



**The World Bank**

Transforming Fisheries Sector Management in South-West Indian Ocean Region and Maldives Project (P179242)

# Project Information Document (PID)

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Appraisal Stage | Date Prepared/Updated: 31-Jan-2023 | Report No: PIDA34542

**BASIC INFORMATION****A. Basic Project Data**

Country South Asia	Project ID P179242	Project Name Transforming Fisheries Sector Management in South-West Indian Ocean Region and Maldives Project (TransFORM, SWIOFish5)	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 22-Mar-2023	Estimated Board Date 16-May-2023	Practice Area (Lead) Environment, Natural Resources & the Blue Economy
Financing Instrument Investment Project Financing	Borrower(s) Indian Ocean Commission (IOC), Republic of Maldives	Implementing Agency Indian Ocean Commission (IOC) Secretariat, Maldives Ministry of Fisheries, Marine Resources and Agriculture (MoFMRA)	

## Proposed Development Objective(s)

To strengthen regional, evidence-based fisheries management in the SWIO Region and to improve competitiveness in the fisheries sector in the Maldives

## Components

- Component 1: Enhance Evidence-based Management Advice to the Fisheries Sector to the South-West Indian Ocean Region
- Component 2: Supporting Maldives as the Catalyst for Strengthened Regional Capacity for Fisheries Governance and Management
- Component 3: Enhanced Competitiveness and Private Sector Participation for improving Business Climate for Fisheries in Maldives and the Southwest Indian Ocean Region

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

Total Project Cost	141.10
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<b>Total Financing</b>	141.10
<b>of which IBRD/IDA</b>	64.80
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	64.80
IDA Credit	26.40
IDA Grant	38.40

**Non-World Bank Group Financing**

Commercial Financing	76.30
Unguaranteed Commercial Financing	76.30

Environmental and Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

**B. Introduction and Context**

Country Context

1. **Maldives and 11 other countries border the waters of the South-West Indian Ocean (SWIO)** – the island nations of Comoros, Madagascar, Mauritius and Seychelles; and seven mainland countries: France (La Réunion and other islands), Kenya, Mozambique, Somalia, South Africa, Tanzania and Yemen. Together these countries are members of the South-West Indian Ocean Fisheries Commission (SWIOFC), a regional fisheries body. The regional fish stocks are shared public assets, whose health and sustainability require regional coordination to limit the negative and enhance the positive externalities yielded by national activities. Conservation and sustainable harvesting of the regional public goods in particular, and the shared ecosystem in general are central to the economy of SWIO countries, especially the island countries.

2. **Fisheries, especially small-scale fisheries play a significant role for the livelihoods of an estimated 35 million people in the SWIO countries of whom 14.3 million people live in low elevation coastal areas, and 3.3 million persons are directly employed in marine fishing.** They are often among the most vulnerable communities with high exposure to climate change impacts. The fisheries sector is a major contributor to nutritional health and food security in the SWIO region, especially for poor coastal or remote island



communities with limited alternatives to fish for animal protein, as well as essential nutrients, vitamins, minerals, and trace elements. Fisheries also accounts for a substantial part of Gross Domestic Product (GDP) of the SWIO countries. Seafood export from these countries was US\$2.73 billion in 2019 with Maldives contributing about 9 percent. However, despite relative success of a few countries including Maldives in creating domestic capabilities for fish processing, most SWIO countries lack enterprise development, value addition in the sector and underperform in terms of generating social and economic benefits.

**3. Maldives is an upper-middle-income country with a robust growth trajectory prior to the COVID-19 pandemic.** Annual real GDP growth averaged 5.7 percent from 2000 to 2019 and real GDP per capita rose from US\$5,539 in 1995 to US\$8,678 in 2021. The sustained growth has significantly reduced poverty and Maldives performs well on poverty outcomes compared to its regional, income, and small island peers. The economy is dependent on a small number of sectors though. In 2021, tourism is estimated to have accounted for 27 percent of GDP, transport and communication for 11 percent, and retail trade for 6 percent. The successful development of high-end tourism has been the main driver of economic growth in Maldives. However, the dependence on tourism makes the country highly vulnerable to macroeconomic and external shocks. The COVID-19 pandemic, for example, had a significant adverse impact on tourism and related sectors.

**4. Maldives' economy grew by 41.7 percent in 2021 and, following the sustained rebound in tourism, and has shown a steady recovery in 2022.** The economy was severely impacted by the COVID-19 outbreak, which led to a three-month border closure and an economic contraction of 33.5 percent in 2020. However, since Q2 2021, tourism has rebounded strongly. By the end of 2021, Maldives had received over 1.3 million tourists, equivalent to 78 percent of the 2019 number, and almost increased to the pre-pandemic levels of 1.7 million by the end of 2022. A growing number of tourists from India and Russia had partially compensated for the absence of tourists from China, while the return of tourists from traditional and new markets in Europe and the Middle East have helped support the recovery in the sector. As of early 2023, arrival from China restarted.

**5. Fiscal and debt vulnerabilities have greatly increased since 2019.** Total public and publicly guaranteed (PPG) debt increased from 79 percent of GDP in 2019 to 113 percent in 2021 due to the sharp decline in nominal GDP and high fiscal deficits caused by the COVID-19 shocks and accelerated capital expenditures to finance major Public Sector Investment Projects (PSIPs). In addition, high global commodity prices in 2023 deteriorated the macro fiscal situation further in 2022 through increased subsidy expenditure and declining international reserves. As a result, Maldives' risk of overall and external debt distress remains high. The issuance of a five-year Sukuk in 2021 reduced rollover risks from the US\$250 million Eurobond due in June 2022, but it came at an elevated cost with a yield of 10.5 percent, adding to heightened fiscal vulnerabilities. Furthermore, looming medium term bullet payments for outstanding debt further adds to the debt distress.

#### Sectoral and Institutional Context

**6. The SWIO Region is home to multiple fish species, yet pressure on fish stock has reached a high level, as many countries compete for the resources in the area.** Total annual fish landing by SWIO countries is about 4.6 million tonnes, dominated by South Africa, Tanzania, France, Mozambique, and Maldives. SWIO countries exported US\$406 million worth fish in 2019, mainly by Maldives and Seychelles. However, one third of the SWIO fish stocks are over-exploited or depleted (especially the high-value resources, such as shrimp, lobster, and sea cucumber), with around 40 percent being fully exploited. Critical ecosystems, already weakened by land-based activities and pollution are further endangered by loss of biodiversity.

**7. The fisheries sector in the SWIO is already largely regional, with each country's decision affecting activities of other countries. Large national investments, such as ports, fishing fleets, or processing plants,**



**are competing against each other for the same finite resource.** Regional coordination and cooperation are therefore needed to avoid conflicts and suboptimal sectoral investments, and to promote equitable distribution of wealth. Furthermore, several technical aspects of the sector are regional in nature (e.g., monitoring, control and surveillance, and safety at sea), and their implementation, at the least, must be coordinated at a regional level. Finally, important common interests in research or capacity reinforcement could be best consolidated at the regional level to general economies of scale through the creation of joint program and south-south cooperation.

**8. The SWIO countries face common constraints about their fisheries sector: weak governance, weak institutional capacity, and a fragile business environment.** Regional platforms such as the Indian Ocean Tuna Commission (IOTC) and SWIOFC already exist and share their experience in implementing more sustainable and economically viable fisheries policies and practices. Greater regional cohesion will enhance the countries' ability to influence international agreements (e.g., recently approved Guidelines for Minimum Terms and Conditions), which have significant impacts on the fisheries sector of the SWIO countries.

**9. World Bank Group (WBG) has supported SWIO countries by financing the multiple South-West Indian Ocean Fisheries Governance and Shared Growth (SWIOFish) series of projects (SOP)** starting in 2015 and achieved noticeable improvement in coordination among SWIO countries and augmenting national capacities for management of respective fisheries stocks. [See Figure 1](#). The SWIOFish1 Project implemented by the Indian Ocean Commission (IOC) along with Comoros, Mozambique, and Tanzania established the SWIOFC regional consultation mechanisms. During implementation of the project, the SWIOFC and its Statutory Bodies (the Scientific Committee, the Working Groups, the Task Forces) contributed to strengthened dialogue among countries and improved regional cooperation and signing of 24 cooperation agreements among members of the SWIOFC. The subsequent SWIOFish2 (implemented by the IOC and Madagascar), SWIOFish3 (implemented by Seychelles) and SWIOFish4 (implemented by Maldives) projects helped reinforce and widen the SWIOFC collaboration across countries and stakeholders in the region, improve the management of selected fisheries at regional, national and community levels, and to increase access by targeted fisherpersons to alternative livelihoods activities.

**Figure 1. SWIOFC Countries and WBG-Financed Projects**

WBG-Projects	Supported entities	Implementation period														
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>SWIOFish SOP Projects</b>																
SWIOFish1-P132123	IOC															
	Comoros															
	Mozambique															
	Tanzania															
SWIOFish2 - P153370 and P159662	IOC															
	Madagascar															
SWIOFish3 - P155642	Seychelles															
SWIOFish4 - P157801	Maldives															
SWIOFish5-P179242 (This project)	IOC															
	Maldives															
<b>Other Projects</b>																
P163980	Kenya															



WBG-Projects	Supported entities	Implementation period															
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
P178143	Yemen																

**10. Notwithstanding the progress so far, newer actions are needed at the SWIO region to ensure sustainability of fish stock, improve the fisheries sector economy, overcome the setback suffered due to the COVID-19 pandemic, and transition towards a resilient sector economy.** The three main needs for improved management and governance of the fisheries sector in the SWIO countries are about:

- a) **The need to focus on reduction of destructive fishing methods to ease the ever-increasing stress on regionally shared resources.** The yellowfin tuna stock is already threatened, and the skipjack tuna is near full exploitation levels. This is where SWIOFish1 project supported augmentation of negotiation capacities of SWIO countries in regional forums such as the Indian Ocean Tuna Commission (IOTC), where discussions on reduction of overall fishing effort is part of the larger international trade agenda. However, it is also clear that a substantial part of the fishing fleet in SWIO countries themselves employ destructive fishing methods, such as use of gill nets or bottom trawling. These destructive practices continue in the absence of evidence or conviction that sustainable fishing methods are profitable. In contrast, Maldives continues with the traditional ‘pole and line’ method of fishing for skipjack tuna and employ ‘handline’ method for fishing yellowfin tuna. These are among the best fishing methods, and in Maldives, such methods have been found commercially profitable. Adoption of these methods from Maldives by the SWIO countries would need an awareness campaign and skill transfer (i.e., training on traditional methods of fishing).
- b) **The need to maximize economic and social benefits from coastal fishery resources.** Despite the apparent size of sector economies and export revenues, fisheries in SWIO region remain an underperforming sector. The race is for yet larger volumes of extraction of familiar species, but not about abstracting the higher values from the catch. Moreover, many coastal fish species are not in focus as understanding about their stock and maximum sustainable yield is limited. Only 10-25 percent of the sector’s labor force is employed in processing and marketing, indicating substantial post-harvest economic opportunities. Benefits from semi-industrial and industrial fishing perform well below potential. The challenges are similar in Maldives, but the country had recently started focusing on reef fishes such as groupers and recreational fishery; prepared management plans and started implementing these plans. In addition, over the past 3 decades, Maldives has built a domestic industrial capacity in the fisheries sector: not dependent on foreign fishing fleet and revenue earnt thereof. Some SWIO countries are interested and will benefit from collaboration with Maldives in setting up their own industrial fishing, processing and marketing capacities, so that a substantial portion of the poor fishing communities would have an opportunity of better employment and income.
- c) **The need to create credit facilitation to address the prevailing weak investment and business climate, coupled with limited or underperforming infrastructure and services constraining private sector development in the fisheries sector in SWIO countries.** The business climate stays weak, with low private sector engagement available to finance sustainable fisheries and aquaculture in all SWIO countries, except in La Réunion (France). Although there is interest in expanding semi-industrial fisheries for high-value species, poor access to investment capital and credit is deterring private-sector investment. The SWIOFish2 and SWIOFish3 projects included support to certain value chains engaging with small-scale fisheries and preparing business plans for anchor enterprises in Mozambique, Tanzania, and Seychelles. However, investment in community-level infrastructure did not attract commercial financing. Maldives also has a very constrained climate for private sector expansion, the absence of adequate commercial credit, and



public finance is aimed at creating assets and businesses such as ice plants, processing units, etc., without trying to leverage private investment. However, a few private sector firms in Maldives have expanded their business in the past 15 years. These firms motivate other small enterprises and start-ups to invest in the fisheries sector once credit facilitation is available.

**11. Women's participation in the fisheries sector is often restricted, unrecognized and underpaid in SWIO countries**, with reported wage gaps up to 40 percent, and 30-40 percent share of the sector workforce, even if almost always in small-scale household-level pre-processing and marketing. In Maldives, for example, the Household Income and Expenditure Survey of 2019 (HIES) reported 16 percent of the informal sector workers were involved in fisheries, but no women. HIES highlighted deep sea fishery as one of the top 5 national occupations with 3,072 recorded workers, among whom only 7 were women. The 2014 census reported that only 11 percent of workers engaged in the overall fisheries and agriculture sector were women. Data on the number of workers in pre- and post-harvest fisheries activities is not available; however, anecdotes suggest that a large part of the 40 percent informal female workers in the country are engaged in the fisheries sector, mainly in home-based part-time post-harvest activities. Anecdotal evidence also suggests women are exiting the traditional home-based fisheries vocations in Maldives as those have become less remunerative over time. Home-based post-harvest activities are also more susceptible to impacts from climate change, such as depletion or redistribution of fish stock, and thereby impact women disproportionately. Recent land use regulations by some Island Councils towards locating business activities in specified zones are further restricting women's abilities to earn from the convenience of their homes, given that women with little capital accumulation from home-based fish processing are unlikely to pay lease rents in the specified zones. While the formal fish processing sector, globally, employs a large proportion of women as workers and is seen in the SWIO countries as a potential source of more jobs for women, in Maldives, the fish processing plants employ expatriate women rather than local (women) workers, essentially because the minimum mandated wage of domestic workers is significantly higher than the wages acceptable to expatriate workers. Very few women own or manage fisheries sector small and medium enterprises (SMEs) in Maldives or elsewhere in the SWIO region. Women in the SWIO countries are often restricted to businesses that can be operated within the social boundaries of their households or communities to meet the flexibility required of them to attend to other domestic and childcare chores. The gender norms significantly suppress women's entrepreneurial involvement and access to opportunities such as training, networking, and access to markets. Women have further disadvantage in accessing credit even when otherwise nascent financial institutions, such as the SME Development Finance Corporative (SDFC) in Maldives, offers credit to the fisheries sector enterprises, due to conservative lending regimes, high interest, difficulties in producing collateral and inability to demonstrate credit worthiness. In addition, interventions focusing on women are usually fragmented, and do not promote leadership, business skills, entrepreneurship, and ownership of assets by women. Typically, women in SWIO countries are not formally specialized in fisheries and targeted skills development programs are weak, even if in Maldives, the contemporary trends show increasing participation of women in governance and management roles in the fisheries sector.

**12. Fisheries sector activities in SWIO region are extremely vulnerable to climate change and disaster events and are increasingly being affected.** Climate change induced changes in the ecosystem, abundance and distribution of fish in the SWIO region are affecting fisheries activity, fishing communities, industry, markets, and national income. Increasing frequency and intensity of cyclones, storm surges, and sea level rise and resultant coastal erosion are increasingly requiring reinvestments infrastructure and assets such as the fishing jetties, fish landing centers, fish processing plants and other sector facilities. Ocean acidification is increasingly resulting in bleaching of coral reefs, natural habitat to key fish species in these countries. Climate-change induced impacts on marine infectious diseases are spreading faster with increasing temperature and salinity.



These impacts on fish stock and their distribution are obviously juxtaposed from impacts of overfishing including illegal, unreported, and unregulated (IUU) fishing, environmental pollution and damages to the coastal resources such as corals and mangroves. As a result of all the above, not only are there signs of faster depletion of fish stock, but the unit cost of fishing is going up, especially for artisanal fishers who can least afford it. Increasing variations in climate and their associated ecological changes will further intensify the vulnerabilities of the fishing communities who already suffer widespread poverty. Overall, the entire fishing practices, management plans, monitoring and enforcement need to uphold adaptation and resilience.

**13. Decarbonization of the fisheries sector is part of the national plans in the SWIO countries.** Although adaptation and resilience to climate change induced impacts are their main concerns, all SWIO countries plan to lower greenhouse gas (GHG) emissions by 23-35 percent, apart from the ambitious plan in Maldives to reach net-zero emission by 2030. The fisheries sector is a significant user of fossil fuel and transport services, which are at the core of the respective national plans to reduce GHG emissions. An analysis of the options and opportunities, as well as application of economic incentives for reduction in GHG emissions in fisheries in Maldives would boost adoption of decarbonization initiatives in other SWIOFish countries, and other small island developing states (SIDS).

**14. Priority challenges for Maldives are similar to challenges for the SWIO region and addressing these challenges in Maldives will create appropriate demonstration and impetus for improved management of fisheries resources in the SWIO region.** The Government sector policy and priorities are coherent with the SWIO regional priorities for sustainable management and governance of fisheries resources and include three priority needs: (i) sustenance of capture fishery at about 120,000 tons and maintaining an export of about 60 percent of the catch are important for the national income and welfare of fishers and their families; (iii) sustainability of live-bait and reef fishing, diversify into value-added products; and (iii) economic diversification into mariculture and associated integrated activities to be able to create substantive jobs, especially for women and youth, and absorb labor from (partial) shift away from capture fishery. However, while attempting the above, it is important to: (a) promote innovation and resources-efficient technology, processes and decarbonization; relevant technical skill development; and (b) improve the enabling environment for private sector investment and partnerships for both value chain development and the exploration of high-value niche export markets – to establish the “regionally appropriate” pathways for development and growth in the fisheries and allied sector that improves the income of people currently engaged in subsistence fishery activities.

**15. Sustenance, development, and growth in the fisheries sector in Maldives is closely linked to the SWIO regional agenda on conservation of the marine resources and shared vision for sustainable growth of the sector** including diversification, and compliance to regional/international standards. There are substantial benefits to the countries in SWIO region from activities implemented in Maldives, due to: (a) economies of scale from shared infrastructure, technologies, and knowledge, especially where Maldives have progress relatively more impactfully compared to other countries in the region, (b) positive externalities yielded by national activities to avoid the “tragedy of the commons” scenario; and, (c) upgraded value-chain linkages by informing and helping their fisheries sector integrate into the more competitive value chain development in Maldives. Maldives, or for any other SWIO country, the benefits of this project addressing regional issues arise from: (a) addressing common constraints jointly through regional platforms and dialogue events, and (b) greater regional cohesion in the international fora as well as in negotiations of fishing-related agreements where decisions need to be collective, and impacts are shared. In the interconnected ecological region, every country could benefit by enhancing the positive externalities yielded by other countries’ national activities.



### C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

To strengthen regional, evidence-based fisheries management in the SWIO and to improve competitiveness in the fisheries sector in the Maldives

Key Results

- [Regional Indicator, overall, already established by SWIOFish2 Project] The compliance rate of SWIO countries with IOTC resolutions (*on Conservation Management measures (CMMs) and Management Terms and Conditions (MTCs)*) (percent)
- [Sub-Indicator] The compliance rate of Maldives with IOTC resolutions (*on CMMs and MTCs*) (percent)
- Fisheries in the SWIO region under coordinated and “Ecosystem Approach to Fisheries”-compatible Management (Number)
- Overexploited coastal fish stock in the SWIO region show sign of recovery (based on fisheries performance assessment) (Number)
- Fisheries-related enterprises with improved competitiveness in Maldives (disaggregated by size, ownership by gender, value chain characteristics) (Number)
- People with improved job-opportunities in the SWIO region (disaggregated by gender) (Number)

### D. Project Description

**Component 1: Enhance Evidence-based Management Advice to the Fisheries Sector in the South-West Indian Ocean Region** (Cost/IDA Grant US\$12 million, implemented by the IOC) (GCRF Pillar 3)

**16. Sub-component 1.1: Promoting the Development and Coordination of Relevant Innovative Regional Research with a Focus on Capacity Development Programs and Initiatives** (US\$4.5 million). This subcomponent 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) 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.

**17. Sub-component 1.2: Coordinating and Consolidating Regional Cooperation for Evidence-based Advice on Management of Fisheries and Other Uses of Marine and Coastal Ecosystems** (US\$6 million). 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) 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) 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.

**18. Sub-component 1.3: Linking and coordinating the Fisheries Initiatives and Programs in the region** (US\$1.5 million). This subcomponent will include: (i) support for the reinforcement of the role of the SWIO Fisheries Commission as Steering Committee and high-level coordinator of projects dealing with fisheries in the region; (ii) cooperative implementation of international and regional fisheries instruments adopted by the SWIOFC, namely the MTC and Conservation and Management Measures for the Indian Ocean Tuna Commission (IOTC) and the Southern Indian Ocean Fisheries Agreement (SIOFA); and (iii) coordination and the development of new policy, guidelines or good practices relevant to the SWIOFC, in cooperation with other regional organizations, and under the scope of the science-based knowledge and expertise in the region, with a particular attention to the development of an SSF Regional Plan of Action specific to the SWIO.

**Component 2: Supporting Maldives as the Catalyst for Strengthened Regional Capacity for Fisheries Governance and Management** (Cost US\$26.88 million, to be implemented by MoFMRA/Maldives; IDA Grant US\$13.44 million, IDA Credit US\$13.44 million) ([GCRF Pillar 2](#))

**19. Subcomponent 2.1: Improved and Innovative Implementation, Enforcement and Monitoring of Fisheries Management Plans and Sharing Results with SWIO Countries** (US\$5.47 million). This subcomponent would include: (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 centers 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).

**20. Subcomponent 2.2: Augmented Comprehensive Quarantine, Disease Surveillance and Management and Experience Sharing with SWIO Countries** (US\$4.87 million). This subcomponent would include: (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.

21. **Subcomponent 2.3: Skill and Capacity Building for Supporting Enterprise Development in Fisheries Sector** (US\$12.63 million). This subcomponent would include: (a) establishment of an ‘economic and export market research division’ and its staffing, majority being women, in the MoFMRA 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 *Viligili/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 MoFMRA training facilities located in the *Viligili* 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.

22. **Subcomponent 2.4: Augmentation of Project Management Capacity of MoFMRA including Building Capacities for Enhanced Regional Cooperation** (US\$3.91 million). This subcomponent would provide equipment, technical assistance, training, and incremental operating cost to strengthen the overall administrative capacity and capability of the Ministry of Fisheries, Marine Resources and Agriculture (MoFMRA) 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 in Maldives for improving Business Climate for Fisheries in Maldives and the Southwest Indian Ocean Region** (Cost US\$82.68 million, to be implemented by MoFMRA/Maldives; IDA Grant US\$12.96 million, IDA Credit US\$12.96 million, and Private Capital Mobilization US\$56.76 million) (GCRF Pillar 2)

23. **Subcomponent 3.1: Decarbonization of the Fisheries Sector** (IDA Grant & Credit US\$6.87 million, Private Capital Mobilization US\$3.97 million). 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>2</sub>e 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.

24. **Subcomponent 3.2: Diversification/Expansion of Fisheries Sector through Facilitating Small and Medium Enterprise Businesses** (IDA Grant & Credit US\$19.05 million, Private Capital Mobilization US\$52.78 million). 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 MoFMRA 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 MoFMRA; (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.

#### Legal Operational Policies

##### Triggered?

Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

#### Summary of Assessment of Environmental and Social Risks and Impacts

25. Component 1 which will be implemented in SWIO countries will be focused on promoting sustainable fisheries and as such will have positive outcomes. The transition of livelihoods out of the fishery sector and into more environmentally sound fishing methods would need to take a holistic view to avoid unintended consequences on livelihoods and incomes. Components 2 and 3 will have nationwide coverage in Maldives with activities located on inhabited island as well as uninhabited islands that are earmarked for future development owned by the MoFMRA. While the exact locations of project targeted atolls and islands are not known at the concept stage, it is expected that all new construction associated with the establishment of quarantine facilities and disease surveillance laboratories will be within airports/ports and in already allocated lands for industrial plots. Establishment of agriculture, mariculture and other such activities supported under Component 3 will be carried out in 54 identified uninhabited islands which are owned by the MoFMRA and which will be utilized/leased from the Ministry for these physical intervention. None of these islands are within protected areas or known environmentally sensitive areas and impacts to natural habitat will be managed by a strict E&S screening and assessment criteria. Most inhabited islands in the Maldives are not assessed for the quality of their environment but protected areas and environmentally sensitive areas, both marine and terrestrial, are well documented and demarcated. Women's participation in the fisheries sector is often unrecognized and underpaid, and data often lacking gender differentiated information. The project intends to conduct a number of assessments and provide capacity building to improve value chains and reduce waste in fisheries management which will include more informative gender disaggregated data. Diversification of fisheries sector through facilitating small and medium enterprise businesses includes performance grants to small and/or medium enterprises prorated to agreed level of employment of women.

#### E. Implementation



## Institutional and Implementation Arrangements

**26. Component 1 of the project will be implemented by the IOC.** The IOC has an accomplished track-record of implementing regional fisheries sector projects including the SWIOFish1 and the ongoing SWIOFish2 projects financed by the World Bank. Implementation will be guided by a steering committee that will include the SWIOFC Council (i.e., the full commission members represent the member countries), the Secretary General of the IOC, and the Member Secretary of the SWIOFC Secretariat. The outputs of the technical studies and assessments will be reviewed and approved by the relevant SWIOFC Scientific Committees and Working Groups. Dialogue events and annual review and evaluation meetings will be organized in coordination with the SWIOFC Secretariat. To manage, coordinate, and implement the project, the IOC will establish a Regional Project Management Unit (RPMU) augmenting the similar project implementation units established for implementing the SWIOFish1 and the SWIOFish2 projects. Specifically, to deliver the scientific studies, the stock assessment, and the management advice across subcomponents 1.1, 1.2 and 1.3, the IOC will engage FAO using a standard form of agreement (as per paragraphs 6.47 and 6.48 of the Procurement Regulations for IPF Borrowers) given that FAO's technical expertise is critical given the capacity constraints for such highly specialized work in the SWIO region.

**27. Components 2 and 3 will be implemented by the MoFMRA.** MoFMRA has the sole mandate, jurisdiction and experience in managing fisheries, and therefore, is the obvious choice to lead project implementation in Maldives. The MoFMRA has implemented or participated in implementation of Bank-financed projects, notably for the Maldives Sustainable Fisheries Resources Development Project (P157801, 2017-22), capacities built by which will continue to be used by the MoFMRA, notably with respect to the MCS related activities, the extension services mariculture, financial management, procurement and project management. All activities will be implemented by the regular divisions of the MoFMRA, two of its affiliated institutions (MMRI and MMRDF) in addition to the three new divisions of the MOFMRA – the Biosecurity Division, the Economics and Export Market Intelligence Division, and the CPMD – to be established and operationalized by the project. Given the reduced working hours of the government staff in Maldives, it is unlikely that most of the existing staff will be able to devote substantial time for implementing the project. The additional expertise and staff created under the project (in the three new divisions, the MMRI, the MMRDF, and the other regular divisions of the MoFMRA) will be gradually deputed to the regular divisions of the MoFMRA, paid by the regular budget of the MoFMRA during the Years 2-6 of project implementation period, such that the long-term capacity created is not lost, and used for sustenance and expansion of the outcomes of the project.

**28. The project management arrangements:** Given the need for focused attention for implementation of this project and to ensure internal capacity building for project management services, the IOC (for component 1) and the MoFMRA (for components 2 and 3) have each set up a project management unit (viz., RPMU and CPMD) to implement the project activities on a full-time basis. To guide these project management units, both IOC (for component 1) and the MoFMRA (for components 2 and 3) have each set up a Steering Committee. The RPMU in the IOC will be headed by a full time Project Manager; and the CPMD at the MoFMRA will be headed by a full time Project Manager (at Director General level) who will report to the Project Director (ex-officio Permanent Secretary of MoFMRA). The RPMU at IOC (for component 1) will draw on the IOC staff for procurement, financial management, monitoring and evaluation (M&E), and draw on the FAO for technical experts. The CPMD at MoFMRA (for components 2 and 3) will have dedicated staff for procurement, financial management, communication and stakeholder engagement, implementation of environmental and social management framework, monitoring and evaluation, and will draw on the technical experts from the MMRI, MMRDF and the relevant departments/division of MoFMRA. The CPMD/MoFMRA will collaborate with and seek support from and partnership with a range of other agencies to strengthen the capacity of the main



implementing actors. These will include international knowledge centers, including the World Aquaculture Alliance; academic and research institutes including the Maldives National University; private sector business houses and industries including the Maldives National Chamber of Commerce and Industry; civil society groups, the atoll councils and the island councils, and other government departments responsible for development and protection of marine resources (such as the Ministry of Environment).

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