



STRATEGIC PLAN

2021 - 2024

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FOREWORD BY CHAIRMAN



The Government of Mauritius in 2015 developed the Vision 2030 with the aim of transforming Mauritius into a high income, sustainable, innovative and inclusive economy.

Presently due to the COVID - 19 crisis, the blue economy has assumed another dimension as the need to ensure food security, job retention and sustainability are now among the highest priorities of our socio-economic development agenda.

In view of maximising the opportunities from the blue economy, the Honourable Prime Minister, Pravind Kumar Jugnauth has announced several measures and has introduced a number of forward-thinking financial incentives to all those who wish to participate in its development.

The blue economy currently contributes up to 10 % of the country's GDP. The planned expansion of the blue economy has the potential to further contribute towards the development of our country, in terms of economic growth, diversification and reduction in both poverty and social inequality. Blue economy covers the traditional sectors amongst others the fisheries, seafood processing, marine resources, ocean energy and shipping. The new sectors integrated into Mauritius' blue economy include marine biotechnology, aquaculture, and renewable energy.

The Mauritius Oceanography Institute (MOI) has shown remarkable dynamism since its creation in 2000 by initiating and contributing to a number of projects of national importance. With this Strategic Plan, the MOI is called upon to undertake a number of projects which would aim at bringing direct economic benefits to the country and to counter marine environmental degradations.

Mauritius has to be at the pole position of emerging technologies and knowledge related to oceanography in the Indian Ocean region. The use of Earth Observation (EO) tools for developing and implementing operational oceanographic services is now undeniably the way forward in the management of coastal and ocean ecosystems.

For instance, the MOI routinely provides ocean state forecasts which include sea surface temperature, salinity and current which guide decisions pertaining to coastal and maritime activities.

As such, the MOI was actively involved in generating ocean forecasts which were presented on a daily basis to the National Crisis Committee for decision making and to guide the placement of booms to contain the oil spill from the vessel MV Wakashio, which ran aground off the southeast coast of Mauritius in July 2020. Furthermore, following a collision between a barge and a tug, the MOI used EO Data to generate ocean forecasts to help during the search and rescue operations.

Moreover, the MOI will carry out studies on the impacts of climate change and implement mitigating measures such as coral farming for reef rehabilitation. It will also play a vital role in aquaculture based research activities as well as disaster and hazard risk strategies. Capacities are very limited, and the vast ocean hides such secrets extremely useful for humankind, thus a major component of this three-year plan includes capacity building.

I am pleased to be associated with this three year Strategic Plan of the MOI for the period 2021 – 2024. I am sure that if provided with support and the right framework, the MOI will be able to deliver on its mandate of advising the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping on the formulation and implementation of policies and programmes in oceanography towards making the ocean, a pillar of its economy.

MR. NADEEM NAZURALLY

Chairman of the Board of MOI



OVERVIEW



The Mauritius Oceanography Institute (MOI), was established in January 2000 by the proclamation of the MOI Act (Act No. 24 of 1999, with a view to rationalise and co-ordinate oceanographic research and development activities in the Republic of Mauritius.

Formerly under the Prime Minister's Office and now under the aegis of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping, the role of the MOI is to advise the Government on the formulation and implementation of policies and programmes related to oceanography for the development of a sustainable blue economy.

The MOI moved into its research facility at Albion with office and laboratory infrastructure of 3,392 m² situated on a plot of land of 3 acres as a major achievement after 15 years with a vision to becoming a Centre of Excellence in the South West Indian Ocean. Furthermore, in line with the Government Programme 2020 - 2024 and its Vision 2030, MOI has restructured its research agenda in order to support the development of a sustainable blue economy.

The MOI is leading national projects such as the characterisation of earmarked aquaculture sites around mainland Mauritius and community based coral culture in the Republic of Mauritius for capacity building of coastal communities in small scale coral farming as an alternative means of livelihood for fishermen and for reef rehabilitation of the Mauritius lagoon. Other projects include the bioprospecting of living organisms of Mauritius Waters with a prospect towards the development of marine pharmaceuticals.

Under the International Maritime Organisation's GloBallast Partnerships project, and specifically in the GloBallast Monograph, the implementation of a customized Ballast Water Risk Assessment & Decision Support (BWRADS) system for use in management applications (e.g., Port State Control inspections) and Port Biological Baseline Survey (PBBS) implemented in Port Louis, Mauritius, were mentioned as a case study.

In 2009, the MOI, through the Indian Ocean Commission (IOC), was nominated as the Regional Implementation Centre (RIC) for the African Monitoring of the Environment for Sustainable Development (AMESD) for the Indian Ocean Region. The MOI received plaudits by showing a high level of professionalism during this project which led to a successive nomination for leading the Monitoring for Environment and Security in Africa (MESA) project from 2014 to 2018. Both these regional projects were financed by the European Union (EU). Taking into consideration the proper management of these regional projects, the African Union Commission (AUC) approved the MOI as the RIC for the "Global Monitoring for Environment and Security (GMES) and Africa funded by the African Union and the European Union from 2018 to 2021.

The network and expertise built within the different projects by the MOI have and will be instrumental in the development of the blue economy and the management of our precious marine and coastal resources.

Furthermore, the MOI has enough expertise to intervene in situation of crisis to provide daily physical oceanographic data of the region on a GIS support for coordinating search and rescue operations at sea as well as for tracking oil spills.

In view of drafting the MOI Strategic Plan 2021 – 2024, various documents on the Blue Economy such as the United Nations Decade of Ocean Science for Sustainable Development (2021 – 2030) Implementation Plan and the Blue Economy in 2030 by the Organisation for Economic Cooperation and Development were inter alia consulted in order to streamline the Institute’s strategic direction in the present context of the prevailing pandemic and climate change.

VISION



To be a leading institute in oceanography in the Indian Ocean region.

MISSION



To undertake oceanographic and coastal research for the development and sustainable management of resources for the Blue Economy of the Republic of Mauritius.



OBJECTS OF THE INSTITUTE



The objects of the Institute are:

- (a) to foster interest in research and development in relation to oceanography;
- (b) to advise Government on the formulation and implementation of policies and programmes in respect of oceanography and related aspects;
- (c) to coordinate, collaborate and cooperate with other institutions, agencies and persons on national, regional and global issues within its fields of interest, and to assist any organisation, body or person in creating sustainable research and development programmes in those areas of interest and activity relating to oceanography;
- (d) to demonstrate and communicate to the scientific community and the public at large the results of research and the importance of oceanography in the conservation, maintenance, management, utilisation and development of resources based on marine and coastal ecosystems;
- (e) to manage and optimise the use of funds and other resources.

FUNCTIONS OF THE INSTITUTE

The Institute have such functions as, in its opinion, are necessary to further most effectively the objects of the Institute, and in particular-

to initiate, encourage, launch, facilitate, support, undertake, participate in, rationalise and coordinate research and development in relation to oceanography having regard to the national, regional and international interests of Mauritius, its needs and priorities;

- to arrange for carrying out such research and development;
- to provide any other institution, body or person with facilities for carrying out such research and development;
- to maximize opportunities and arrangements for such research and development on a collaborative basis;
- to encourage and facilitate the application and use of the results of such research and development;
- to prepare, fund, implement and periodically update and monitor programmes relating to the sustainable development of marine resources;
- to collect, coordinate, store and disseminate information relating to oceanography and to publish reports and other material relating to oceanography;
- to identify training needs in the field of oceanography;
- to make available to other institutions, bodies or persons, on such terms and conditions as it thinks fit knowledge, expertise, equipment or facilities of the Institute;
- to do anything incidental or conducive to the performance of any of its functions.

MOI CORPORATE VALUES

Professionalism

Integrity

Team Spirit

Dedication

Transparency

Commitment

Loyalty

Mutual Respect

Good Ethics

Accountability



SWOT ANALYSIS FOR MOI

To ensure that MOI gets visibility on its current status and for understanding as well as measuring overall performance in order to plan and mitigate future roadblocks, thus ensuring long term growth, a SWOT (strength, weakness, opportunity and threat) analysis was carried out in consultation with the staff during several working sessions.

The main purpose of the SWOT analysis was to address the limitations faced by the MOI so as to enable strategic planning for helping decision makers draw a future roadmap for the organisation.

STRENGTHS

- Technical arm of the Government of Mauritius in oceanography
- Experienced, dynamic and skilled staff
- Regional visibility
- Dedicated staff and modern research laboratories

WEAKNESSES

- Inadequate human resource
- Financial dependence on Government
- Local visibility
- Organisational structure

OPPORTUNITIES

- Availability of funds from external donors
- Recognition of the importance of the blue economy
- Public-Private-Partnerships prospects
- Fund generation through services
- Exploitation of innovative technologies
- Collaborations with regional and international Institutions
- Capacity building opportunities at local, regional, international level
- International best practices

THREATS

- Brain drain
- Lack of recognition/lack of visibility of the importance of the blue economy
- Procedural bottlenecks
- IPR issues
- Frequent breakdown of expensive equipment which is a pertinent barrier to certain research

STRATEGIC OBJECTIVES 2021 - 2024

Strategic Objective 1

Advising Government on the formulation and implementation of policies and programmes in respect to the science of oceanography and its application.

The Mauritius Oceanography Institute (MOI), was established in January 2000 by the proclamation of the MOI Act (Act No. 24 of 1999). The need to rationalise and co-ordinate research and development activities related to Oceanography was the motive for the setting up of the MOI.

In this context, the MOI is regularly called upon to advise government on the formulation of policies and programmes in respect of oceanography. With an Exclusive Economic Zone that extends over an area of about 1.9 million square kilometres, Mauritius has a wide maritime zone to manage and thus has an enormous potential for exploitation of ocean resources. This coastal and ocean territory holds an immense potential for development which could play a vital role in the economy of Mauritius. All fundamental and applied research on oceanography would be carried out under the aegis of the Mauritius Oceanography Institute.

Strategic Objective 2

Initiating and undertaking research in relation to oceanography including the impacts of climate change on coastal and oceanic processes for the development of the blue and other related marine economy.

Climate change is modifying oceanographic conditions. In the Indian Ocean, projections show increasing sea water temperatures, growing ocean acidification and regional oxygen depletion. Increasing ocean stratification (primarily due to the increase in surface temperature) and decreasing primary production are also forecasted.

MOI has expertise in satellite oceanography whereby data are being received and processed on a regular basis to track Sea Surface Temperature (SST), Sea Surface Height (SSH) and Sea Surface Wind (SSW) and primary production in the Exclusive Economic Zone (EEZ) of the Republic of Mauritius.

The data obtained will help policy makers in the sustainable management of our marine resources.

Strategic Objective 3

Characterisation and benchmarking of the biological, chemical, geological and physical attributes of oceanic and coastal environments.

If baseline data is not available, it would be difficult to set targets for any future projects. Baseline data is data that measures conditions before a project starts for later comparison which provides the historical point of reference for the next steps of project monitoring and evaluation.

Thus, for proper management of our marine resources, baseline oceanographic data is a sine qua non condition for the formulation of monitoring strategies of the coastal and oceanic resources.

Strategic Objective 4

Creating strategic alliances with institutions in areas of common interests and activities pertaining to oceanography.

The connectivity of ocean processes combined with the connectivity of human use underlies the rationale for cooperation. To maximize engagement efforts and outreach, the MOI will actively engage with other oceanographic and marine research organisations, communities and other marine-related professional bodies including the Private Sector, Non-Governmental Organisations (NGOs) and Community Based Organisations (CBOs) to explore opportunities to stimulate innovative and transformative contributions to the . The active involvement of private sector partners and other ocean actors is envisaged.

Strategic Objective 5

Increase transformative knowledge in ocean capacity and capability to ensure development of a sustainable blue economy.

This objective will contribute to outcomes by using present scientific and technical capacity for exploring, observing, assessing and delivering proposed solutions for decision-making to policy makers. Fulfilment of this objective will encourage cooperation at sectoral, national, regional and international level for promoting ocean science.

This will facilitate the transfer of knowledge and technical understanding required to fill in the current gaps in science capacity and sustainable policy development.

Furthermore, it will contribute to building an ocean-educated society that understands the problems the ocean is facing and the proposed solutions needed.

Strategic Objective 6

Public outreach and communications to sensitise on ocean sciences.

Ocean Literacy defined as ‘the understanding of human influence on the ocean and the ocean’s influence on people’ is a form of capacity development that will be implemented

It is not only about increasing awareness on the state of the ocean, but also the tools and approaches that can transform ocean knowledge into actions that promote ocean resources sustainability.

Ocean Literacy is an approach that is evolving from being a tool applied in formal education and training contexts, to a tool and an approach for society as a whole with a view towards ocean sustainability.

A wide range of stakeholders can lead and benefit from Ocean Literacy. The vision for ocean literacy will be to ensure action in all sectors of society in developing sound public marine policy, promoting more responsible citizenry, promoting more ocean aware corporate practices, and encouraging young people to start a career in the marine sciences.

Strategic Objective 7

To engage in consultancy services at national, regional and international levels.

With the expertise and knowledge gained during the past two decades in various fields, the Institute is ready to take on consultancy services at national, regional and international levels.

The funds generated during this endeavour will contribute to the development, be it in human resources, infrastructure and the acquisition of new technology. Consultancy would be instrumental for strengthening the Institute's network.



STRATEGIC APPROACHES



Strategic Objectives	Strategic Approaches
<p><u>Strategic Objective 1</u> Advise the Government of Mauritius on the formulation and implementation of policies and programmes in respect to oceanography and related aspects.</p>	<ul style="list-style-type: none">• Initiate and coordinate consultations with stakeholders on marine affairs for the development of the Blue Economy
<p><u>Strategic Objective 2</u> Initiating and undertaking research in relation to oceanography including the impacts of climate change on coastal and oceanic processes for the development of the blue economy.</p>	<ul style="list-style-type: none">• Develop experimental aquaculture and marine biotechnology• Characterise and monitor earmarked aquaculture sites• Explore potential marine renewable energy sources (thermal, current, wave) <p>Protect biodiversity through sustainable management of marine resources and conservation planning</p> <p>Assess the impacts of micro plastics on the marine environment</p> <ul style="list-style-type: none">• Observe and monitor sea level rise, effects of climate on lagoon and oceanic resources <p>Monitor geospatial oceanographic parameters</p> <ul style="list-style-type: none">• Assess the impacts of bleaching on coral reefs and promote coral culture for reef rehabilitation



Strategic Objective 3

Characterisation and benchmarking of the biological, chemical, geological and physical attributes of oceanic and coastal environments.

- Establish a baseline of the physico-chemical and biological attributes of the coastal and oceanic waters
- Monitor beach topography evolution and sediment characterisation
- Develop and implement research programmes for the detection and monitoring of marine invasive species in high-risk areas (e.g. ports and marinas)
- Collect data and information for the prevention and management of bio invasions
- Hazard and risk mapping for safety and economic security (such as search and rescue, tsunamis, oil spill)

Strategic Objective 4

Creating strategic alliance with like-minded institutions in areas of common interests and activities pertaining to oceanography.

- Establish new collaboration with other oceanographic institutions
- Aim to become a recognised centre in the region in the field of oceanography
- Maintain and strengthen existing collaborations



Strategic Objective 5

Increase transformative knowledge in ocean capacity and capability to ensure sustainable development and use of marine biodiversity.

- Training in emerging fields of oceanography
- Contributing to the implementation of international agreements and frameworks in the transfer of marine technology
- Build and share scientific and technical capabilities to provide equitable access to ocean knowledge through an open access data portal for all ocean data systems.
- Develop mechanisms to expand training, education and ocean literacy. Understanding ocean literacy for the promotion of science to policy dialogue to ensure ocean sustainability.

Strategic Objective 6

Public outreach and communications to sensitise on ocean sciences

- Develop a communication strategy
- Disseminate main findings of projects and the importance of oceanography using traditional and social media platforms
- Organise national, regional and international conferences, workshops, seminars, training courses on marine science and oceanography
- Encourage peer reviewed scientific publications
- Conduct sensitisation and awareness campaigns



Strategic Objective 7

To engage in consultancy services at national, regional and international levels

- To participate in any tender procedures in connection with coastal and oceanic requirements or projects
- To create an MOI research fund as a consequence of consultancy services
- Enhance the funding capacity of MOI for oceanographic research



HUMAN RESOURCE ALLOCATION & GENDER DISTRIBUTION

Human Resource Allocation

The need for proper allocation of human resources is crucial for an organisation to achieve optimal efficiency and performance which will lead to improved productivity.

Currently, the MOI is staffed with human resources in the administrative, finance, procurement, IT, Technical and Scientific cadres. There are in total 46 staff comprising 16 scientists, 4 technical staff and 26 staff in the administrative cadre which includes the Directorate, IT, Public Relations and Communication, Finance, Procurement & Supply, Documentation and auxiliaries.

Gender Distribution

Gender	Number of Staff in Scientific and Technical Cadre	Number of Staff in Administrative Cadre
Male	11	12
Female	8	14
Total	20	26

In line with the government vision to develop the blue economy, it is imperative that all departments of the MOI would be staffed with the right expertise.

Forecast for recruitment of staff for the next three years

Scientific and Technical cadre

Cadre	Units	Post/Grade	Present Staff in post	Projected Posts			Total
				2021 - 2022	2022 - 2023	2023 - 2024	
Scientific	Biosciences	Research Scientist	0				
	Chemical Oceanography	Research Scientist	0	5	5	4	14
		Research Scientist	0				
	Physical Oceanography and Marine Geosciences	Associate Research Scientist	5	1	1	2	9
		Associate Research Scientist	4	1	1	2	8
		Associate Research Scientist	5	1	1	2	9
Technical	Laboratory	Laboratory Manager	0	-	1	-	1
		Technical Officer	1	-	1	1	3
		Laboratory Attendant	1	-	3	1	5
	Diving	Technical Assistant/Senior Technical Assistant	2	-	1	1	4
		Diving Safety Officer	0	-	1	-	1

Administrative and General Cadre

Cadre	Units	Post/Grade	Present Staff in post	Projected Posts			Total
				2021 - 2022	2022 - 2023	2023 - 2024	
Administrative	Management	Director	0	1	-	-	1
		Deputy Director (Scientific)	1	-	-	-	1
		Deputy Director (Administration)	1	-	-	-	1
	Public Relations & Communications	Public Relations Assistant	0	-	1	-	1
		Human Resource Management Officer	0	-	1	-	1
	Front Desk Office	Front Desk Officer	1	-	1	-	2
		Assistant Procurement and Supply Officer	0	-	2	-	2
	Internal Control	Internal Control Officer	0	-	1	-	1
		Management Support Officer	4	2	1	1	8
	Administration	Handy Worker	1	-	-	1	1
Plant and Maintenance Officer		0	-	1	-	1	
General	Plant and Maintenance	Multi Skilled Handy Worker	0	-	2	-	2

HOW TO ENGAGE IN THE EXECUTION OF THE STRATEGIC PLAN 2021 - 2024



Implementation of this Strategic Plan will be carried out by a diverse range of ocean stakeholders, whose active and sustained engagement will determine its success.

Section 12 of MOI Act (1999) stipulates for the setting up of a Research Advisory Council (RAC) which shall assist the Board in the discharge of the research functions of the Institute and either on its own or upon request made by the Board to advise on matters relating to the research functions of the Institute.

In this regard, the RAC would monitor progress of ongoing scientific research projects and evaluate their relevance to National policy and make recommendations to Board. Technical and financial feasibility as well as policy and economic relevance of selected innovative research proposals would be examined for relevant advice on alignment with the Strategic Plan of MOI and Government Vision 2030.

Furthermore, research thematic areas (or projects) as mandated by the Government strategic direction for the development of the blue economy would be proposed to ensure engagement with policy makers.

Within the next three years a clearly defined scientific and research policy for MOI would be developed for the identification of training needs and capacity building of MOI staff.

CONCLUSION



The Republic of Mauritius is an ocean nation and our future prosperity and security depend upon the understanding, health as well as sustainable use of our oceans and coasts. It is expected that the objectives in this strategic plan will contribute towards the economic recovery in the wake of COVID-19 through the data and services provided by the MOI. This Strategic Plan 2021 – 2024 describes the research and recommendations needed to guide global policy making and responsible ocean stewardship that will contribute to a robust blue economy whilst also allowing the health of our oceans to flourish.



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