery, and feeding habitats for priority shark and ray species.
- Integrate local ecological knowledge from fishers and communities to validate and refine habitat maps.
- Incorporate identified shark and ray hotspots into national and regional marine spatial planning frameworks.
- Strengthen and Expand Marine Protected Areas (MPAs)
- Review and upgrade existing MPA management plans and boundaries to explicitly include protections for sharks and their habitats.
- Establish new MPAs or other effective area-based conservation measures (OECMs) to protect newly identified critical habitats.
- Ensure the MPA network aligns with national biodiversity targets and international commitments (e.g., CBD, SDGs).
- Enhance Community Participation and Co-management
- Develop and support site-based co-management initiatives with Beach Management Units (BMUs) and Shehia Fishery Committees (SFCs).
- Provide training and tools to empower community members to participate in monitoring and surveillance activities.
- Facilitate regular community forums to ensure transparent and inclusive

decision-making in MPA governance.

- Strengthen Enforcement within Protected Areas
- Enhance surveillance within MPAs using a combination of technology (e.g., drones, remote sensing) and regular joint patrols.
- Provide targeted training for enforcement personnel on MPA regulations, species identification, and conflict resolution.
- Collaborate with law enforcement and the judiciary to ensure effective prosecution of violations within MPAs.
- Secure Sustainable Financing for MPA Management
- Establish MPA trust funds or other conservation finance mechanisms in collaboration with development partners and the private sector.
- Develop and promote sustainable ecotourism enterprises (e.g., shark diving) that generate revenue for conservation and local communities.

5.4. ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING

Issue 4: The Threat of IUU Fishing

Illegal, Unreported, and Unregulated (IUU) fishing poses a severe threat to shark and ray populations in Tanzania. It undermines management efforts, leads to significant revenue loss, and contributes to the rapid depletion of stocks. IUU activities are driven by weak Monitoring, Control, and Surveillance (MCS) systems, high demand for shark products, and limited livelihood alternatives in coastal communities. This is compounded by weak enforcement of existing laws, insufficient inter-agency coordination, and inadequate resources for patrols and monitoring. Without robust interventions to combat IUU fishing, all other conservation efforts are at risk of being ineffective.

Objective 4: Minimise bycatch and Illegal, Unreported, and Unregulated (IUU) Fishing by promoting bycatch reduction technologies and enforcing anti-finning regulations.

Strategic Interventions and Actions

- Strengthen Monitoring, Control, and Surveillance (MCS)
- Enhance at-sea and port-side inspections for both industrial and artisanal fisheries.
- Strengthen the capacity of the Multi-Agency Task Team (MATT) to coordinate anti-IUU operations.
- Mandate the use of Vessel Monitoring Systems (VMS) and Automatic Identification Systems (AIS) on all industrial and semi-industrial vessels.
- Conduct regular joint surveillance patrols involving national and local enforcement agencies.
- Implement and Enforce Bycatch Reduction Measures
- Develop and implement regulations mandating the use of bycatch reduction technologies (e.g., circle hooks, LED lights, excluder devices).
- Conduct research and pilot studies on the effectiveness of new and innovative bycatch mitigation gear.
- Provide training and incentives for fishers to adopt bycatch reduction practices and technologies.
- Enhance the Legal and Enforcement Framework to Combat IUU Review and strengthen national legislation to ensure penalties for IUU fishing are a sufficient deterrent.
- Strictly enforce the "fins-naturally-attached" policy for all landings and transshipments. Improve prosecution rates for fisheries offenses through targeted training for legal and judicial

officers. Maintain and share a national list of vessels confirmed to be involved in IUU fishing.

- Improve Information Sharing and Traceability
- Develop and implement a national traceability system for all shark and ray products to track them from catch to market.
- Strengthen inter-agency data and intelligence sharing protocols to better target IUU activities.
- Enhance regional cooperation on MCS and information sharing to combat cross-border IUU fishing.

5.5. STAKEHOLDER ENGAGEMENT, COMPLIANCE, AND PUBLIC AWARENESS

Issue 5: Limited stakeholder engagement, weak compliance, and low public awareness on sharks and rays in Tanzania

Despite the existence of regulatory frameworks and conservation measures, implementation on the ground is undermined by insufficient coordination among stakeholders, low enforcement capacity, and a general lack of awareness and understanding of the ecological and economic importance of sharks and rays. Fishers, traders, and even local enforcement officers often lack the training and tools necessary to identify species, understand legal protections (such as CITES listings), and apply best practices in handling and reporting catches.

Community-based surveillance and participatory management efforts remain underdeveloped, and compliance is often informal or inconsistent. This weakens national efforts to reduce illegal fishing, bycatch, and trade in protected species, hindering Tanzania's ability to meet regional and international conservation obligations. Without stronger stakeholder collaboration, training, and behaviour change, sustainable shark and ray management remains unachievable.

Objective 5: Strengthen stakeholder engagement and compliance by fostering collaboration among fishers, traders, scientists, and enforcement agencies through training, awareness campaigns, and participatory management.

Strategic Interventions and Actions

- Build Capacity Among All Stakeholders Conduct regular training workshops for fishers, traders, BMUs, SFCs, and local officers on species identification, legal frameworks, and best practices.
- Develop and disseminate training materials, including field guides and regulatory manuals, tailored for local use.
- Organise specialised capacity-building for customs, port, and judicial officers on enforcing trade regulations, including CITES provisions.
- Improve communication, coordination, and collaboration
- Establish a multi-stakeholder National Shark Working Group to guide and monitor the implementation of this NPOA.
- Convene regular stakeholder forums at national and local levels to align objectives and share knowledge.
- Raise Awareness and Promote Behavioural Change Develop and run multi-platform public awareness campaigns (radio, social media, community events) on the importance of sharks and rays.
- Integrate shark and ray conservation into school curricula and community education initiatives. Engage local communities in participatory data

collection and surveillance to foster ownership.

- Promote Community-Led Compliance and Co-management
- Support the development and gazettement of community bylaws that include specific protection measures for sharks and rays.
- Establish and train community surveillance teams to enable joint patrols with enforcement agencies.
- Introduce recognition and incentive programs (e.g., eco-labelling, grant support) for communities demonstrating effective conservation.
- Monitor and Evaluate Engagement Efforts Establish baseline data on stakeholder knowledge, attitudes, and practices.
- Use surveys and feedback tools to assess the effectiveness of campaigns and training.
- Develop clear indicators to track participation and compliance trends over time.

5.6. GLOBAL AND REGIONAL CONSERVATION AND MANAGEMENT FRAMEWORKS

ISSUE 6. Inadequate compliance with global and regional conservation and management frameworks.

Effective conservation of sharks and rays requires coordinated efforts that go beyond national boundaries. To ensure the long-term sustainability of these vulnerable species, Tanzania must align its management and conservation strategies with key regional and international frameworks. This includes compliance with CITES listings, adherence to CMS agreements, and implementation of the FAO International Plan of Action for Sharks (IPOA-Sharks) by developing a National Plan of Action for Sharks and Rays (NPOA-Sharks).

Addressing these issues requires a stronger integration of global standards into national policy and legislation, improved reporting and data collection systems, and institutional coordination to fulfil obligations under CITES, CMS, and IPOA-Sharks. Aligning with these frameworks will strengthen Tanzania's legal and institutional capacity, promote data sharing and enforcement cooperation, and position the country as an active participant in global efforts to protect migratory and endangered elasmobranch species.

Objective 6: Align Tanzania's shark and ray management with regional and global conservation frameworks, including CITES listings, CMS agreements, and the FAO IPOA-Sharks, to ensure international cooperation.

Strategic Interventions and Actions

- Review and Harmonise National Legislation
- Conduct a comprehensive review of all fisheries and environmental legislation to identify and address gaps in alignment with IOTC, CITES, and CMS requirements.
- Develop and gazette updated national guidelines and regulations to fully domesticate international obligations.
- Ensure legal recognition and protection for all CITES and CMS-listed species found in Tanzanian waters.
- Strengthen CITES Implementation and Trade Monitoring
- Provide targeted training for customs, fisheries, and port authorities on identifying CITES-listed species and enforcing trade controls.
- Establish a robust digital permitting and data management system for all trade in

CITES-listed species.

- Ensure timely and accurate submission of all required trade data to the CITES Secretariat.
- Conduct the necessary research to produce Non-Detriment Findings (NDFs) to support legal and sustainable trade.
- Enhance Participation in Regional and International Platforms
- Ensure active and prepared participation in all relevant meetings of the IOTC, SWIOFC, CITES, and CMS.
- Strengthen collaboration with neighbouring countries on the management of shared stocks and transboundary enforcement.
- Actively participate in the CMS Sharks MoU and other relevant international instruments.
- Improve National Capacity to Meet Global Standards
- Build the technical capacity of national research institutions in taxonomy, genetics, and population assessment to meet international reporting standards.
- Establish formal partnerships with regional and international research bodies for joint studies and knowledge exchange.
- Develop a national database for shark and ray data that is structured to facilitate reporting to regional and global bodies.

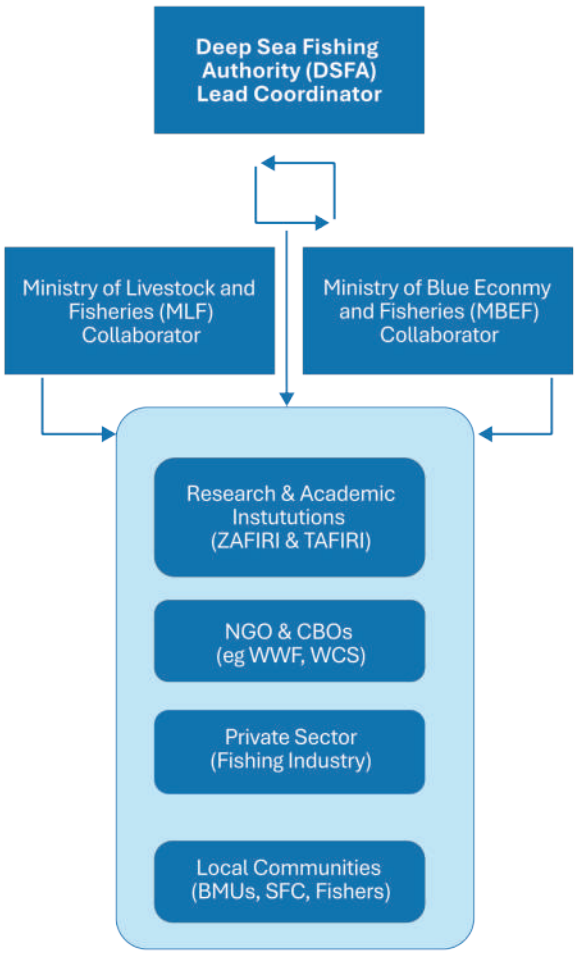
6. IMPLEMENTATION AND MONITORING FRAMEWORK

6.1. IMPLEMENTATION AND COORDINATION

The Deep Sea Fishing Authority (DSFA) will serve as the lead coordinating body for the implementation of this NPOA-Sharks, working in close collaboration with the Ministry of Livestock and Fisheries (MLF) and the Ministry of Blue Economy and Fisheries (MBEF). As mandated by the Deep Sea Fisheries Management and Development Act (2020), the DSFA is responsible for administering and conserving fisheries resources within the Exclusive Economic Zone (EEZ), ensuring that all fishing practices are sustainable and compliant with national and international obligations.

A core component of implementation is ensuring compliance with Tanzania's regional commitments. The DSFA is responsible for enforcing binding Conservation and Management Measures (CMMs) from the Indian Ocean Tuna Commission (IOTC), which include: Shark Finning Ban: Requiring that all sharks are landed with their fins naturally attached (Res. 17/05). Data Collection: Mandating the collection and reporting of species-specific shark catch data (Res. 05/05). Species Protection: Prohibiting the retention, landing, and sale of vulnerable species, including thresher sharks (Res. 12/09), oceanic whitetip sharks (Res. 13/06), and mobulid rays (Res. 19/03). Safe Handling: Requiring vessels to avoid setting nets on whale sharks and to ensure their safe release (Res. 13/05).

The DSFA will ensure that all licensed vessels comply with these requirements by incorporating them into licensing conditions, observer programs, and reporting systems. Implementation will also adapt to evolving regional standards, such as new consolidated management measures for multiple shark species. Furthermore, the DSFA will continue to collaborate with the Indian Ocean Commission (IOC) and the Southwest Indian Ocean Fisheries



Commission (SWIOFC) to support regional coordination, capacity building, and policy harmonization.

6.2. MONITORING, EVALUATION, AND LEARNING (MEL)

An integral component of the successful implementation of the National Plan of Action for Sharks (NPOA-Sharks) is the establishment of a robust Monitoring, Evaluation, and Learning (MEL) framework. This framework will support evidence-based management by tracking progress toward strategic objectives, measuring the effectiveness of implemented measures, and facilitating adaptive management.

Monitoring will be conducted through existing national fisheries data systems, observer programmes, port inspection records, and periodic stakeholder consultations. Evaluation will occur at defined intervals—ideally every two years—focusing on key indicators such as species-specific catch and bycatch trends, compliance levels with conservation measures, and improvements in data quality and reporting rates.

Learning will be facilitated through regular reflection workshops, knowledge-sharing platforms, and participation in regional fora. Lessons learned from implementation experiences will be used to refine strategies, address emerging threats, and strengthen institutional capacities.

The NPOA-Sharks will undergo a formal review every five years, or earlier if significant ecological, policy, or institutional shifts occur. This review process will be inclusive, participatory, and evidence-driven, involving stakeholders from government, research institutions, industry, and civil society. The outcome of each review will inform necessary revisions, ensuring that the NPOA remains relevant, responsive, and aligned with Tanzania's national priorities and international obligations.

6.3. LOGICAL FRAMEWORK

The following logical framework outlines the specific indicators, targets, and means of verification that will be used to monitor the implementation of this NPOA.

Objective 1: Strengthen Sustainable Fisheries Management by implementing science-based catch limits, size regulations, and seasonal closures to prevent overfishing of sharks and rays in both targeted and incidental fisheries.

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Establish Science-Based Catch and Size Limits	Conduct stock assessments for key shark and ray species.	Every 3–5 years	No. of priority species with updated stock assessments	At least 5 priority species assessed by 2028	Limited or outdated stock data	Published assessments, technical reports	TAFIRI, ZAFIRI, MBEF, MLF, DSFA, Academia
	Set and enforce science-based minimum and maximum size limits.	2026–2027	No. of species with gazetted size limits	Size limits for at least 10 priority species established by 2028	No species-specific limits	Legal notices, enforcement reports	TAFIRI, ZAFIRI, Academia, MLF, MBEF, DSFA
	Create adaptive management triggers to revise catch limits.	Annual	Annual review and update cycle established	Cycle established for priority species by 2027	Static or no limits	Management plans, gazettes	DSFA, MLF, MBEF
2. Reduce Bycatch and Protect Vulnerable Species	Mandate the use of selective fishing gear and bycatch reduction technologies.	Phased (2026–2028)	% of fisheries with mandated selective gear	Mandates for >50% of relevant fisheries by 2029	Industrial: 100% Artisanal: 0%	Regulations, gear inspections	DSFA, MLF, MBEF
	Prohibit the retention of all CITES Appendix I and other nationally protected species.	Ongoing	% of CITES App. I species with full protection	100% of CITES App. I listed species protected from retention by 2026	Partial implementation	Landing records, enforcement actions	DSFA, MLF, MBEF, LGA
	Strengthen gear compliance monitoring.	Quarterly	Gear compliance rate	≥60% gear compliance rate achieved by 2028	<40% inspection coverage	Observer reports, inspection checklists	DSFA, MLF, MBEF
3. Foster Stewardship and Alternative Livelihoods	Provide training and incentives for fishers to adopt sustainable practices.	Annual	No. of fishers trained in sustainable practices	1,000 fishers trained by 2028	Few formal training programs	Attendance lists, training logs	MLF, MBEF, NGOs, LGAs
	Promote and support the development of alternative livelihoods.	2026–2028	No. of viable alternative livelihood projects supported	At least 5 viable alternative initiatives supported by 2029	Few initiatives	Project reports, impact assessments	MLF, MBEF, NGOs, Private Sector
	Establish and strengthen co-management arrangements.	2026–2027	No. of formal co-management agreements signed	10 formal BMU/SFC co-management agreements signed by 2028	Informal cooperation only	Signed agreements, meeting minutes	MLF, MBEF, BMUs, SFCs

Objective 2: Enhance data collection and research to improve species-specific catch reporting, biological studies, and stock assessments for evidence-based decision-making and monitor population trends.

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Enhance Species-Specific Data Collection Systems	Assess existing data collection systems to identify gaps and opportunities.	Once (2026)	Comprehensive assessment report produced and validated.	One assessment completed by end of 2026.	No consolidated assessment exists.	Assessment report, stakeholder validation workshop report.	MLF, MBEF, DSFA, TAFIRI, ZAFIRI, NGOs
	Develop and implement standardised, species-specific data collection protocols.	Ongoing	% of landing sites and industrial vessels using the standardised protocol.	Protocol adopted by 2026; Implemented in 50% of priority landing sites and 100% of industrial vessels by 2028.	Fragmented protocols, limited species-level data.	Protocol documents, training reports, field audit reports.	MLF, MBEF, DSFA, TAFIRI, ZAFIRI
	Train enumerators, fisheries officers, and observers in species ID and data collection.	Annual	No. of personnel trained and certified in shark/ray species identification.	At least 100 personnel trained and certified by 2029.	Ad hoc training, no certification.	Training reports, certification records.	TAFIRI, ZAFIRI, MLF, MBEF, NGOs
2. Strengthen Monitoring and Observer Programs	Expand observer coverage (human and electronic) on industrial and semi-industrial vessels.	Ongoing	% observer coverage on active industrial and semi-industrial fleets.	100% coverage (human or EM) on industrial fleet by 2027; 50% on semi-industrial by 2029.	<10% coverage.	Observer deployment records, VMS/ EM data, annual reports.	DSFA, MLF, MBEF
	Establish a comprehensive landing site monitoring program for the artisanal sector.	Ongoing	No. of priority artisanal landing sites with active monitoring.	20 priority sites have active, species-specific monitoring by 2028.	<5 sites with partial monitoring.	CAS reports, enumerator logs.	MLF, MBEF, TAFIRI, ZAFIRI, LGAs
3. Promote Targeted Biological and Ecological Research	Conduct targeted research on the life history and population structure of priority species.	Ongoing	No. of targeted research projects completed on priority species.	At least 5 targeted research projects completed by 2030.	Limited species-specific research.	Scientific publications, technical reports.	TAFIRI, ZAFIRI, Academia, NGOs
	Support socioeconomic surveys to assess reliance on shark and ray fisheries.	2026-2028	Socioeconomic assessment report for key regions.	Assessment completed for at least 3 key coastal regions by 2028.	No formal assessment exists.	Survey reports, publications.	TAFIRI, ZAFIRI, Academia, NGOs

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
4. Establish a Centralised National Database	Develop and maintain a centralised national database for all shark and ray data.	Ongoing	Status of the national shark and ray database.	Database operational by 2027, integrating data from at least 3 key sources (CAS, observers, trade).	No dedicated database.	Database system documentation, data-sharing MoUs, user reports.	DSFA, MLF, MBEF, TAFIRI, ZAFIRI
5. Strengthen National and International Collaboration	Align national data collection protocols with regional/global requirements (IOTC, CITES).	Biennial	% of IOTC/CITES data reporting requirements met on time.	100% of mandatory reports submitted on time annually from 2027.	Inconsistent reporting.	Submission receipts, IOTC/ CITES compliance reports.	DSFA, CITES Authority, MLF, MBEF
	Foster formal partnerships for joint research and data sharing.	Annual	No. of active data-sharing MoUs with national and international partners.	At least 3 new MoUs signed and operational by 2028.	Limited formal collaboration.	Signed MoU documents, joint project reports.	DSFA, TAFIRI, ZAFIRI, MLF, MBEF

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Identify and Map Critical Habitats	Undertake ecological surveys to identify key breeding, nursery, and feeding habitats.	2026-2028	No. of priority regions surveyed for critical habitats.	At least 3 priority regions (e.g., Rufiji Delta, Pemba, Mafia) surveyed by 2028.	No systematic surveys for shark habitats.	Survey reports, scientific publications.	TAFIRI, ZAFIRI, Academia, NGOs
	Integrate local ecological knowledge (LEK) to validate hotspots.	Ongoing	No. of community validation workshops held.	At least 10 LEK workshops held in key regions by 2029.	Ad hoc consultations.	Workshop reports, participatory maps.	MLF, MBEF, TAFIRI, ZAFIRI, NGOs
	Incorporate mapped habitats into national Marine Spatial Planning (MSP) frameworks.	2028-2030	% of identified critical habitats integrated into official MSP.	100% of validated critical habitats integrated into MSP frameworks by 2030.	0% integration.	Official MSP documents, gazettes.	VPO, DSFA, MLF, MBEF
2. Strengthen and Expand MPAs	Review and upgrade existing MPA management plans to include specific shark protections.	2026-2027	No. of MPA management plans updated with specific shark conservation measures.	At least 5 key MPA management plans updated by 2028.	No specific shark measures in current plans.	Updated management plans, gazettes.	MPRU, DMC, VPO
	Establish new MPAs or Other Effective Area-based Conservation Measures (OECMs).	2028-2031	Hectares (ha) of new protected areas designated for shark conservation.	At least 50,000 ha of new protected areas designated by 2031.	0 ha.	Gazettes, designation documents.	VPO, MLF, MBEF, MPRU, DMC
3. Enhance Community Participation	Develop and support site-based co-management initiatives with BMUs/SFCs.	Ongoing	No. of formal co-management agreements for MPAs/ shark hotspots.	At least 5 new co-management agreements signed and active by 2029.	No formal agreements for sharks.	Signed agreements, meeting minutes.	MLF, MBEF, MPRU, DMC, LGAs
	Provide training and tools for community-based monitoring of habitats and species.	Annual	No. of community members trained in monitoring protocols.	At least 200 community members from 10 communities trained by 2030.	No formal training exists.	Training reports, attendance lists.	TAFIRI, ZAFIRI, NGOs

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
4. Strengthen Enforcement in Protected Areas	Enhance surveillance within MPAs through regular joint patrols.	Quarterly	No. of joint patrols conducted annually in priority MPAs.	At least 12 joint patrols per year conducted in 3 priority MPAs from 2027.	Ad hoc patrols.	Patrol logs, incident reports.	MPRU, DMC, MLF, MBEF, Navy
	Increase the prosecution rate for MPA-related offenses.	Ongoing	Prosecution rate for MPA infringements.	Increase prosecution rate for MPA violations by 50% over the 2025 baseline by 2030.	Low prosecution rate.	Court records, enforcement reports.	Judiciary, MPRU, DMC
5. Secure Sustainable Financing	Establish MPA trust funds or other conservation finance mechanisms.	2026-2028	Status of a national conservation trust fund or similar mechanism.	At least one trust fund legally established and operational by 2028.	No dedicated fund.	Legal documents, fund financial reports.	VPO, DSFA, MLF, MBEF, NGOs
	Develop and promote sustainable ecotourism enterprises.	Ongoing	No. of new shark-focused ecotourism ventures supported.	At least 3 new ventures supported with viable business plans by 2029.	Limited/ad hoc support.	Business plans, project reports.	Ministry of Tourism, Private Sector, NGOs

Objective 4: Minimise bycatch and Illegal, Unreported, and Unregulated (IUU) Fishing by promoting bycatch reduction technologies and enforcing anti-finning regulations.

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Strengthen Monitoring, Control, and Surveillance (MCS)	Enhance at-sea and port-side inspections for all fisheries.	Quarterly	% increase in annual inspection days at sea and at port.	50% increase in inspection days by 2029 over a 2025 baseline.	Limited and ad hoc inspections.	Patrol logs, port inspection reports.	DSFA, MLF, MBEF, MATT
	Strengthen the capacity of the Multi-Agency Task Team (MATT) to coordinate anti-IUU operations.	Annual	No. of successful joint anti-IUU operations conducted.	At least 4 successful joint operations conducted annually from 2027.	<1 per year.	Operation reports, MATT meeting minutes.	MATT, DSFA, MLF, MBEF, Navy
	Mandate and enforce the use of VMS and AIS on all industrial and semi-industrial vessels.	Ongoing	% of the industrial/ semi-industrial fleet with active and compliant VMS/AIS.	100% compliance by 2027.	~90% VMS, <50% AIS.	VMS/AIS data, vessel registries, patrol reports.	DSFA, MLF, MBEF
2. Implement and Enforce Bycatch Reduction Measures	Develop and implement regulations mandating the use of bycatch reduction technologies (BRTs).	2026-2028	No. of key fisheries with gazetted regulations for BRTs.	Regulations for at least 2 key fisheries (e.g., longline, gillnet) gazetted by 2028.	No specific BRT regulations.	Gazettes, legal review reports.	MLF, MBEF, DSFA
	Conduct research and pilot studies on the effectiveness of new BRTs.	Ongoing	No. of pilot studies on new BRTs completed.	At least 3 pilot studies completed by 2029.	No recent studies.	Technical reports, scientific publications.	TAFIRI, ZAFIRI, Academia, NGOs
	Provide training and incentives for fishers to adopt BRTs.	Annual	No. of fishers trained in BRT use and best handling practices.	At least 500 fishers trained by 2030.	No formal training.	Training reports, attendance lists.	MLF, MBEF, NGOs
3. Enhance the Legal and Enforcement Framework	Review and strengthen national legislation to ensure penalties for IUU fishing are a sufficient deterrent.	2026-2027	Status of legal review and amendment.	Legal review completed by 2026; amendments gazetted by 2027.	Penalties are not a strong deterrent.	Legal review report, gazetted amendments.	Attorney General's Office, MLF, MBEF, DSFA
	Strictly enforce the "fins-naturally-attached" policy.	Ongoing	Compliance rate with fins-attached policy in inspected landings.	Achieve >90% compliance rate in inspected landings by 2028.	Estimated <60% compliance.	Port inspection records, observer reports.	DSFA, MLF, MBEF

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
3. Enhance the Legal and Enforcement Framework	Maintain and share a national list of vessels confirmed to be involved in IUU fishing.	Quarterly	National IUU vessel list established and updated.	List established by 2026 and updated quarterly.	No official public list.	Published IUU vessel list, website.	DSFA, MLF, MBEF
4. Improve Information Sharing and Traceability	Develop and implement a national traceability system for shark and ray products.	2027-2030	Status of national traceability system.	Pilot traceability system for at least one key value chain designed and tested by 2030.	No system exists.	System design documents, pilot project report.	DSFA, MLF, MBEF, TRA, Private Sector
	Strengthen inter-agency data and intelligence sharing protocols.	Annual	Formal inter-agency data-sharing protocol established and in use.	Protocol signed and operational by 2027.	Ad hoc sharing.	Signed protocol, meeting minutes.	MATT, DSFA, MLF, MBEF, TRA

Objective 5: Strengthen stakeholder engagement and compliance by fostering collaboration among fishers, traders, scientists, and enforcement agencies through training, awareness campaigns, and participatory management.

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Build Capacity Among All Stakeholders	Conduct regular training workshops for fishers, traders, BMUs, SFCs, and local officers.	Annual	No. of training sessions held and participants trained.	At least 10 sessions/year, reaching a total of 500 stakeholders by 2029.	Limited or ad hoc training activities.	Training reports, attendance lists.	MLF, MBEF, DSFA, TAFIRI, ZAFIRI, NGOs
	Develop and disseminate training materials (e.g., field guides, manuals).	Ongoing	No. and types of materials produced and distributed.	At least 3 types of materials developed and distributed to 50 priority BMUs/SFCs by 2027.	Few relevant materials available.	Material copies, distribution records.	MLF, MBEF, DSFA, TAFIRI, ZAFIRI, NGOs
2. Improve Communication and Collaboration	Establish a multi-stakeholder National Shark Working Group.	Once; then quarterly meetings	National Shark Working Group established and active.	Group established with ToR by end of 2026; holds at least 3 meetings per year thereafter.	No national coordination platform for sharks.	Meeting minutes, ToR, member list.	MLF, MBEF, DSFA, TAFIRI, ZAFIRI, NGOs
3. Raise Awareness and Promote Behavioural Change	Develop and run multi-platform public awareness campaigns.	Biannual	No. of campaigns conducted and estimated audience reach.	At least 2 major campaigns conducted annually, reaching an estimated 100,000 people per year from 2027.	Limited awareness outreach.	Media reports, social media analytics, survey data.	MLF, MBEF, DSFA, NGOs
	Engage communities in participatory data collection and surveillance.	Ongoing	No. of communities actively participating in monitoring.	At least 15 communities actively contributing data by 2030.	No formal participation.	BMU/SFC reports, data submission logs.	TAFIRI, ZAFIRI, MLF, MBEF, NGOs

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
4. Promote Community-Led Compliance	Support the development and gazettement of community bylaws for shark protection.	Biannual	No. of communities with gazetted bylaws including shark measures.	Bylaws adopted and gazetted in at least 10 coastal communities by 2028.	Few or no specific bylaws.	Approved bylaws, gazettement records.	MLF, MBEF, LGAs
	Introduce recognition and incentive programs for compliance.	Annual	No. of communities/ individuals formally recognised for conservation efforts.	At least 5 model communities or fishers recognised annually from 2027.	No formal recognition system.	Award records, program guidelines, media coverage.	DSFA, MLF, MBEF, NGOs
5. Monitor and Evaluate Engagement Efforts	Use surveys to assess the effectiveness of campaigns and training.	Annual	Pre- and post-intervention survey results on knowledge, attitudes, and practices (KAP).	KAP surveys conducted for all major campaigns/training programs; show a 30% improvement in knowledge by 2030.	No formal M&E of outreach.	Survey reports, KAP analysis.	DSFA, MLF, MBEF, TAFIRI, ZAFIRI, NGOs

Objective 6: Align Tanzania's shark and ray management with regional and global conservation frameworks, including CITES listings, CMS agreements, and the FAO IPOA-Sharks, to ensure international cooperation.

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
1. Review and Harmonise National Legislation	Review fisheries legislation and develop/update national guidelines to align with IOTC, CITES, and CMS requirements.	2026-2027	No. of key legal instruments reviewed and updated.	At least 2 key regulations/acts reviewed and harmonised by 2027.	Partial alignment, outdated legislation.	Legal review reports, gazetted amendments.	MLF, MBEF, DSFA, Attorney General's Office
2. Strengthen CITES Implementation	Train customs, fisheries inspectors, and port authorities on identifying CITES-listed species.	Annual	No. of personnel trained in CITES enforcement.	At least 50 officials trained by 2028.	Limited CITES-specific training.	Training reports, attendance lists.	CITES Authority, MLF, MBEF, DSFA, TRA
	Establish a robust e-permitting and data management system for CITES trade.	2026-2027	Status of CITES e-permitting system.	System fully operational and integrated with national databases by 2027.	Manual or non-existent system.	System documentation, permit records.	CITES Authority, DSFA, MLF, MBEF
	Ensure timely and accurate submission of annual trade data to the CITES Secretariat.	Annual	% of CITES annual reports submitted on time.	100% of annual reports submitted on time from 2027.	Inconsistent reporting.	CITES trade database, submission receipts.	CITES Authority
	Conduct research to support Non-Detriment Findings (NDFs).	Ongoing	No. of NDFs or scientific assessments produced for priority species.	NDFs developed for at least 3 priority CITES-listed species by 2030.	No formal NDFs exist.	Scientific publications, technical reports.	TAFIRI, ZAFIRI, CITES Scientific Authority, Academia, NGOs
3. Enhance Regional and International Cooperation	Actively participate in regional bodies (IOTC, SWIOFC) and international meetings (CITES CoP, CMS CoP).	Ongoing	% of relevant regional/ global meetings attended with a prepared national position.	Representation at >80% of relevant meetings.	Ad hoc participation.	Meeting reports, national statements.	DSFA, MLF, MBEF, CITES Authority

Strategic Intervention	Action	Frequency	Indicator	Target	Baseline	Verification	Responsible Institution(s)
3. Enhance Regional and International Cooperation	Collaborate with neighbouring countries on transboundary species management and enforcement.	Biannual	No. of new bilateral/ regional cooperation initiatives established.	At least 2 new collaborative initiatives established by 2029.	Limited formal collaboration.	MoUs, joint patrol reports, data sharing agreements.	DSFA, MLF, MBEF
4. Improve National Capacity to Meet Global Standards	Build technical capacity in taxonomy, genetics, and population assessment.	Annual	No. of researchers/ technicians trained in advanced techniques.	At least 10 personnel trained in advanced techniques by 2028.	Limited specialised capacity.	Training certificates, workshop reports.	TAFIRI, ZAFIRI, UDSM, SUZA

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