



Partnership for Action Meeting on management of Oceanographic Research and Data in the Western Indian Ocean Region

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Concept Note

I. Background

Oceans and seas play a key role in supporting socio-economic growth and development across different sectors, as well as in regulating climate patterns. The Western Indian Ocean (WIO) region is characterized by a diverse range of species and ecosystems and ranks as the world's second richest marine biodiversity hotspot. The region is endowed with coastal forests, mangroves, salt marshes, seagrass beds, coral reefs, and pelagic and deep-sea habitats—all of which support high biodiversity and productive waters, which in turn support economies and livelihoods. Over 60 million people in the WIO region live within 100km of the coast, with over one million working in the fisheries sector. Livelihoods of coastal communities in the region have been evolving due to population increases, infrastructural development and climate change.

In recent years, the region has seen dramatic and often poorly understood reductions in key fisheries, due to the combined effects of climate change, overfishing and degradations of key marine ecosystems. Understanding and managing 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.

The institutions managing oceanographic data and scientific research in the WIO region should facilitate networks, collaboration and partnerships to ensure that the best available scientific and local knowledge is shared and incorporated in planning and policy development at the national and regional level. The WIO region is comprised of ten countries: Comoros, France (Réunion), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa and Tanzania. All are Contracting Parties to the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the WIO. There are national institutions in each of these countries as well as regional organisations mandated to conduct research on coastal and marine resources and provide expert advice to the respective government(s) on policy development and planning. These include:



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The **Kenya Marine and Fisheries Research Institute (KMFRI)**, a state corporation established in 1979 by the Science and Technology Act, Cap 250 of the Laws of Kenya, which has since been repealed by the Science, Technology and Innovation Act No. 28 of 2013. Act No. 28 recognized KMFRI as a national research institution under section 56, fourth schedule. KMFRI has a mandate to undertake research in "marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine research including chemical and physical oceanography", in order to provide scientific data and information for the sustainable exploitation, management and conservation of Kenya's fisheries and other aquatic resources, and contribute to National strategies of food security, poverty alleviation, clean environment and creation of employment, as provided for under Vision 2030.

The **Institute of Marine Sciences (IMS)**, which was established in 1978 with the mandate to conduct research and offer postgraduate and undergraduate training and consultancy services in all aspects of marine sciences. Its objective is to promote and enhance excellence in marine sciences and technology, as well as to enhance regional collaboration and networking in marine sciences research and development, technology and training.

Tanzania Fisheries Research Institute (TAFIRI), which was established by the Act of Parliament No. 6 of 1980 to promote, conduct, and co-ordinate fisheries research in Tanzania.

Western Indian Ocean Marine Science Association (WIOMSA), which was established as a regional, non-profit membership organization in 1993 and registered in Zanzibar, Tanzania in 1994 as a non-governmental organization. The organization is dedicated to promoting the educational, scientific and technological development of all aspects of marine sciences throughout the WIO region with a view toward sustaining the use and conservation of its marine resources. WIOMSA has a particular interest in linking the knowledge that emerges from research to the management and governance issues that affect marine and coastal ecosystems in the region.

The French **Research Institute for Development** (Institut de Recherche pour le Développement, or IRD) is a French science and technology establishment under the joint supervision of the French Ministries of Higher Education and Research and Foreign Affairs. The IRD institute has three main missions: research on world development, overseas consultancy, and training. It conducts scientific programs contributing to the sustainable development of the countries of the South, with an emphasis on the relationship between man and the environment.



Southwest Indian Ocean Fisheries Commission (SWIOFC) was established in 2004 by Resolution 1/127 of the FAO Council under Article VI 1 of the FAO Constitution. The SWIOFC is a member of the Regional Fishery Body Secretariats Network. Its main objective is to promote the sustainable utilization of the living marine resources of the Southwest Indian Ocean region and to address common problems of fisheries management and development faced by the Members of SWIOFC, without prejudice to the sovereign rights of coastal States. It promotes the application of the provisions of the FAO Code of Conduct on Responsible Fisheries, including the precautionary approach and the ecosystem approach to fisheries management.

The **World Wide Fund for Nature (WWF)** is an international non-governmental organization founded in 1961, working to conserve nature and reduce the most pressing threats to the diversity of life on earth. Working in more than 100 countries, WWF is the world's largest conservation organization, supporting around 1,300 conservation and environmental projects.

SOLSTICE-WIO is a four-year collaborative project funded by the UK Global Challenges Research Fund (GCRF). Launched in October 2017, it brings together recent advances in marine technologies, local knowledge and research expertise to address challenges facing the Western Indian Ocean region in a cost-effective way via state-of-the-art technology transfer, collaborative environmental and socio-economic research and hands-on training. The project addresses three sustainable development challenges facing developing countries, i.e. secure and resilient food systems, resilience and action on short-term environmental shocks; and long-term environmental change and reduction in poverty and inequality

World Ocean Council (WOC), the Global Blue Economy Business Organization. WOC brings together shipping, oil and gas, fisheries, aquaculture, tourism, offshore renewables, ports, seabed mining, submarine cable and other ocean industries—as well as investors—to create leadership, collaboration and action on “Corporate Ocean Responsibility”. It offers the Ocean Business Community the structure and process to collaborate on sustainable development and ensures that the policy makers and other stakeholders understand and engage with leadership companies from the Ocean Business Community.

Keen on promoting scientific research in the WIO region, at the 4th Conference of Parties, the Contracting Parties to the Nairobi Convention directed its Secretariat—in collaboration with other organizations—to establish a regional network of academic and research institutions to enhance cooperation and facilitate information-sharing. The network would also coordinate and facilitate identification of opportunities for collaborative research. Subsequently, the Contracting Parties adopted decisions to strengthen the collaboration of scientists and

policymakers through the Forum for Academic and Research Institutions (FARI), some of which are 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 scientists, civil society, policy and decision makers, and the private sector.
2. **Decision CP8/12.1:** To urge Contracting Parties to promote a science to policy interface in order to enhance informed decision making;
3. **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;
4. **Decision CP.9/12.1:** To urge Contracting Parties to promote a science to 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.

II. Introduction

The Nairobi Convention is implementing 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. 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 work will build on the previous activities completed under the Agulhas and Somali Current Large Marine Ecosystems (ASCLME) project. This project established a data and information management system which ensured that project data was a) tracked and monitored until the publication stage of the report; and b) archived in national data centres for the ongoing benefit of countries. 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.

The SAPPHIRE project envisages to build partnerships to ensure that efforts and inputs of all stakeholders working in the WIO region are captured and integrated in an effective regional management and governance system for the WIO LMEs. Additionally, the project will consolidate work already done by stakeholders, including the local communities and the private sector, into the management process through real actions and transformation of practices. The project will engage with partners to provide support and assistance by way of skills, expertise, capacity development and hard resources in line with some of the specific priority requirements for the project implementation.

The project will engage with the private sector to deliver an ocean-industry initiative for data capture, processing, analysis and quality control in line with ecosystem-based management, assessment and monitoring. This will be key in realising science-based policy making for adaptive management and governance as the results and conclusions are used to refine company policies and to develop and adopt self-regulatory approaches. Working with partners, the project intends to establish an offshore oceanographic monitoring network. The network will support countries to conduct vital long-term monitoring and translate the results into adaptive management guidelines and effective governance processes.

III. Lessons from WIO Regional Science to Policy Workshop: Session on Regional Stock Taking on Oceanographic Data and Scientific Research in the WIO Region, 28 May 2019, Mauritius

The full day session on 28 May 2019 brought scientists in the field, policy makers, practitioners and partners together with the objectives of:

- Reviewing the assessment report on oceanographic data and research in the WIO Region
- Identifying key priorities of the region/Contracting Parties to enhance their capacity on utilization, management and ownership of oceanographic data and scientific research findings in the WIO region
- Developing a roadmap to revamp national data centres
- Identifying the possible modality on a data/information-sharing and archiving system in the WIO region
- Establishing/strengthening partnership and collaboration on scientific research and data collection in the WIO region

Several lessons, takeaways, and recommendations from the recent Science to Policy workshop are of relevance to the upcoming meeting.

Key lessons and takeaways

- Data centres fully supported by governments in terms of funding and resources seem to have more likelihood of success, e.g. SADC/MIMS of South Africa.
- Data centres that are demand-driven have a greater chance of longevity, e.g. Seychelles (interests in fisheries and the Blue Economy at different times has led to the development of data centres that are being harmonised).
- Hardware has a life expectancy, so sometimes cloud storage can be a better option
- There is a need to establish trust in the data centres to encourage use of their facilities
- Location of data, security, infrastructure needs to be identified
- Need to identify what the available data is, where it is, and how to access and use such data.
- Questions over whether the region currently has the “right” data sets
- There’s a lack of longstanding, in-situ observation platforms for data collection throughout the water column
- Concern over expense of data management and infrastructure
- Question over creating incentives for data-sharing

Recommendations and Way forward

- Need to establish the status (number of data centres, activities, new data added) and capabilities of each data centre before any other action.
- Data centres should be seen as service providers, and as such, the clients’ needs must be identified in order to tailor suitable products
- Define the data products that are required before investing in the data centres
- Look at international examples for best practices, e.g. GeoNetwork in the Caribbean, and standardise data management to international procedures
- A community decision should be made on the use/location of a regional data portal for metadata and linkages to data sources; a single regional data portal should be the main goal (Nairobi Convention Clearinghouse Mechanism)
- Invest in appropriate resources for each data centre and not take a “one size fits all” approach
- Not all countries need to move to the same level, but they should all be able to improve to enable them to meet the demands of the users (government/scientists)

- Collaboration is key to establishing regional data centres; need to nurture partnerships for data-sharing and funding opportunities
- Data management should be the core function of the data managers and not “side-jobs” over and above scientific duties
- Data policies must be developed that are clear on data use, restrictions, etc.
- Historical data should not be forgotten in the enthusiasm of collecting new data; these data should be revived into useable formats.
- Hands-on experience at successful data centres would provide better capacity building than generic training courses; e.g. invite experts from neighbouring countries that are more advanced in this process to assist in development of data management systems.

IV. Purpose and Objectives of the meeting

Based on the lessons learnt and recommendations, this meeting on ‘Partnership for Action on Management of Oceanographic Research and Data in the Western Indian Ocean Region’ is organized to take action on the key recommendations and priorities. Its **objectives** are as follows:

- To discuss the status of national data centers (the available data, service provided by the centers, major gaps, and challenges and support required)
- To identify key priorities of the participating countries in enhancing their capacity in the utilization, management and ownership of oceanographic data and scientific research findings
- To agree on a feasible partnership mechanism (platform, protocol, etc.) related to data collection and archiving in the WIO region
- To agree on an action plan for the involvement of national data centers in updating MEDAs and TDA
- To define a possible collaboration and partnership modality with international and national research institutions and partners on a data/information-sharing and archiving system

The meeting’s **expected outputs** will be:

- Roadmap developed for reviving the national data centers
- Capacity gaps identified and an action plan proposed for capacity building
- Collaboration and partnership modality identified on a data/information-sharing and archiving system
- Partnership mechanism (platform, protocol, etc.) related to data collection and archiving in the WIO region developed/proposed



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- The role of national data center in updating MEDAs and TDA defined