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CONCEPT NOTE FOR THE SESSION ON REGIONAL STOCKTAKING ON OCEANOGRAHIC DATA AND SCIENTIFIC RESEARCH IN THE WIO REGION

(28 May 2019)

WIO Regional Science to Policy Workshop
Concept Note: Session on Regional Stocktaking on Oceanographic Data and Scientific research in the Western Indian Ocean (WIO) Region

Date: 28 May 2019
Mauritius

Background

The WIO Region represents a large array of marine and coastal settings: small island states and large countries with extensive coastline and tropical and subtropical climates. The region is characterized by a diverse range of species and ecosystems, which ranks it as the world's second richest marine biodiversity hotspot. The region comprises coastal forests, mangroves, salt marshes, seagrass beds, coral reefs, as well as pelagic and deep-sea habitats which support high biodiversity and productive waters which support an array of coastal industries which are paramount to the livelihoods of the coastal people. It is conservatively estimated that the region supports more than 11,000 species of plants and animals, 15 percent of which are found nowhere else on Earth. More than 20 percent of the world's tropical inshore fish species are found exclusively in the region, as are nesting sites for 70 percent of the world's marine turtles. Over 60 million people in the WIO region live within 100km of the coast, with over one million working in remarkable centres of economic activities and important area for urbanization.

In recent years, the region has started showing signs of degradation, attributed to both natural factors and a variety of anthropogenic activities acting at different intensities. These problems are attributed to the combined effect of rapid population growth, climate change, coastal development, pollution and unsustainable resource management. Noteworthy changes are reflected by the:

- Magnitude of areas developed for hotels, housing and other development activities,
- Reduction in coral reef coverage, sea grass beds and aerial extent of mangroves,
- Destruction and physical alteration of ecologically important habitats,

- Reduction in artisan as well as commercial fisheries,
- Degradation of water quality,
- Increasing threats to many of the threatened, endangered and/or endemic species.

Scientific Data and Information Sharing in the WIO region

Understanding and managing the WIO marine resources and the impacts of current and future changes requires implementation of an ecosystem-based approach built on the best available scientific information, local knowledge and socio-economic information. Strengthening the bridge between research and policy is critical in promoting the formulation of evidence-based policies for effective and sustainable management of coastal and marine resources. Although we recognize the benefits of scientific research, we believe there is clear value in aligning research in the natural and social sciences more closely with the information needs of decision makers. Scientific research can inform decisions regarding environmental protection and enhance our ability to contribute to regional and global solutions to environmental challenges. In the WIO region where social and governance priorities are evolving and ocean governance capacity needs to be enhanced, the process of generating scientific data to inform conservation policy and management will provide general insights into the demand for research in conservation science and the science–policy interface. Science-based policies can help avoid policy failure during the policy formulation stage by improving understanding of causal linkages between stressors, interventions, and effects, and during implementation, when rigorous examination of evidence can help minimize the probability of adverse consequences of individual policies.

For more than four decades the United Nations Environment Programme (UNEP) regional seas programme has fostered regional cooperation to address the accelerating degradation of the world's oceans and coastal areas by engaging neighbouring countries in comprehensive and specific actions to protect their common marine environment. Among the 18 Regional Seas Programmes, the WIO region falls under the Eastern African Region (the Nairobi Convention for the protection, management and development of the marine and coastal environment of the WIO region). The Convention has four protocols;

1. Protocol concerning protected areas and wild fauna and flora in Eastern African region (MPAs/Biodiversity) adopted in June 1985,
2. Protocol concerning cooperation in combating marine pollution in cases of emergency in the Eastern African Region (marine pollution) adopted in June 1985,
3. Protocol concerning land-based sources and activities of pollution (LBSA Protocol) adopted in March, 2010
4. Protocol concerning Integrated Coastal Zone Management in the Western Indian Ocean region (ICZM Protocol) Agreed on March 2019

The Nairobi Convention and its protocols offers a legal framework and coordinates the efforts of its contracting parties (Comoros, France (Réunion), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa and Tanzania) in their capacity to protect, manage and develop their coastal and marine environment. The Convention provides support to member states to address environmental

challenges by promoting knowledge and information sharing and providing decision makers with information on marine and coastal ecosystems for planning processes and effective management of marine and coastal ecosystems.

The Convention intents to promote collaboration between institutions responsible with oceanographic data and scientific research in the WIO region to enhance networks to ensure that the best available scientific data and local knowledge are shared and incorporated in planning and policy development at the national and regional level. In working with partners and collaborating institutions, the Nairobi Convention will revive the National Data Centres (see table 1 below) and the revamp the Clearinghouse mechanism established under the UNDP/GEF Agulhas and Somali Current Large Marine Ecosystem Programme (ASCLME) project and the Clearinghouse mechanism developed under the auspices of the UNEP/GEF-WIOLaB project "Addressing Land-Based activities in the Western Indian Ocean respectively. These will enable the Nairobi Convention to collect, integrate and analyse the rich data collections available in the region and present the results in the forms that specialists and non-specialists can comprehend. The Clearinghouse will provide a shared-services platform of accessing resources while being responsive to user's needs. It marks a drastic change from operating largely in isolation or in limited bilateral partnerships to one where Contracting Parties collaborate in an interactive network.

Table1: The list of Data Centres Established during the ASCLME Project

Country	Institution
Comoros	Ministry of Agriculture, Fisheries and the Environment
Kenya	Kenya Marine and Fisheries Research Institute (KMFRI)
Madagascar	Office National pour l'Environnement (ONE)
Mauritius	Meteorological Services later moved to Mauritius Oceanography Institute
Mozambique	Instituto Nacional de Hidrografia e Navigacao (INAHINA)
Seychelles	Seychelles National Parks Authority (SNPA)
Somalia	Ministry of Fisheries and Marine Resources
South Africa	South African Environmental Observation Network (SAEON)
Tanzania	Institute of Marine Sciences

The Nairobi Convention Clearinghouse and Information Sharing System

In 2003, a meeting of the Contracting Parties (COP) focal points to the Nairobi Convention recommended that the Convention should make efforts to develop outreach information, networking and public awareness for an effective management approach. These sentiments were further discussed at the fourth COP meeting of July 2004 and a decision was made. Under Decision CP4/8 the parties recognized that access to, and use of the increasing diverse, comprehensive data and information on the coastal and marine environment is crucial in order to deal with the vast array of policy, management, scientific and

other practical issues of sustainable development. The decision tasked the Secretariat with the establishment of an information system to meet the needs of the Contracting Parties in implementing the Eastern African Action Plan. The clearinghouse mechanism was subsequently established under the UNEP/GEF-WIOLaB project to be a 'data reference centre', in the Western Indian Ocean region providing accurate and relevant data and information for improved management and protection of the coastal and marine environment. The goal of the Clearinghouse mechanism was to improve the coordination and participation of countries in the management of the coastal and marine resources. The clearinghouse was designed to enable countries develop a comprehensive information base and access services to quickly provide information to decision makers. The objectives of the Clearinghouse are with respect to:

1. Development of human resource capacities and appropriate information infrastructure to enable Western Indian Ocean countries to fully integrate local and national management activities in the coastal and marine environment,
2. Development of an enabling environment for assessment of natural and anthropogenic activities in the coastal and marine areas through advocacy of standards necessary to acquire, process, store, distribute and improve utilization of essential data in the countries, and
3. Provision of ready access to scientific, technical, environmental, legal and policy level information essential for the sustainable development of the coastal and marine environment.

The Clearinghouse data holdings range from geo-spatial, socioeconomic, to environmental publications from institutes, departments, environmental management authorities, maritime services, data gateways, and relevant databases.

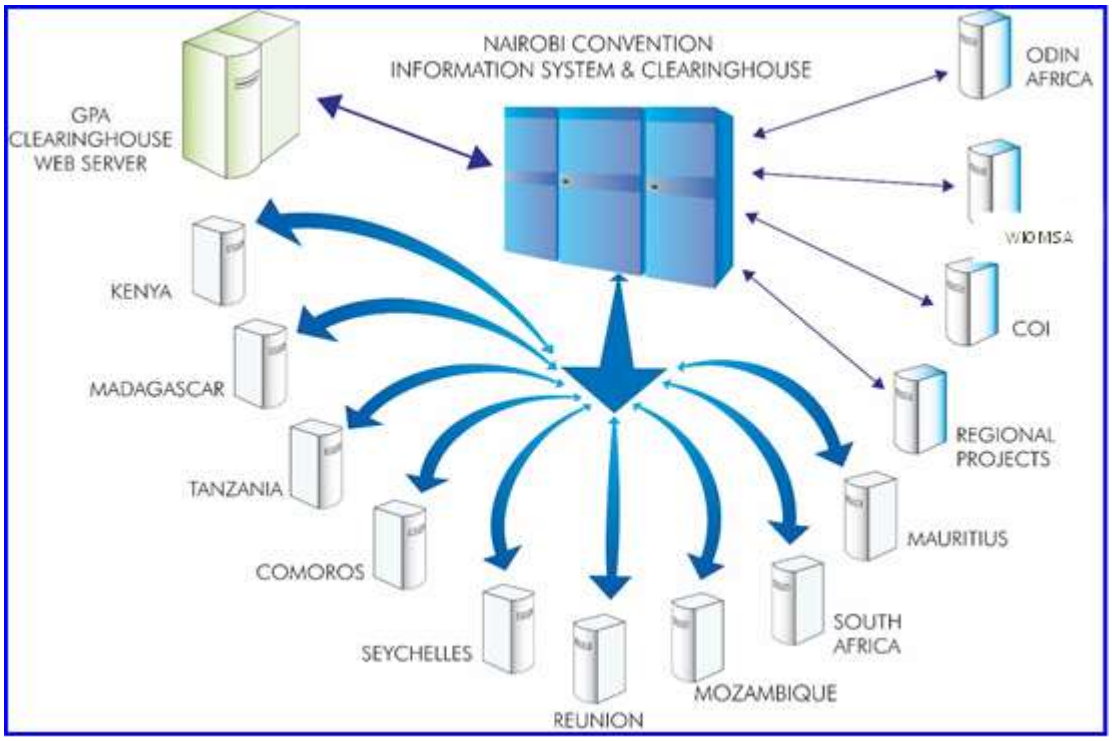

Figure 1: The Structure of the Nairobi Convention Information System and Sharing System

The data and information sharing system will be executed and implemented by Government designated institutions and departments which has the physical infrastructural endowments and human resource capacities to manage national oceanographic data at the national level. At the regional level, the Clearinghouse is coordinated by the Nairobi Convention Secretariat and the Science Division. Several regional partners are supportive of the information and data sharing include IOC/UNESCO, ODIN-Africa Programme, WIOMSA and the Indian Ocean Commission of the EU.

The contracting parties to the Nairobi Convention are keen on enhancing cooperation and sharing of information between their institutions as well as coordination and identification of opportunities for collaborative research. Subsequently, the contracting parties have adopted decisions to strengthen the collaboration of scientists and policymakers captured hereunder:

1. **Decision CP7/17:** To request the Secretariat to hold and encourage partners to support regular science to policy dialogues to provide continuous interaction between the scientists, civil society, private sector, policy and decision makers.

2. **Decision CP8/12.1**: To urge Contracting Parties to promote science to policy interface in order to enhance informed decision making;
   Decision CP8/12.2. To agree to establish a dialogue platform to strengthen the links between science, policy and action and to mandate the forum of the Heads of National Academic and Research Institutions to act as the technical and advisory body of the platform;
3. **Decision CP.9/12.1:** To urge Contracting Parties to promote a science-policy interface by holding regular dialogues between scientists and policymakers to exchange science-based information and to support the development of appropriate policies and innovative solutions to the task of addressing current and emerging threats to the coastal and marine environment in the Western Indian Ocean;

The Nairobi Convention is executing UNDP's project the 'Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonisation and Institutional Reforms' (WIO LME SAPPHIRE) project as part of its work programme. UNDP, Regional Service Centre for Africa is implementing the SAPPHIRE project and providing oversight in its execution. The overall objectives of the WIO LME SAPPHIRE project is to achieve effective long-term ecosystem management in the WIO large marine ecosystems in line with the Strategic Action Programme as endorsed by the participating countries. The project will provide capacity building support for national institutions as well as collaboration with other institutions in region to enhance knowledge-based governance approaches by delivering scientific results to policy makers for adaptive management and decision-making.
The project will support the collection of scientific and local information in the WIO region and ensure it is routinely archived in national data centres and regionally in the Nairobi Convention Clearinghouse Mechanism where it can be retrieved for long term environmental change studies. This work will build on

the previous activities completed under the UNDP's Agulhas and Somali Current Large Marine Ecosystems (ASCLME) project in which data and information management system was established to ensure that data collected during the project, and thereafter, are not only tracked and monitored to the stage of publication, but that datasets are also archived in national data centres for the ongoing benefit of countries, and to build country ownership of the project. This process will strengthen the ability of WIO scientists to effectively deliver evidence-based environmental and socio-economic information to support policy development and implementation at national and regional levels as well as build long-term strategic research partnerships in the WIO region.

Objectives of the meeting

- Discuss on the overall status of Oceanographic Research and Data Collection in the WIO Region
- Identify key priorities of the participating countries to enhance their capacity on utilization, management and ownership of oceanographic data and scientific research findings in the WIO region
- Discussion on partnership related to scientific research and data collection in the WIO region
- Identify the possible modality with the national institutions on a data and information sharing and archiving system
- Discuss on how to revamp he national data centers and possible partnership and collaboration

Expected Outputs

- The status of oceanographic research established and a roadmap for data and information sharing defined
- Gaps identified, and national capacity building interventions jointly planned for utilization, management and ownership of oceanographic data and scientific research findings in the WIO region
- Roadmap designed for reviving the national data centers developed during the ASCLME project
- Data and information sharing mechanism discussed and agreed
- Way forward developed on strengthening Partnership with different stakeholders and partners on oceanographic data and research