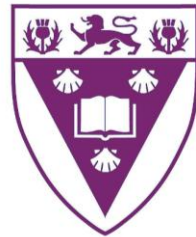


REGIONAL FRAMEWORK FOR ECOSYSTEM MONITORING IN THE WESTERN INDIAN OCEAN

Warwick Sauer, Kelly Ortega, Sarah Viana and Lucy Scott
Department of Ichthyology and Fisheries Science



RHODES UNIVERSITY

Where leaders learn



Introduction

- **The Western Indian Ocean (WIO) Region has unique biodiversity and abundance of natural resources of socio-economic relevance for the local communities and national economies.**
- **Ecosystem health determines the sustainability and productivity of these activities to support human well-being and, thus, relies on the successful management of the Ocean.**
- **Monitoring of ecosystems is undertaken through constant and long-term data collection of regional and national indicators relevant to evaluate the environmental status and trends, and sustainable ecosystem services usage (CSIR, 2009).**
- **Difficulties in aggregating available data from several countries may be minimized by setting up a standardized framework for the design, implementation and reporting processes of ecosystem monitoring.**
- **Monitoring is an essential component of decision making, because it allows evaluation of the effectiveness of management actions through time and thus reduce uncertainty.**



Regional and international commitments

- **The Contracting Parties to the Nairobi Convention have committed under Article 15 (on Scientific and Technical Cooperation) of the Amended Convention to cooperate in scientific research, monitoring and the exchange of data and information in relation to the Convention and its Protocols.**
- **Under Article 17 and 23, it is stated that the Contracting parties must prepare national state of coast reports periodically. These national reports will form the basis of the regional State of Coast report to be produced every 5 years (Decision CP8/11: National and Regional State of Coast Reports). The Decision CP7/5: Strengthening National Reporting states that the Contracting Parties must agree to use a common reporting template to report their progress implementing the Convention and its protocols.**
- **The regional framework for ecosystem monitoring should be considered as a guide to support contracting parties and the region to assess their efforts and progress in achieving regional and global conventions and commitments.**



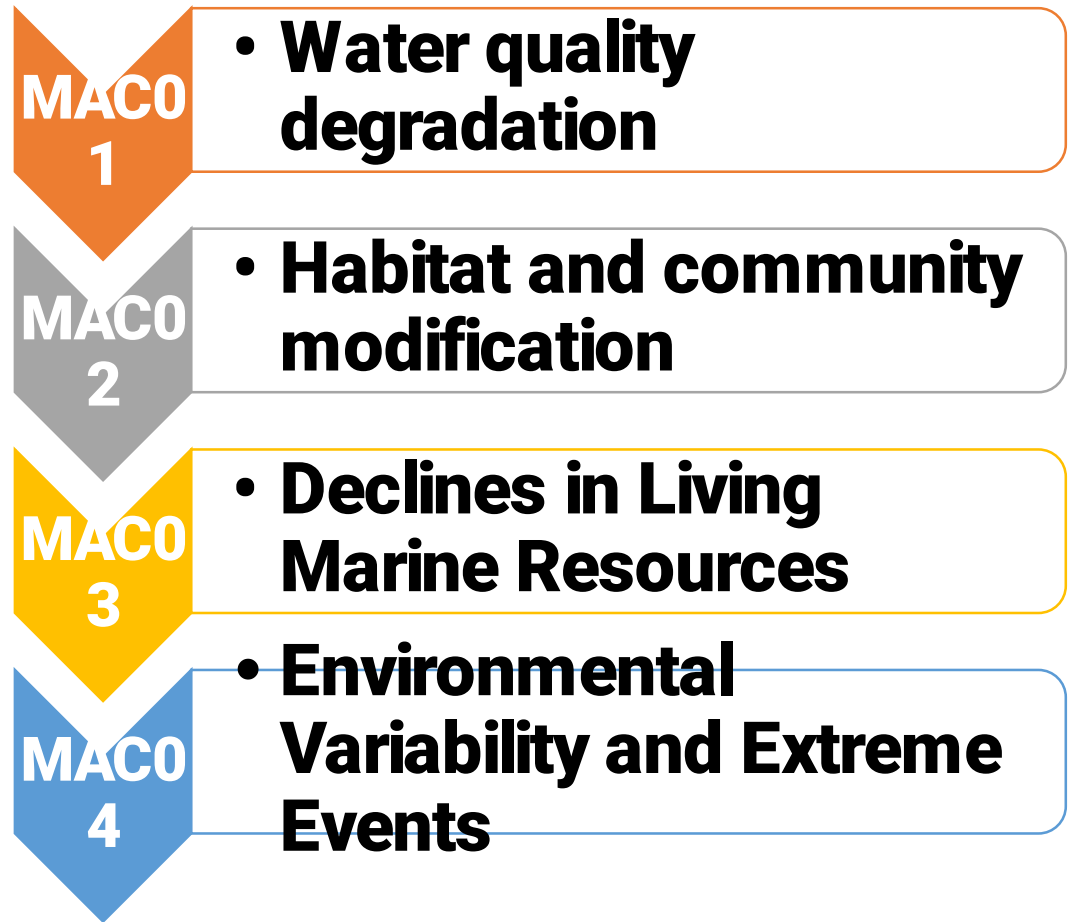
Aim of the WIO LME Framework

- **To provide guidance to the WIO Contracting Parties on the development of activities to support ecosystem monitoring at the national level. These activities will provide basic scientific-based information and knowledge to current regional and global commitments to support their obligations and assist with decision making.**
- **To provide a standardized approach to support contracting parties in national planning, and to design and implement national EMP through a common methodology as well as a guideline for the reporting and communication of monitoring data that are relevant at a regional level.**



Ecosystem challenges in the Western Indian Ocean region

- Coastal and ocean ecosystems of the WIO region face particular issues which were identified at the national and regional levels through the National Marine Ecosystem (MEDAs) and Transboundary Diagnostic Analyses (TDAs) undertaken by the ASCLME-SWIOFP and WIO-Lab projects.
- The TDAs identified 21 priority issues. These priorities are grouped in four main areas of concern (MAC).
- These issues are of major relevance for the WIO region in terms of monitoring and the development of national EMPs as they serve as the baseline for setting up the ecosystem monitoring programme objectives.



- **Priority regional indicators were selected after consultation and in line with national, regional and global targets such as the Sustainable Development Goals, the draft post 2020 Global Biodiversity Framework, its alignment with the aims of the Ocean Decade implementation plan and the Regional Seas Strategic Directive 2017-2020, as well as their relevance and link to the Transboundary Diagnostic Analysis.**
- **These 30 draft indicators are proposed here for consideration by the Contracting Parties.**



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



Priority indicators

MAC01 Water Quality Degradation

- **SDG 6.3.2, GBF 10.3 Proportion of bodies of water with good ambient water quality**
- **SDG 6.3.1 Proportion of domestic and industrial wastewater flows safely treated**
- **SDG 14.1.1 Index of coastal eutrophication and plastic debris density**
- **SDG 6.5.1 Degree of integrated water resources management**

MAC04 Unpredictable Environmental Variability and Extreme Events

- **SDG 13.1.2, GBF 7.1 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030**
- **SDG 13.1.3, GBF 7.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies**

MAC02 Habitat and community modification

- **GBF 2.3 Proportion of terrestrial, freshwater and marine ecological regions which are conserved by PAs or OECMs**
- **GBF 1.2. Trend in mangrove extent**
- **Mangrove cover and composition (EOV)**
- **Seagrass cover and composition (EOV)**
- **GBF 1.2 Trend in proportion of live coral cover**
- **Hard coral cover and composition (EOV)**
- **SDG 14.5.1, GBF 2.1 Coverage of protected areas in relation to marine areas**
- **SDG 15.8 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species**
- **AT 11 Management effectiveness of protected areas**



MAC03 Declines in Living Marine Resources

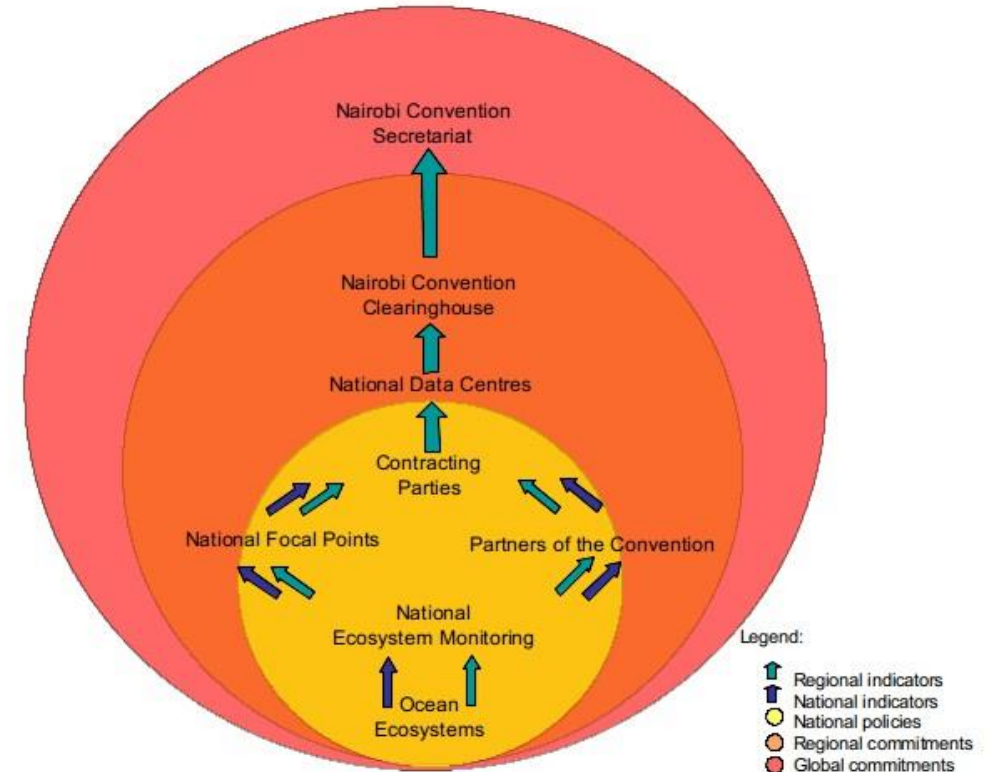
- **SDG 14.1.1 Proportion of fish stocks within biologically sustainable levels**
- **SDG indicator 14.2.1, GBF 1.1 Number of countries using ecosystem-based approaches to managing marine areas**
- **GBF 1.2, 1.4 Ocean Health Index**
- **AT 6 Estimated fisheries catch and fishing efforts (IPBES core indicator)**
- **AT 6 Number of countries with policies that make adequate provisions to minimize the impacts of fisheries on threatened species**
- **AT 6 Number of countries with regulations requiring recovery of depleted species**
- **AT 6 Number of countries with policies to secure that mortalities and significant indirect adverse impacts on non-target species are accounted for**
- **AT 6 Proportion of fisheries with regular monitoring and reporting of impacts on threatened species**
- **AT 6 Proportion of depleted stocks with rebuilding plans in place**
- **AT 18 Number of local community-based monitoring on traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity**
- **GBF 8.1. Degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries**
- **GBF 4.1, 8.1 Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing**
- **Fish abundance and distribution (EOV)**
- **Marine turtles, birds, mammals abundance and distribution (EOV)**
- **Invertebrate abundance and distribution (EOV)**



Suggested WIOOLME Framework

1. Assistance on National Planning for Ocean EMPs

- **National Planning to include the National Focal Points of the Nairobi Convention and national representatives of relevant Networks, Task Forces and Experts/Working Groups set up under the Convention or its projects.**
- **The Environment and Fisheries departments/ministries to be responsible for obtaining the monitoring data in line with their mandates.**
- **The national EMPs to obtain data for regional reporting and incorporation into a long-term regional monitoring process which will be hosted by the Nairobi Convention Secretariat through its Clearing House Mechanism.**
- **National Data Centres (under the direction of the respective National Data Coordinators) under the Nairobi Convention will be responsible for the compilation and updating of regionally-relevant monitoring data into the Nairobi Convention Clearing House Mechanism on an annual or bi-annual basis.**
- **Data and information required from each National Data Centre will be compiled into a standardized reporting template.**
- **The Secretariat will assess and validate information received from the Contracting Parties and provide the necessary links to regional, continental and global monitoring processes.**



Flow of monitoring data obtained through national ecosystem monitoring programmes and its relationship with national policies, regional and global commitments



Recommendations

Technical

- **The 30 priority indicators suggested in this framework should be evaluated, discussed and approved by the Contracting Parties in order to standardize data gathering for the regional monitoring. Each Party should review the situational assessment and update it accordingly (i.e., adding relevant information on ocean ecosystem monitoring).**
- **National Data Coordinators (NDCs) from the National Data Centres of each Contracting Party should be nominated to oversee implementation.** NDCs are responsible to 1) conduct national self-assessments on the availability of information for the priority indicators, 2) harmonize data collection methods, ensuring comparability nationally and regionally and facilitating data aggregation and 3) coordinate the development and implementation of regional indicators.
- **NDCs should designate Indicator Coordinators, who will evaluate the indicator data, oversee the progress and review the indicator monitoring for quality control and assurance.**
- **The NDCs, Indicator Coordinator and Expert Groups should discuss the specific methodology and parameters to be collected for each of the priority indicators to ensure regional standardization, continuous updating and evaluation of data.**

Policy

- **All Contracting Parties should, after appraisal and suggested amendments, approve and incorporate this framework in their national planning processes.**
- **A capacity development and mentoring programme is urgently required to support these recommendations, and will serve to strengthen the capacity of National Data Centres to participate and contribute to regional ecosystem monitoring requirements.**



Conclusions

- **The framework is structured to guide the Contracting Parties in coordinating, planning, implementing, integrating and reporting of national data of ecosystem indicators to be fed into the regional monitoring program.**
- **A living document - The framework should be updated regularly by the National Data Centres of each Contracting Party through the Nairobi Clearinghouse Mechanism.**

