



AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES



Sweden
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TECHNICAL GUIDELINE

TRANSBOUNDARY ENVIRONMENTAL ISSUES AFFECTING BIODIVERSITY IN SHARED MARINE ECOSYSTEMS IN AFRICA:

*A Mechanism for Development of Harmonized Framework for
Conservation of Aquatic Biodiversity in Africa*



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Citation: AU-IBAR, 2024. TECHNICAL GUIDELINE –TRANSBOUNDARY ENVIRONMENTAL ISSUES AFFECTING BIODIVERSITY IN SHARED MARINE ECOSYSTEMS IN AFRICA: A Mechanism for Development of Harmonized Framework for Conservation of Aquatic Biodiversity

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Published by: AU-IBAR, Nairobi, Kenya

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Key words: Aquatic Biodiversity Hotspots, Africa, Marine, Freshwater, Large Marine Ecosystems (LME), Ecosystem Conservation.

Acknowledgements:

The Director extends appreciation to all stakeholders and Partners; The Regional Economic Communities (RECs), other specialized Regional Institutions, AU Member States, Experts and Non-State-Actors that contributed immensely to improving the quality of the study reports. Special thanks go to Dr. Hashali Hamukuaya who conducted studies and prepared the report on “ASSESSMENT OF TRANSBOUNDARY ENVIRONMENTAL ISSUES AFFECTING BIODIVERSITY IN SHARED MARINE ECOSYSTEMS – Towards formulating harmonized regional frameworks for conservation of Marine biodiversity and Ecosystems and a joint action plan”. This Technical Guideline is based on the report of the consultant.

This work was carried out with financial support from the Swedish International Development Cooperation Agency (SIDA). The editorial work was carried out by AU-BAR Technical Team.

I. Introduction and Background

The African Union Inter-African Bureau for Animal Resources (AU-IBAR), a specialized technical office of the Department of Agriculture, Rural Development, Blue Economy and Sustainable Environment (DARBE) of the African Union Commission (AUC), is mandated to support and coordinate the utilization of livestock, fisheries, aquaculture and wildlife as resources for both human wellbeing and economic development in the Member States of the African Union. Recently the scope of this mandate has been expanded to include technical support to Implementation of Blue Economy related activities in Africa.

Within the framework of the African Union 2063, the Africa Blue Economy Strategy (ABES) was developed to guide the development of an inclusive and sustainable Blue Economy that becomes a significant contributor to Continental transformation and growth. It is within this context that AU-IBAR, with support from the Swedish International Development Cooperation Agency (SIDA), is implementing a three-year project on “Conserving Aquatic Biodiversity and Ecosystems in the Context of the African Blue Economy”. The overall objective of the project is to enhance the Policy environment, Regulatory Frameworks and institutional capacities of African Union Member States (AU MS) and Regional Economic Communities (RECs) to sustainably utilize and conserve aquatic biodiversity and ecosystems. Accordingly, AU-IBAR, commission a study to ASSESS TRANSBOUNDARY ENVIRONMENTAL ISSUES AFFECTING BIODIVERSITY IN SHARED MARINE ECOSYSTEMS – Towards the formulation of a harmonized regional frameworks for conservation of Aquatic Biodiversity in Shared Marine Ecosystems.

The African Continent is encompassed by some highly productive large marine ecosystems endowed with rich and abundant biodiversity and unrivalled natural beauty. Marine and coastal environments are of significant ecological and socio-economic

importance to the African Continent but are under immense threat from human activities. In some coastal states, marine biodiversity resources and their services contribute more than 50% of the gross domestic product. However, the decline and loss of biodiversity are threatening the contribution of these natural endowments to people in Africa, including women and children, affecting daily lives and undermining the sustainable social and economic development goals and targets set by African Countries.

Additionally, climate change, several human-induced factors are negatively impacting African marine ecosystems and posing serious threats to biodiversity and extensive damage to highly productive marine ecosystems; these include unsustainable exploitation of living marine resources, pollution (land-based and seas-based sources), habitat degradation/modification, water quality deterioration, alien invasive species, depletion of natural resources due to the rising population pressure (among others), expansion in human activities and uncontrolled expansion of urbanisation and ineffective governance. These threats, if not arrested, may have significant and lasting negative ecological, environmental, and social-economic impacts and result in a loss of natural capital and related ecosystem services, which will ultimately lead to increasing poverty, especially in local communities, tension over scarce resources, instability, insecurity and migration and economic crisis.

It is in the above context that this Technical Guideline has been developed aimed at assisting regional institutions and AU Member States (adjacent to transboundary marine ecosystems) towards the development of a harmonized framework by regional institutions and AU Member States for conservation of aquatic biodiversity in shared marine ecosystems. Through the support of SIDA, AU-IBAR has piloted the report of the study on transboundary marine ecosystems through support to the Democratic Republic of Congo and the Republic of Congo to develop harmonized strategies for management of shared marine ecosystems between the two Countries in the Gulf of Guinea.

The Technical Guideline presents an innovative and proactive approach to halt and reverse the degradation of marine biological diversity in Africa. In general, the Guideline is also Africa's response to support the Convention on Biological Diversity implementation, Africa Union Agenda 2063, builds on other initiatives such as the African Blue Economy Strategy, Africa Integrated Maritime Strategy, the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa., The Technical Guide outlines strategies to support management and conservation of aquatic biodiversity in shared marine ecosystems.

The overall purpose is to catalyze and galvanize urgent and transformative interventions/actions by African coastal States and all stakeholders to conserve, protect, enhance and restore key marine ecosystems and their living marine resources so that the trend of biodiversity loss is halted and where feasible, reversed

Rationale

The African Continent is surrounded by some highly productive large marine ecosystems (LMEs), namely Canary Current, Guinea Current, Benguela Current, Agulhas Current, Somali Coastal Current, the Red Sea, and the Mediterranean. Thirty-eight coastal states share these LMEs with a population of about 945 million people, most of whom are assumed to live within 100 km from the coasts. These LMEs are endowed with rich biodiversity and unrivalled natural beauty that provide many essential ecosystem services (cultural, provisional, support services) that are the backbones of coastal Countries' economies. Thus, biodiversity and ecosystems in marine and coastal areas are diverse and provide significant economic, social and cultural contributions to the people of Africa. In some Countries, they contribute more than 50% of the gross domestic product (GDP). For example, in Tanzania, agriculture, livestock, forestry, and fisheries contribute over 65% of the GDP and account for over 80% of total employment and over 60% of the total export earnings. However, aquatic biodiversity within the marine ecosystems is under severe threat from natural and anthropogenic stressors with

potential threat to loss of biodiversity that would lead to depletion of natural capital and reduction in ecosystem services to society.

Several human-induced factors negatively impact African marine ecosystems and pose severe threats to biodiversity. To make informed management decisions regarding conservation and biodiversity protection, it is imperative to assess the biodiversity's status and the threats they face. If the loss of biodiversity is not halted, it will result in, among others, unsustainable use and eventually extinction of species and habitat loss – all of which will have significant and lasting negative ecological, environmental, and social-economic impacts.

2. Transboundary prioritized issues of concern to biological diversity in African LMEs

Major issues of concern to marine biological diversity within the African LMEs include: unsustainable use of living marine resources (including IUU fishing), climate change, habitat loss and destruction, pollution, invasive alien species, poorly planned or unplanned development, the impact of extractive activities, population pressure, coastal erosion, weak governance, paucity of biological diversity data, inadequate capacity and lack of awareness of the value of biological diversity (deduced from Countries National reports to the CBD; AU-IBAR Marine Biodiversity Assessment Report, 2023).

All seven African large marine ecosystems (Figure 1) are richly endowed with living marine resources, including fishery resources.



Figure 1. Location of African LMEs: Mediterranean (26), Canary Current (27), Guinea Current (28), Benguela Current (29), Agulhas Current (30), Somali Coastal Current (31) and Red Sea (33). The circled number is as assigned in the World Map of Large Marine Ecosystems (Sherman and Hamukuaya, 2016), [Source: Satia, B. 2016].

Synopsis of Transboundary Issues that threaten aquatic biodiversity conservation and environmental in Africa marine ecosystems:

- i. Unsustainable use of marine biological diversity is evident, ranging from the use of unselective and damaging fishing methods;
- ii. Climate change has tremendous impacts on marine biodiversity, such as fish stock abundance, composition, distribution, and availability, in ways that are not yet fully understood and could result in significant ecosystem changes or the collapse of major fish stocks. Ocean acidification will increase with increasing CO₂ in the Ocean, coupled with increased temperature, which will have profound impacts, especially on corals biodiversity in the eastern region of Africa, causing bleaching and the de-calcification of shells of molluscs;
- iii. Habitat destruction and alteration pose severe threats to marine biodiversity, among others, seabed extraction activities, poorly planned

coastal urban infrastructural development, destructive fishing methods, population pressure, agricultural development, conversion of land for other uses including aquaculture, tourism and salt production, cutting of the trees for fuelwood and poles for housing construction and firewood and charcoal, discharge of sewage and other pollutants, siltation, sand mining, construction of embankments, increased sedimentation;

- iv. Coastal erosion is evident in many parts of Africa, in particular GCLME and CCLME, driven by anthropogenic activities such as dredging, sand mining, uncontrolled construction and excessive cutting of mangroves, which lead to loss of biodiversity;
- v. Marine pollution can severely impact the ecosystem and marine biodiversity, damaging spawning, nursery and feeding grounds and has been reported in all African LMEs;
- vi. Nutrient enrichment from agricultural run-off and atmospheric deposition of nitrogen from fossil fuel combustion (are significant causes of coastal eutrophication and so-called dead zones with adverse effects on coastal ecosystems like salt marshes (and coral reefs;
- vii. Alien invasive species have been identified as one of the significant threats to the maintenance of biodiversity and ecosystem functioning in marine systems and the conservation of biodiversity and ecosystem services in Africa. A large number of introductions of alien invasive species can be attributed to the intensified global trade and shipping; shipping through the ballast water, followed by aquaculture and canal construction. Ports are IAS hotspots due to the ballast water; and,
- viii. Weak governance at all levels, often characterized by overlapping jurisdictions, institutional failures, and lack of transparency undermines biodiversity conservation and sustainable use. The paucity of data is a severe constraint in assessments, protection and conservation of biodiversity.

The regional harmonized framework for conservation of aquatic biodiversity in shared marine ecosystems in Africa:

Given the severe threats facing biological diversity in African Large Marine Ecosystems, the following strategic goals and targets are prioritized as needing urgent and transformative actions for regional institutions and AU Member States to halt or reverse biodiversity loss. These strategic goals respond to the transboundary issues identified in the study commissioned by the SIDA project, implemented by AU-IBAR, to conduct assessment of transboundary issues that are threat to conservation of aquatic biodiversity in Africa Large Marine Ecosystems:

The following three strategic goals are established, and 14 targets accompany them.

Goal I Ecosystems' integrity is enhanced, the rate of extinctions reduced, the risk of species extinctions is halved, and the genetic diversity of marine species is safeguarded, degraded habitats are restored and used at levels commensurate with their biological productivity.

Strategic Goal 1: Ecosystems' integrity is enhanced, the rate of extinctions reduced, the risk of species extinctions is halved, and the genetic diversity of marine species is safeguarded, degraded habitats are restored and used at levels commensurate with their biological productivity.

Target 1. Ensure that all coastal areas are under integrated biodiversity-inclusive spatial planning, and areas of particular importance, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures

Target 2. Reduce the rate of habitat loss and degradation to the lowest level and where feasible bring it close to zero.

Target 3. Minimise direct and indirect anthropogenic threats to the integrity and productivity of coastal and marine ecosystems.

Target 4. Ensure that at least 20% of degraded coastal areas are under restoration, ensuring

connectivity among them and focusing on priority ecosystems.

Target 5. Ensure and promote sustainable use of living marine resources and facilitate Regional collaboration on transboundary species.

Target 6. Improve the conservation status of threatened species and protect vulnerable and keystone species and their habitats including transboundary species.

Target 7. Ensure active management actions to enable the recovery and conservation of species and the genetic diversity of marine species, including through ex-situ conservation.

Target 8. Manage pathways for introducing invasive alien species (IAS), preventing or reducing their rate of introduction and establishment by at least 50%, and control or eradicate invasive alien species to eliminate or minimize their impacts, focusing on priority species and priority sites.

Target 9. Reduce marine pollution from all sources including nutrient enrichment by at least half and pesticides by at least two-thirds, eliminating plastic waste discharge.

Target 10. Minimize the impact of climate change on biodiversity, contribute to mitigation and adaptation through ecosystem-based approaches, and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity.

Strategic Goal 2: Ecosystem goods and services are valued, maintained or enhanced through conservation and sustainable use, biodiversity is mainstreamed into sectoral policies and programs, and public awareness about the value of the ecosystems is improved.

Target 11. Blue economy sectors report on their impacts on biodiversity and progressively reduce negative impacts, by at least half and moving towards the full sustainability of extraction and production practices, sourcing and supply chains, and use and disposal.

Target 12. Fully integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies, accounts, and assessments of environmental impacts at all levels of Government and across all sectors of the economy.

Target 13. Establish, strengthen capacity for, and implement measures to prevent, manage or control potential adverse impacts of biotechnology on biodiversity and human health, reducing the risk of these impacts on marine biodiversity.

Target 14. Ensure that relevant knowledge, including the traditional knowledge, innovations and practices of indigenous peoples and local communities, form part of decision-making for the effective management of biodiversity, enabling monitoring and promoting awareness, education and research.

Target 15. Ensure equitable and effective participation in decision-making related to biodiversity by indigenous peoples and local communities, and respect their traditional rights over resources, as well as by women and girls and youth.

Strategic objective 3: *The benefits from utilizing genetic resources are shared fairly and equitably, with a substantial increase in monetary and non-monetary benefits, including for the conservation and sustainable use of biodiversity.*

Target 16. Ensure benefits, including nutrition, food security, medicines, and livelihoods for people, especially the most vulnerable, through sustainable management of marine species and protecting customary sustainable use by indigenous peoples and local communities.

Target 17. Implement measures in all Countries to facilitate access to genetic resources and to ensure the fair and equitable sharing of benefits arising from the use of genetic resources and as relevant, of associated traditional knowledge, including through mutually agreed terms and prior and informed consent.

3. Policy considerations - Coordination mechanisms for the conservation of aquatic biodiversity

Marine biodiversity is both a National and a transboundary issue. Thus, improved coordination between National institutions responsible for various multilateral environmental Agreements and relevant Ministerial Departments and Agencies is critical to synergising biodiversity and ecosystem services management strategies within a multi-layer governance system. Synergy can be harnessed between Multilateral Environmental Agreements through mainstreaming National strategies into National and Regional development plans and projects for sustainable development. It requires coordinated efforts from many stakeholders (public and private), including intergovernmental and governmental institutions, NGOs, the private sector and local communities, to identify solutions to interlinked problems. Such an approach can also help to integrate decision-making across scales from the local to the International.

In many Countries, Sectors have specific legislation, action plans and programmes developed with various stakeholders. Mainstreaming biodiversity and ecosystem services into sectoral legislation and plans not only benefits biodiversity but also benefits other sectors because they reinforce the sustainability impacts of legislated activities (Stringer *et al.*, 2018).

The report of detailed study commissioned by AU-IBAR in 2023, from which the technical guideline is derived, proposed Action Plan to transform the harmonized framework into tangible results with targets that will be measured against indicators during the monitoring and evaluation process. Coastal States should adopt a consistent approach to monitor actual achievements, and the review process could be institutionally placed at the RECs' level and supported by AU-IBAR. The review process should be the occasion to examine progress or challenges, and review, amend and/or update the

Joint Action Plan.

Transboundary biodiversity has many facets, and its management presents particular challenges. To illustrate, different communities' value and utilise biodiversity (plant and animal species) differently, which could create challenges in conservation and management between two or more communities. Likewise, there are differences in livelihood strategies that could influence the way biodiversity is utilised and managed across Country boundaries. High-level maritime disputes can present additional challenges. Therefore regional cooperation for transboundary, collaborative management is imperative to protect biodiversity and secure livelihoods. Weak institutions and poor inclusive governance marginalize impedes stakeholders (including women) from managing the Ocean in a concerted manner that, minimising conflict, and maintaining a long-term flow of ecosystem goods and services, just as biodiversity loss becomes increasingly evident.

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