

# **TRANSFORMING FISHERIES SECTOR MANAGEMENT IN SOUTH-WEST INDIAN OCEAN REGION AND MALDIVES PROJECT (Trans FORM, SWIOFish5) - P179242**

## **Project Objective**

The Project Development Objective (PDO) of the Transforming Fisheries Sector Management in South-West Indian Ocean Region (SWIO) and Maldives project is to strengthen regional, evidence-based fisheries management in the SWIO and to improve competitiveness in the fisheries sector in the Maldives. The project has a regional benefit focus and the sets of activities are delineated along such focus on explicit needs for activities shared by all SWIO countries, and activities undertaken in Maldives that provide regional benefits including bilateral benefits. The project's effective date is the 9th of August 2023, and its end date is the 31st of December 2030.

This project is financed by an International Development Association (IDA) Grant. The total project cost is estimated at USD 64.8 Million, of which USD 12 million (Component 1) will be implemented by the Indian Ocean Commission. The remaining USD 52.8 Million (Component 2 and Component 3) will be implemented by the Republic of Maldives. Funds allocated for the Maldives are 50% IDA grant and 50% IDA credit.

## **PROJECT COMPONENTS**

The project comprises three key components and several sub-components under each component. Component 1 will be implemented by the IOC, and all activities will be coordinated and agreed with member countries. Components 2 and 3 will be implemented in and by Maldives but with the aim to influence management of the fisheries sector in other SWIO countries. The distinction between Component 2 and Component 3 is about the role of the government: Component 2 focuses on public and regulatory functions that are needed, whereas Component 3 is about actions that are needed to incentivize the private sector to ensure sustainable growth, diversification and inclusion.

### **COMPONENT 1: Enhance Evidence-based Management Advice to the Fisheries Sector in the South-West Indian Ocean Region (*implemented by the IOC*)**

This component will aim to enhance fisheries management in the SWIO region as a whole and reinforce regional collaboration through production and sharing of regionally relevant knowledge, targeted capacity development, improving fisheries and fish stock assessments, the production of management advice, and by promoting effective collaboration with other regional programs and

initiatives supporting different elements of fisheries management, policy or research. All activities will ensure the best possible use of the organizational and technical expertise available with the IOC itself and sourcing the additional expertise, as is required to overcome the low availability of local scientific and technical expertise in the SWIO region, from the Food and Agriculture Organization (FAO) to effectively support the SWIOFC.

### **Sub Components:**

#### **1.1. Promoting the Development and Coordination of Relevant Innovative Regional Research with a Focus on Capacity Development Programs and Initiatives**

This subcomponent aims to reinforce the SWIOFC framework for the development and application of science-based fisheries management in the region. It is expected to lead to the acquisition of a common lexicon and knowledge base among the experts involved, as well as the reinforcement of a community of good practice across the institutions dealing with fisheries management and research, promoting opportunities for exchange of expertise, and lessons learned between member countries. The training and mentoring program of the SWIOFC will be developed considering the current under-representation of women in the SWIOFC and in the panel of experts in fisheries related subjects in the region. It will include

- (i) the promotion, support, and coordination of an innovative regional fisheries science program focusing on priority areas of the SWIOFC, already identified by the SWIOFC and the Scientific Committees,
- (ii) the development and implementation of a regional training and mentoring program coordinated by the IOC, that aims at overcoming the limitations of unconnected short courses, and at allowing a better tailoring of the training to the knowledge needs and skill level of different groups of experts, and skills training for 100,000 small-scale fisherpersons, especially women, in diversified fisheries sector business enterprises; and
- (iii) (iii) supporting the further development of a network of Regional Centres of Excellence (RCEs) on management and applied research of fisheries and mariculture, allowing the development of a regional critical mass in scientific areas of particular relevance to science-based fisheries management advice in the region, complementing capacity gaps through regional assistance exchanges, and reducing the continued dependence on expertise from consultants and companies from other areas of the world.

#### **1.2. Coordinating and Consolidating Regional Cooperation for Evidence-based Advice on Management of Fisheries and Other Uses of Marine and Coastal Ecosystems**

This subcomponent aims to improve fisheries assessment and management in all its dimensions (social, economic, and ecological), by developing and applying guidance on the use of common

standardized tools and approaches for assessment, improving the management and use of information and data on fisheries, and the development or revision of Ecosystem Approach to Fisheries Management (EAF)-compatible fisheries management plans for implementation by member countries. The work under this activity will be structured in a way to make the best use of the collective knowledge and limited resources of the member countries and directly support the work conducted by the Scientific Committee and Working Groups, in tight connection with subcomponent 1.1. This subcomponent will include:

- (i) support to meetings and intersessional work of the IOC, the SWIOFC Commission, the SWIOFC Bureau, the Scientific Committee and Working Groups and Parties; and incremental operating costs of the IOC and its project management unit specifically set-up to implement this project including monitoring, evaluation, and reporting;
- (ii) (ii) improving the stock assessments currently undertaken on a regular basis, through the implementation and expansion of tools and capacity for the application of data-limited approaches to the production of stock assessment and fisheries management advice, at national and regional level;
- (iii) (iii) supporting the adoption of sustainable systems and processes for managing and accessing information and data on data-limited and capacity-limited fisheries, covering most steps of the fisheries data process, from collection to analysis, passing by Data Management, and the on-going work on recovering and making available relevant data from previous projects run in the region; and (iv) supporting the development, revision and implementation of EAF-compatible fisheries management plans, including the setup of a sustainable mechanism within the SWIOFC to continuously monitor, evaluate and share knowledge on EAF implementation in the SWIO region.

### 1.3. Linking and Coordinating the Fisheries Initiatives and Programs in the Region

#### **COMPONENT 2: Supporting Maldives as the Catalyst for Strengthened Regional Capacity for Fisheries Governance and Management**

Maldives is leading in sustainable fisheries management in the SWIO region, demonstrated by Maldives' compliance to IOTC conservation management measures, augmented MCS, and formulation of appropriate and modern fisheries sector legislation and management plans. Investments toward improved governance and management in Maldives will not only be beneficial for Maldives but also to the SWIO countries as these: (a) enhance the positive externalities. The coastal fish resources in the SWIO region are archetypes of shared regional public good and their sustainable harvesting avoids the "tragedy of the commons scenario"; (b) address common constraints related to weak human and institutional capacity, weak regulatory regimes and business environment that do not allow sustainable economic growth from improved management of coastal fishery resources; and (c) greater regional cohesion in the international fora, especially among the

like-minded small island states that include countries in the SWIO region, in negotiations of fishing-related agreements to forge collective decisions for shared regional outcomes. In addition, Maldives will provide the functions of a “regional enabler” by: (i) demonstrating benefits of using ecological limits for improved fisheries governance, and (ii) providing knowledge and capacity building support to the other countries in SWIO region, especially the island countries. Maldives will also benefit from learning and mutual collaboration. This component will include the following subcomponents.

## **Sub Components**

### **2.1. Improved and Innovative Implementation, Enforcement and Monitoring of Fisheries Management Plans and Sharing Results with SWIO Countries**

This subcomponent includes:

- (a) applying enhanced catch reporting, innovations such as electronic tags, low-cost radars and artificial intelligence, and undertaking scientific studies to support implementation, periodic evaluation and updating of climate-resilient fisheries management plans already prepared such as the grouper management plan, the diamond squid management plan, and the bait fish management plan;
- (b) support to enhanced institutional capacity and knowledge related to the prevention, detection and suppressing of illegal, unreported and unregulated (IUU) fishing within the exclusive economic zone (EEZ) of Maldives, following international models and practices;
- (c) sharing of annual evaluation reports from the implementation of aforementioned management plans with all SWIO countries through the regional fisheries dashboard of the SWIOFC, and establishment of information exchange with maritime fusion centres in the Indian Ocean Region, and organizing annual dialogue forums to determine use and applicability of such plans and actions in other SWIO countries and the likeminded. Coastal states (called the “G-16” countries); and
- (d) preparation and implementation of climate-resilient management plans for yet other important fish stocks in Maldives using principles and methods agreed in the SWIO country dialogue forums and as advised by SWIOFC innovative science program, especially to build resilience to climate change (as in subcomponent 1.1)

### **2.2. Augmented Comprehensive Quarantine, Disease Surveillance and Management and Experience Sharing with SWIO Countries**

This subcomponent focuses on:

- (a) strengthened aquatic animal-health certification procedures for aquatic animals and products that are exported internationally and require attestations by the national competent authority in line with the Aquatic Animal Health Code of the World Organization for Animal Health (OIE), additionally augmented regulations for the import and movement of aquatic animals and products, and establishment of quarantine facilities using green designs and geolocation to be resilient against sea level rise, within the premises of all international ports and airports; including establishment and operation of the requisite quarantine equipment and recruitment of trained human resources, especially women; and

(b) establishment of a network of disease surveillance laboratory network including construction using green designs to be resilient against sea level rise, and equipping such laboratories and recruitment and training of service providers, majority of them women, for operation and management of such laboratories. In each of these, experience-exchange will take place with SWIO countries for development of regulations, standards and protocols that upheld adaptation and resilience in the fisheries sector. Maldives will also support on-the-job training for fisheries sector specialists (with background in fisheries sciences, especially on fish pathology) from SWIO countries in each of these laboratories and quarantine facilities.

### **2.3. Skills and Capacity Building for Supporting Enterprise Development in Fisheries Sector**

This subcomponent consists of:

- (a) establishment of an ‘economic and export market research division’ and its staffing, majority being women, in the Ministry of Fisheries and Ocean Resources (MoFOR) to carry out research on export markets including consumer preference in niche markets, research on suitable product specification and standards including climate-resilient handling and storage, and provide regular such market intelligence to the sector enterprises in Maldives and SWIO countries;
- (b) facilitation of independent certification schemes and branding for sustainable, resilient, clean and low-carbon “Maldivian’ products in international markets;
- (c) facilitating specialized training in priority areas identified in Maldives in collaboration with SWIO countries and complementing the SWIOFC implemented training and mentoring including on-the-job mentoring (as in subcomponent 1.1);
- (d) business skill training for home-based women involved in home-based enterprises in fish and other food products;
- (e) rolling-out, including training of teachers, of an undergraduate education program in sustainable, climate-resilient ‘fisheries, food sciences and business management’ in Maldives in partnership with Maldives National University who in turn will collaborate with reputed global knowledge institutions/universities. The program will be designed so that students can leave after a year with a certificate, after two years with a diploma, or continue to complete the undergraduate program. The courses will be offered at *Villigili/Male* and four regional campuses of the Maldives National University. To start with, the intake will be 60 students per year, a majority of them girls/women, well within the absorption capacity of the sector enterprises in Maldives; and will offer 6 scholarships per year for officials and students nominated by SWIO countries; and (f) repair and renovations of the MoFOR training facilities located in the *Villigili* Island to be used as a campus for the undergraduate education program and equipping the training centre at Maniyafushi to be used for ‘practical’ training as part of such undergraduate education program. Renovations will also involve green designs including building above the expected sea level rise.

### **2.4. Augmentation of Project Management Capacity of MoFOR including Building Capacities for Enhanced Regional Cooperation**

This subcomponent would provide equipment, technical assistance, training, and incremental operating cost to strengthen the overall administrative capacity and capability of the MoFOR for implementing programs and projects financed by multilateral and bilateral donor agencies, through establishment and operation of the Corporate Program Management Department (CPMD). The CPMD will also implement, and monitor project activities, including the project’s fiduciary and environmental and social standards requirements. The CPMD will include specific staff and resources for regional cooperation, collaborate with SWIOFC,

and during implementation of the project will coordinate with RPMU/IOC, especially with respect to reports on implementation progress and evaluations.

### **COMPONENT 3: Enhanced Competitiveness and Private Sector Participation for Improving Business Climate for Fisheries in Maldives and the South-West Indian Ocean Region**

This component addresses the regional need to demonstrate and share experiences to progressively remove barriers to a competitive business climate for Fisheries in SWIO countries. Based on the demonstrations and lessons learnt, SWIO countries will also prepare national plans and programs for leveraging private sector finance in their respective national plans. Maldives, on their own, have challenges of inadequate private investment and absence of substantial credit in the sector. Past development of fisheries sector had been dominated by public financing and creation of public assets, and inefficiencies have cropped up. Two simultaneous sets of actions are needed: promoting small and medium enterprises to take larger roles in the sector, and a transition away from public ownership of fisheries sector infrastructure and assets which are meant to raise commercial returns/revenues. Accordingly, this component will have the following subcomponents.

#### **SUB COMPONENTS**

##### **31. Decarbonization of the Fisheries Sector**

Decarbonization in Maldives will facilitate adopting a GRID approach to future development and growth of the fisheries sector, which by reducing the cost of inputs (energy, fish feed), and using circularity in production systems will improve profitability of business enterprises in the sector. Interventions toward decarbonization in Maldives will be beneficial to SWIO countries as these enhance positive externalities, address shared regional public goods, address common constraints with respect to reducing the cost of fishing, consequently allowing higher value addition, and lowering the pressure on fishing of coastal fishery resources.

This subcomponent would include:

(a) technical assistance for the following:

- (i) carrying out unit-level energy-efficiency (EE) and GHG audits followed by implementation of EE/GHG reduction services and preparation of bankable business plans for fisheries sector enterprises in the entire value chain;
- (ii) unit-level assessments and preparation of business plans for promotion of circular economy including waste management and reduction of fish losses,
- (iii) assessment of the performance of the fish aggregating devices (FADs) in providing appropriate intelligence to the fishing fleet for targeted fishing, relocation of these devices to minimize travel (and fuel-use) for fishing,
- (iv) assessment and planning for installation of refrigerated sea water systems (RSW) on-board about 300 fishing vessels, and installation of up to 32 new FADs for fishing and 17 specialized FADs for recreational fishing. Apart from commercial information (if available) from unit-level audits, all information will be consolidated and shared with SWIO countries to facilitate decarbonization and adoption of circular fisheries sector economy to be mainstreamed in their own respective country fisheries sector management plans and programs;

(b) matching grants, with an additional allocation towards job creation for and ownership by women, will be provided to each of the eligible enterprises for:

- (i) implementing the aforesaid bankable business plans for EE/GHG reduction, installation of bait fish tanks in up to 780 fishing vessels;

- (ii) implementing energy-efficiency and GHG-reducing measures prorated to the amount of CO<sub>2e</sub> emission avoided on complete implementation of the actions;
- (iii) reducing wastage including reducing fish loss by small fishery sector enterprises,
- (iv) start-up circular fishery sector businesses using fish waste in production of marketable products, and
- (v) fuel-switch for greening of fishing vessels. Matching grants would be used in a manner such as to maximize leverage from the use of project funds;
- (c) installation of low-cost tracking systems to minimize loss of FADs, pilots to demonstrate feasibility of use of green hydrogen to power the fishing vessels, use of deep-sea cold water to chill fish using RSW. All performance reports will be consolidated and shared with SWIO countries; and
- (d) reimbursement of salaries of officials and business enterprises nominated by the SWIOFC countries for ‘on the job’ training in the fishery sector enterprises, including in units promoting circular economy and value chain efficiencies. Additionally, annual on-location exposure visits will be organized for teams recommended by the SWIO countries.

### **3.2. Diversification/Expansion of Fisheries Sector through Facilitating Small and Medium Enterprise Businesses**

To conserve the coastal fish stock and to avoid future increase of harvesting of fish that may result in depletion of fish stock in the SWIO region, it is essential to support a green and resilient transition of the private sector enterprises in the sector. Such a transition in Maldives will involve facilitating growth from value addition, rather than increased capture of fish and other marine resources, emphasis on mariculture and diversification of the sector enterprises. These investments in Maldives will help transitioning the other SWIO countries where the social and economic return from coastal fisheries is low, by:

- (a) enhancing the positive externalities, especially related to resilient and sustainable harvesting of the regional coastal fishery resources,
- (b) address the common challenges of weak business climate and facilitate appropriate planning for generating larger social and economic benefits in favor of relatively poor coastal communities in SWIO countries, and
- (c) upgrade value chain linkages by helping the fisheries sector businesses in the SWIO countries integrate into more competitive value chain through increased uptake of harmonized food and quality standards, energy- and GHG-efficient technologies, and market expansions, and
- (d) creating enabling regional environments for the improvement of the sector by rapid uptake of appropriate models for facilitating larger private sector participation toward resilient businesses in these countries that will reduce losses, wastage, excessive harvesting of regional coastal fishery resources.

This subcomponent would include:

- (a) technical assistance for preparation of bankable business plans for leaseholder small enterprises in 54 uninhabited islands for development of sustainable and integrated mariculture, aquaculture, aquaponics, hydroponics, and agroforestry. These business plans will mainstream climate resilience, ‘zero discharge’ of effluents and wastes into the sea, ‘zero emission’ farm practices, use of renewable energy such as off-grid solar power, and ‘good aquaculture practices’;
- (b) matching grants to facilitate implementation of the aforesaid business plans. The MoFOR will also ease the island leasing policy extending the tenure of the leases from the current 15-21 years to 35-50 years, such that the lease agreements could become relatively more valuable as a collateral for accessing commercial credit;
- (c) technical assistance and financing up to 30 percent of capital investment to 2 small or medium enterprises to be set up with private sector management control for establishing fish processing and canning facilities of capacity 25-50 tons per days in the Southern Atolls, and technical assistance for a similar investment in a combined multispecies hatchery and mariculture production facility at

*Ga. Maanagalaa.* These investments will be selected through a design-build-finance-operate-maintain and transfer (DBFOMT) concession;

(d) reimbursement of the cost of procurement of product quality certifications acceptable to MoFOR;

(e) additional grants to the above-described small and/or medium enterprises prorated to agreed level of employment of women, and to accommodate candidates from SWIO countries under an “apprenticeship program” agreed bilaterally with Maldives; and

(f) preparation of a Roadmap for Expanded Private Sector Participation. This road map would be based on:

(a) an assessment of the level of use and efficiencies of fisheries sector infrastructure and assets already created by public finance, such as fish landing centers, jetties, ice plants, and explore options for their efficient use;

(b) prepare liability statements including retrofitting resilience and good environmental practices for all such assets and infrastructure, including sunk/abandoned ones, found desirable to be renovated and reinstated;

(c) preparation of roadmap including legal and regulatory framework for inviting private sector ownership of these facilities, including through public-private partnership (PPP) models considering the optimum methods to distribute the liabilities assessed;

(d) undertake analyses related to restructuring/reform options for the Maldives Industrial Fisheries Company (MIFCO) considering a balance between its commercial objectives and social functions (of ensuring a fair share of prices for the fisherpersons). These analyses will support implementation of the recommended reforms through the MCGP; and

(e) share the roadmap, plans and PPP options to investors including additional credit-linked grants for potential investors from SWIO countries.