

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



Ministry of Fisheries and Ocean Resources
Male' Republic of Maldives

TRANSFORMING FISHERIES SECTOR MANAGEMENT IN SOUTH-WEST INDIAN OCEAN REGION AND MALDIVES PROJECT

November 2023



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List of Abbreviations

AI	Artificial Intelligence
ALDFG	Analyses of Abandoned, Lost and Discarded Fishing Gear
CCM	Conservation Management Measures
DRP	Detailed Project Report
EA	Environment Assessment
EE	Energy Efficiency
EEZ	Exclusive Economic Zone
EHS	Environment Health and Safety
EIA	Environment Impact Assessment
EMF	Environment Management Framework
EMP	Environment Management Plan
EPA	Environment Protection Agency
ESA	Environment and Social Assessment
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
ESMS	ESMS – Environmental and Social Management System
ESS	Environmental and Social Standard
FAD	Fish Aggregating Devices
FI	Financial Intermediary
GDP	Gross Domestic Product
GHG	Green House Gas
GoM	Government of Maldives
IEE	Initial Environmental Evaluation
IoT	Internet of Things
IOTC	Indian Ocean Tuna Commission
IOC	Indian Ocean Commission
IUU	Illegal, Unreported and Unregulated
MCS	Monitoring, Control and Surveillance
MCGP	Maldives Competitiveness and Growth Project
MNDF	Maldives National Defense Force
MoFOR	Ministry of Fisheries and Ocean Resources
(MMRI)	Maldives Marine Research Institute
(MMRDF)	Maniyafushi Mariculture Research and Development Facility
MPA	Marine Protected Area
MTC	Minimum Terms and Conditions
PDO	Project Development Objective
PMU	Project Management Unit
PSMA	Post State Measures
QEMR	Quarterly Environmental Monitoring Report
RSW	Refrigerated Seawater System
SEP	Stakeholder Engagement Plan
SFRDF	Sustainable Fisheries Resources Development Project
SSF	Sustainable Small-scale Fisheries

SWIO	Southwest Indian Ocean
WMR	Waste Management Regulation

Executive Summary

“Transforming Fisheries Sector Management in South-West Indian Ocean Region and the Maldives Project (TransFORM)” is a project funded by the World Bank and implemented under the Ministry of Fisheries and Ocean Resources. The project addresses challenges in the fisheries sector of South-West Indian Ocean (SWIO) region and Maldives. The SWIO comprising 12 countries, heavily relies on fisheries for livelihood, nutrition, and GDP contribution. However, issues like over-exploitation, weak governance, and vulnerability to climate change threaten the sector. Maldives, a small island nation heavily depend on fisheries, faces similar challenged and is striving to diversify its economy. The government aims to sustain capture fishery, promote sustainability, diversify into value-added products, and explore mariculture.

Climate change impacts such as rising sea levels, floods, and extreme weather event pose a significant threat. The government has recognized these vulnerabilities and implemented measure to address climate and disaster risks. The aftermath of the 2004 Tsunami highlighted the fragility of the islands, with severe damages to infrastructure in key sectors like tourism and fisheries.

The objective of the project outlies activities to strengthen regional fisheries management in the SWIO region and enhance competitiveness in the Maldives fisheries sector. The beneficiaries include SWIO member countries, individuals and families involved in fisheries in the Maldives, government institutions, and the private sector engaged in fishing-related activities. The project components focus of regional collaboration, capacity building, governance and management support, and private sector participation.

The Environment and Social Management Framework (ESMF), outlines the principles, rules, guidelines, and procedures for assessing and mitigating environmental and social risks associated with project activities. It also emphasizes the importance of public review and comment on environmental and social impact assessments for transparency and accountability. The objectives of the ESMF include conducting a preliminary assessment of environmental and social impacts, establishing clear procedures for impact screening and approval, defining roles and responsibilities, identifying training needs, and outlining requirements for effective implementation.

The ESMF for the project has been developed in compliance with the World Bank Environmental and Social Framework (ESF) and national regulations of the Maldives. The preparation involved a thorough review of relevant documents, including the TransFORM project preparation Aide Memoire, national policies, legislation, strategic action plans, and environmental and social impacts assessment reports from similar project. Beneficiary identification and stakeholder consultation were integral to the process. The Ministry of Fisheries and Ocean Resources (MoFOR) and the Maldives Marine Research Institute (MMRI) are the main beneficiaries requiring collaboration with various ministries, government offices, NGOs, and local entities. Stakeholder engagement included meetings with project coordinators, technical officers, and community representatives. While community meetings at intervention sites were deferred to avoid raising premature expectations, lessons from similar projects were considered to address community concerns in the ESMF.

The ESMF is considered a living document, subject to periodic updates based on considerations such as unforeseen aspects, changes in project design, new policies or regulations, experiences from implementation, alternatives in government setups, and modifications agreed upon by the World Bank and stakeholders. Any updates will be communicated to beneficiaries and other stakeholders.

Chapter 1: Introduction Transforming Fisheries Sector Management Project

1.1 Background to the regional and country context

Regional: 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.

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. 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. The fisheries sector in the SWIO is 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 and the pressure on fish stocks is high with one third of the SWIO fish stocks considered over-exploited or depleted (especially the high-value resources, such as shrimp, lobster, and sea cucumber), with around 40 percent considered fully exploited. Critical ecosystems, already weakened by land-based activities and pollution are further endangered by loss of biodiversity, and destruction of coral reefs and mangroves.

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, and the shared ecosystem in general are central to the economy of SWIO countries, especially the island countries. 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 generate economies of scale through the creation of joint program and south-south cooperation. Fisheries sector activities in SWIO region are extremely vulnerable to climate change and disaster events and are increasingly being affected. Because of climate change, not only there are signs of faster depletion of fish stock in the Indian Ocean, but the unit cost of fishing is going up, especially for artisanal fishers who can least afford it.

The sector infrastructure is facing severe impacts caused by increasing frequency and intensity of cyclones, storm surges and sea level rise. Increasing variations in climate and their associated ecological changes will further intensify the vulnerabilities of the fishing communities.

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. Despite progress made through several SWIO programs, newer actions are needed to ensure sustainability of fish stock, improve the fisheries sector economy, overcome the setback suffered due to 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:

- The need to focus on reduction of destructive fishing methods to ease the ever-increasing stress on regionally shared resources.
- The need to maximize economic and social benefits from coastal fishery resources.
- 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.

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. Fisheries sector is a significant user of fossil fuel and transport services, which are in 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 in other SWIOFish countries, and other small island developing states (SIDS).

Maldives: Maldives is a small island nation in the Indian Ocean comprising of 1,190 small islands assembled into 26 geographical atolls. The total territory of the country encompasses over roughly 90,000km³, making it one of the world's dispersed countries. Of these 1,190 islands, 109 islands are used as tourist resorts and 128 islands are used for industrial, agricultural, or other related activities. Over 200 islands are habituated by the country's population. An average of 5-10 islands in each atoll are inhabited islands and have infrastructure such as housing, roads and other facilities built in. The islands are generally very small with 33 islands having land area not larger than 1km². Its island's sustained economic growth has significantly reduced poverty over the years, 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. In 2019, tourism accounted for 25 percent of GDP, transport and communication for 13 percent, and construction and wholesale/retail trade 9 percent each. While the country's successful development of high-end tourism has been the main driver of economic growth, its dependence on tourism makes the country highly vulnerable to internal and external shocks. The COVID-19 pandemic, for example, had a significant adverse impact on tourism and related sectors. Recognizing these vulnerabilities, the Government is keen to leverage digital technologies and data to diversify its economy, decentralize services and opportunities geographically, and to put in place effective climate adaptation measures.

Though the tourism sector is the major contributor to the GDP, fisheries sector remains the largest source of employment, accounting for 20% of employment in the outer atolls besides being the largest source of physical exports, and one of the few local industries supplying both to the tourist resorts and the local market. The main export commodity is Skipjack tuna, Yellowfin tuna, other tuna related species and a few reef species (Grouper, Snapper, Aquarium Fish, Sea cucumber. The export revenue

of fish species reaches up to \$110 million per annum. The fish processing and manufacturing sector also contributes around 1.2% to the GDP annually. Tuna is the main source of protein in the Maldivian diet and the livelihood of almost all the inhabited islands. Tuna is the single and most important export commodity, earnings reaching about 160 million US\$ annually. In 2014, the export market accounted for 1.7% of GDP and 11% of labour force. Currently, generating approximately \$163 million in export revenue in 2013.

However, the fishery sector is challenged with many physical, technical, resource limitations, and fiscal constraints. These priority challenges for Maldives are like 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 include the following key areas:

- (i) Sustenance of capture fishery at about 120,000 tons and maintaining an export of 60 percent of the catch which is important for the national income and welfare of fishers.
- (ii) Sustainability of live-bait and reef fishing
- (iii) Diversifying into value-added products; and
- (iv) Economic diversification into mariculture and associated integrated activities to be able to create substantive jobs, especially for women and youth, and absorb labour from (partial) shift away from capture fishery.

While attempting the above, Maldives is keen to (a) promote innovation and resources-efficient technology, processes and decarbonization; relevant technical skill development; and (b) improving 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.

Sustenance, development, and growth in the fisheries sector in Maldives is closely linked to the SWIO regional agenda on conservation, shared vision for sustainable growth of the sector including diversification, and compliance to regional/international standards. There are substantial benefits to Maldives from economies of scale offered by shared regional information infrastructure, technologies, and knowledge related to monitoring, control, and surveillance; safety at sea; and towards adaptation to impacts of climate change on the fisheries sector. In return, Maldives could offer several benefits to other SWIO, especially the small island countries. In the interconnected ecological region, every country could benefit by enhancing the positive externalities yielded by other countries’ national activities.

TRANSFORM : In order to overcome the various technical, fiscal and other challenges and achieve the policy reforms and objectives proposed in the SWIO region and by the GoM, **Transforming Fisheries Sector Management in South- West Indian Ocean Region and Maldives Project** is being prepared and financed by the World Bank to primarily improve and support sustainable development in the fisheries sector through strengthening regional, evidence-based fisheries management in the South West Indian Ocean (SWIO) and the country’s competitiveness.

1.2 Environmental Vulnerability and Sectoral Context

Due to the location, geographical size of the islands, land scarcity and low-lying nature of the country, Maldives is prone to climate change and its implications which is a major threat to lives and the economy. Rise in Sea level, ocean acidification, floods and inundation, extreme winds and other changes in climate has made the country vulnerable demanding the need and adaptation of climate resilient measures and infrastructure. Nearly 80 percent of Maldives’ land area lies less than one meter above

mean sea level, and the country is at medium risk of inundation from rising sea levels, and coastal storms. Given the country's dependence on tourism and on the climate-sensitive fishery sector for economic growth and for the livelihood of a significant share of the population, the impacts of climate change on its coastal natural assets represent a significant vulnerability. In addition, the deterioration of natural barriers, including coral reefs, which cushion against the impact of natural hazards and are also drivers of tourism, can exacerbate related risks. Without appropriate mitigation and adaptation steps at the global and local levels, as well as better natural resource management, Maldives is predicted to suffer a total loss of GDP due to climate change of 2.3 percent by 2050, and 12.6 percent by 2100, the highest impact in South Asia.

The Tsunami which affected Maldives on 26th December 2004, signified the environment vulnerability and fragility of the islands. The disaster caused severe damaged to the physical infrastructure on many islands, especially to those in the tourism, fisheries, and agriculture sectors. The total damages of the disaster were estimated to be US\$470 million, 62% of GDP (World Bank Asian-Development Bank-UN system, 2005). Both the fisheries and agriculture sector has been in recovery since then. Both sectors need new policy reforms and means for sustainable development to safeguard livelihoods of the people.

Recognising these vulnerabilities, The Government has prepared The National Spatial Plan, a 20-year roadmap for infrastructure, spatial development, and decentralization, sets out ambitious objectives to strengthen, *inter alia*, Internet connectivity, data processing, and service delivery across islands to ensure that no island, no person is left behind. The Government has developed sound policies and plans to move from a traditional reactive approach to a more comprehensive approach to managing climate and disaster risk. For instance, the 2015 Nationally determined contributions (NDC), updated in 2020, identifies 10 priority areas for adaptation, including coastal protection, safeguarding reefs and biodiversity, infrastructure resilience, food security, water security, improving public health systems, tourism, fisheries, early warning, and systematic observation, as well as cross cutting issues.

1.3 Project Overview

The project aims to benefit the SWIO region, focussing on improving the explicit needs and activities shared by each country and Maldives, which would benefit the countries in improving bilateral needs as well.

1.4 Project Development Objectives:

The Project Development Objective (PDO) is to strengthen regional, evidence-based fisheries management in the SWIO and to improve competitiveness in the fisheries sector in the Maldives.

1.5 Project Beneficiaries

Project beneficiaries have been identified as the following categories:

- ❖ At the SWIO region level, member countries and national fisheries-related institutions in the SWIO will directly benefit from (a) relevant knowledge and skills sustainable fisheries management (b) building regional expertise on central subjects on fisheries and ecosystems policy, management, and c) coordinated development, implementation, and monitoring of policies on fisheries and the sustainable use of marine and coastal ecosystems in the region.
- ❖ Individuals and families involved in fisheries and related diversification activities in Maldives, who will receive support for improved access to institutional credits, technical advisory, and

matching grants from the project. Individuals in the SWIO region, especially women among the small-scale fishers who will receive training on enterprise development for mariculture.

- ❖ Fishers and fishing families/households and the people employed/engaged with formal and informal private sector including small enterprises engaged in fishing, fish processing and related fisheries sector value chains, and those interested in diversifying activities into mariculture, aquaponics, hydroponics, or agroforestry and in their relevant supply chains and value chains.
- ❖ Government institutions in Maldives mainly the MoFOR and its affiliated agency, the Maldives Marine Research Institute (MMRI) and the Maniyafushi Mariculture Research and Development Facility (MMRDF), Maldives National University etc
- ❖ The private sector engaged in fishing-related activities in SWIO region from harmonised policies and regulations that will lead to improved business environment and the SME sector in Maldives who will receive TA and matching grants for improved energy efficiency, governance, biosecurity, market intelligence and easy access to credit and

All components of the project not only will ensure women's equal access to project benefits but will also provide additional emphasis for job-oriented skill development for women, job creation for women, and/or enhancing ownership of women in the sector enterprises, especially for all enterprises receiving matching grants from the project.

1.6 Project Components

Overall, the project includes three components to support and strengthen both regional and country development with regards to the fisheries sector. Component 1 will be implemented by the Indian Ocean Commission (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 focusses 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** (Cost/IDA Grant US\$12 million, 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. The IOC will ensure to use the available organizational and technical expertise to execute the activities and when needed it will source additional expertise to overcome the low availability of local scientific and technical expertise in the SWIO region, from the Food and Agriculture Organization (FAO).

The component has three sub-components.

- Sub-component 1.1: Promoting the development and coordination of innovative regional research with a focus on capacity development programs and initiatives.

- Sub-component 1.2: Coordinating and consolidating regional cooperation for the production of management advice on fisheries and other uses of marine and coastal ecosystems.
- Sub-component 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** (Cost US\$26.88 million, to be implemented by MoFOR/Maldives; IDA Grant US\$13.44 million, IDA Credit US\$13.44 million)

This component will support Maldives to 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 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) incentivize 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 also benefit from learning and mutual collaboration. This component includes the following subcomponents.

- Subcomponent 2.1: Improved and innovative implementation, enforcement and monitoring of fisheries management plans and sharing results with SWIO countries.
- Subcomponent 2.2: Augmented comprehensive quarantine, disease surveillance and management and experience sharing with SWIO countries.
- Subcomponent 2.3: Skill and Capacity Building for supporting Enterprise Development in Fisheries Sector
- Subcomponent 2.4: Augmentation of Project Management Capacity of MoFOR,

➤ **Component 3: Enhanced Competitiveness and Private Sector Participation for improving Business Climate for Fisheries in Maldives and the Southwest Indian Ocean Region** (Cost US\$102.2 million, to be implemented by MoFOR/Maldives; IDA Grant US\$12.96 million, IDA Credit US\$12.96 million, and Private Capital Mobilization US\$76.3 million)

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. This component will complement the “Maldives Competitiveness and Growth Project” (MCGP, P179286), and will use the additional financial/credit mechanisms provided by the MCGP for specific application in the fisheries sector. Accordingly, this component will have the following subcomponents.

Accordingly, this component will have the following sub-components.

- Subcomponent 3.1: Decarbonization of the fisheries sector
- Subcomponent 3.2: Diversification/Expansion of fisheries sector through facilitating small and medium enterprise businesses.

1.7 Objectives of the Environmental and Social Management Framework

Projects and Programs financed with World Bank resources need to comply with World Bank Environmental and Social Framework (ESF). Therefore, project activities eligible for funding under this project are expected to be implemented in line with ESSs of the World Bank's, ESF, in addition to conformity with environmental and social legislation of the GoM for activities under Components 2 and 3 which would be implemented by The Government of Maldives. For Component 1 implemented by the IOC, ESF requirements are detailed in the respective ESCP agreed between the Bank and the IOC.

Since the specific details of the project intervention sites are not available at this stage, the project has adopted a framework approach to stipulate specific guidance, processes, proposed generic mitigation measures that will be applied and adapted to the specific physical works and locations during project implementation. Accordingly the Environmental and Social Management Framework (ESMF) examines the risks and impacts of sub projects; sets out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts during project implementation; provides measures and plans to reduce, mitigate and/or offset adverse risks and impacts; includes provisions for estimating and budgeting the costs of such measures; provides information on the agency(s) responsible for addressing project risks and impacts including its institutional framework and capacity to manage environmental and social risks and impacts.

The ESMF will serve as the basis for carrying out E&S due diligence under 2 and 3 components of the project, as detailed out in a subsequent chapter of this document. It is expected that detailed environmental and social impact evaluation will be included in all TA and capacity building activities and appropriate site-specific impact assessment and management instruments will be prepared for activities that involve physical work (in accordance with this Framework) by the implementing agency, as applicable, prior to the commencement of sub-projects. All E&S instruments will be made available for public review and comment in appropriate locations in the Maldives and the Bank's external website in accordance with the World Bank's policy of Access to Information.

The objectives of this Environmental and Social Assessment and Management Framework (ESMF) are:

- a. To carry out preliminary assessment of environmental and social impacts of the project investments and outline generic mitigation measure.
- b. To establish clear procedures and methodologies for environmental and social impact screening, assessment, approval, and implementation of subprojects to be financed under the Project.
- c. To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects.
- d. To determine training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF.
- e. To outline resource requirements to ensure effective implementation of the ESMF.

1.8 ESMF Preparation Approach

The ESMF has been prepared in accordance with applicable World Bank ESF, national regulations of the Maldives and is based primarily on literature reviews, data gathering and analysis from previous studies as well as stakeholder feedback.

- **Documentary Review and Primary Data Collection:** The following documents were reviewed for analysing the fisheries sector, relevant policies framework, institutional aspects and associated environmental and social issues:
 - Maldives TRANSFORM Project preparation Aide Memoire and the proposed project concept notes to gain deeper understanding of the objectives and activities.
 - The national policies and legislations relevant to project activities such as fisheries, environment, lands, regional / county development, and other related project areas
 - Strategic Action Plans of key sectors
 - The World Bank ESF and other applicable national sector-specific safeguards documents.
 - Environmental and Social Management Framework documents prepared for similar development projects for the environmental sector.
 - Environmental and Social Impact Assessment Reports for similar project area and scope, with special reference to environmental and social screening reports, assessments and monitoring reports from the previous fisheries project which ended on the 31st of December 2022.
 - Review of existence of sensitive and protected areas close to the project area

- **Beneficiaries Identification and Stakeholder's consultation:** The main beneficiary is the Ministry of Fisheries and Ocean Resources (MoFOR) and the Maldives Marine Research Institute (MMRI). However, collaboration is required with various ministries, government offices, and NGO's; including the Ministry of Climate Change, Environment and Energy, Environmental Protection Agency, Ministry of Tourism, Ministry of Housing, Land and Urban Development, Ministry of Economic Development and Trade, Maldives National Defence Force (MNDF) - Coastguard, Maldives Police Services, Maldives Customs Services, Maldives National University, the local Island Councils, WDC's of islands. The Stakeholder engagement was undertaken through consultative meetings during the SFRD project missions, at preparation meetings of Transform Project and site visits in selected project intervention areas and involved the following:
 - Meetings with the Component Coordinators, Technical Coordinators, and staff with a view to understanding the design, scope and objective of the SFRDP
 - Agency level consultations with technical officers of implementing agencies to better understand the local priority intervention areas, the selection process, and criteria, as well as availability of capacity for management of the social and environmental mitigation process.
 - Community meetings at selected project intervention sites was not conducted for this specific project due to uncertainties at this stage but is planned after site selection. The project management does not want to raise expectations among communities in the formulation phase. However, lessons learnt, and experiences gained from meetings conducted for similar projects reaching different island community stakeholders have been considered, thereby enabling community concerns to be captured and addressed in the ESMF. Once the project starts there will be opportunities for community involvement and for the stakeholders to take the ownership.

- Consultation will be held with stakeholders and nominated agency representatives to review the Draft ESMF and identify the gaps that needed to be completed to produce the final document.
 - Instituting a review process during engagement to ensure that the objective is well understood by the stakeholders and the data gathered is sufficient in addressing the scope of the assignment.
- **Data Analysis and Outcome:** The data and information generated using the above methodologies were used for preparation of this ESMF. The data analysis was aimed to garner analysed data and information for the following: -
- Environmental and social aspects likely to be impacted by the project activities.
 - Potential environmental and social impacts of SFRDP activities with special emphasis on project activities and other activities involving infrastructure construction, natural resource management or activities in or near critical natural habitats.
 - Mitigation measures for potential impacts.
 - Roles and responsibilities of participating institutions in implementation of the ESMF.
 - Reporting and monitoring framework for the ESMF implementation such as structures / tools for environmental reporting, and ESMF monitoring indicators.
 - Grievance handling mechanism to address concerns by project beneficiaries, environmental complaints, and related social conflicts.

1.9 Implementation of ESMF

This ESMF shall be used as a guiding document and shall be followed during the entire project cycle starting with project screening followed by site assessment, design considerations, impact assessment, mitigation measures selection, regulatory compliance, capacity building, project construction and sustainable operation. Institutional arrangement shall ensure that ESMF is integrated into planning of each project/subproject.

1.10 The ESMF as a Living Document

ESMF shall be maintained as a dynamic document and shall be updated based on the following considerations from time to time:

- Any aspects not envisaged at the project preparation stage and thus not covered in ESMF. Such aspects shall be assessed, and appropriate measures shall be included in the ESMF.
- Unexpected situations and/or changes in the project or sub-component design.
- Change in policies, new regulations, change of safeguard policies of funding agencies, international treaties.
- Experience gained from implementation of ESMF and need for improvement in the ESMF.
- Changes in the Government setup and institutional framework requiring appropriate alignment in ESMF.
- Any change and modification in ESMF shall be shared with World Bank and agreed upon by both parties and then communicated to targeted beneficiaries and other stakeholders.

Chapter 2: Environmental and Social Legislation, Regulatory and Institutional Framework

This chapter seeks to present a review of relevant legal, institutional, and administrative framework relevant to the project. International laws and conventions that bear relevance to the implementation of the project have also been highlighted.

Name of relevant Act/Policies/Rules	Objectives	Relevance to Subproject Intervention
The Environmental Protection and Preservation Act (1993)	It aims at improving the legal and administrative co-ordination of the diverse initiatives in the field of environment with the ultimate objective of integrating environmental considerations into the country's overall economic and social development. The authority responsible for the Environment Act is the Ministry of Climate Change, Environment and Energy. The following Articles 2, 4, 5, 6, 7, and 8 of the law are relevant to this project.	The project includes investments in civil and maintenance works which would require identification of specific sites and site conditions and will require EIA, SEA, and EA reports as per the regulations and minimize its impacts on the environment and communities around the area.
The Environmental Impact Regulations, 2012	This regulation has undergone number of amendments in 2013, 2015 and 2016. These amendments include revision of EIA review period and associated costs, qualification required for monitoring the Environmental Management Plan, revision to the list of projects that requires EIAs, projects that can be undertaken by simply applying mitigation measures defined by EPA such as for dredging of harbours, clearance of vegetation within allocated plots for households and for roads etc.	
The Regulation on Environmental Liabilities (Regulation No. 2011/R-9)	The objective of this regulation is to prevent actions violating the Environmental Protection and Preservation Act 4/93 and to ensure compensations for all the damages that are caused by activities that are detrimental to the environment. This include all the activities that area mentioned in clause 7 of EPA Act as well as those activities that take place outside the projects that are identified here as environmentally damaging.	The project activities are planned to be carried out throughout the country, including allocating uninhabited islands and usage of marine resources.
Environmentally Sensitive Areas (ESA) List, 2014.	The compilation of the list was initiated in 2009 with the assistance of the local Island Offices and other stakeholders. The list has been produced to identify environmentally and econom-	

	ically significant areas to offer protection, safeguard and enhance the conservation of the biological diversity of the country.	The projects work with SME's and other private companies to enhance private sector contributions in the country. These include leased island holders as well.
Handling of trees and palms	Pursuant to Environment Protection and Preservation Act, Law Number 4/93, the Environment Ministry has made a by-law with the purpose of educating developers about the importance of trees including best management practices for maintaining trees and provide standards for preservation of trees in the Maldives and set down rules and regulations to be adhered to prior to commencing felling, uprooting, digging out and exporting of trees and palms from one island to another in Maldives.	As the project works include civil works for renovation and building of new infrastructure, relocation of some plant species will be required.
Regulation on Sand and Aggregate and Coral Mining	This regulation addresses sand mining from islands and sand banks. Sand and aggregate mining from beaches of any island whether inhabited or uninhabited is banned for protection of the islands.	The project contains civil works and hence contractors will be required to bring in sand for construction purposes. Including the clause to ensure sand burrowing from a permitted location from EPA is required.
Regulation Governing Reclamation and Dredging of Islands and Lagoons of Maldives 2013/R-15	It determines the guidelines that would minimize the damage caused to the environment due to reclamation and dredging pursuant to Article 3 of Environment Protection and Preservation Act. This regulation is enforced by the Environmental Protection Agency.	Major land reclamation of islands will not come under the project. However, with circumstances beach nourishment and shore protection for protection of infrastructure might come into place during the project period
Law of Fisheries (No. 5/87) (Direct Relevance to the project)	The Fisheries Act specifically provides for the sustainable management of fisheries resources and their ecosystems in the maritime zones of the Maldives	The project is for the fisheries sector of Maldives and will have great relevance to the Fisheries Law throughout the project period and while carrying out project activities.

Waste Management Regulation, 2013	The aim of WMR is to implement the national waste policy which contains specific provisions to implement measures to minimize impacts on human health. Formulate and implement waste management standards, implement an integrated framework for sustainable waste management, encourage waste minimisation, reuse and recycling, Implement Polluter-Pays Principle, and Introduce Extended Producer Responsibility	Proper waste management is required in all sites where project activities are being carried out.
Convention on Conservation of Biological Diversity, Regulations 2006	The NBSAP 2016-2025 will be a 10-year plan and is designed to address 6 broad areas of concern. The strategies under the NBSAP 2016-2025 are: Strategy 1 - Strengthen the governance, policies, and strategies for biodiversity. Strategy 2 - Enhancing communication and outreach through awareness programmes and capacity building. Strategy 3 - Work together globally for biodiversity conservation Strategy 4 - Ensure sustainable use of biological resources Strategy 5 - Address threats to conserve biodiversity. Strategy 6 - Strengthen information management and resource mobilisation	The project activities include proper usage of marine resources and development of sustainable fisheries development.
Decentralization Act, 2010	The Act lists the public services that are to be provided by the local government sub-divisions to the people, the composition of the city, atoll and island councils and the responsibility of the councils to formulate and carry out plans for development of its constituencies in an equitable manner.	The project includes activities that are to be carried out with the involvement of island councils and other implementing agencies
Maldivian Land Act, 2002	The Act governs the allocation of Maldivian land for different purposes and uses and other issues regarding the issuing of land, issuing of state dwellings for residential purposes, conduct regarding state dwellings or private dwellings constructed for residential purposes and the sale, transfer and lease of Maldivian Land.	The project includes some civil works to be carried out including renovation and construction of new facilities which aids to achieve the objectives of the project
Gender Equality Act, 2016	The Gender Equality Act seeks to ensure to eliminate discrimination between genders and establishes the role of government and other agencies in the implementation of the Act.	The project includes contribution and involvement of WDCs to reach out women in fisheries sector and their empowerment and ensure equal opportunities are given to both genders in the sector.

Sexual Harassment Prevention Act, 2014)	Defines sexual harassment in workplace and assigns responsibilities for prevention of different stakeholders of such acts and sets out penalties for the offenders.	The SEP of the project has zero-tolerance on sexual harassment of both genders and will take legal actions if required.
Heritage Act, 2019	The Act determines the procedure to assign cultural heritage, determine the responsibility of the government and the people regarding cultural heritage, to determine means of penalizing acts of damaging cultural heritage, to determine means of undertaking research on heritage.	The project includes civils works where site allocations are required at the beginning of the activity planning. Maldives is a heritage rich country and therefore have specific locations protected under the law.
Construction Site Health and Safety Regulation, 2019	The aim and objective of this regulation is to provide minimum standard for safety and security of the community and labour force.	As the project includes levels of civil works, workers and communities' health and safety is a top priority
Employment Act, 2008	Specifies the rights and duties of employers and employees. The Employment Act specifically prohibits forced labour, discrimination at the workplace, and child labour.	The projects include employees from the Ministry apart from hired project staff and laborers. All employees will be treated as specified under the Employment Act. Any violations to the Act will have consequences.
Right to Information Act, 2014	The Act widens and improves the scope for the right to information in the Maldives thereby increasing transparency and accountability in the Government. This Act also layout the procedures for an individual to receive and acquire information held by the Government.	As it is a project for the overall development of the country, if requested by public at any time, that information should be available to the public.

2.7 World Bank Environmental and Social Framework

The World Bank's Environmental and Social Framework sets out the Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

The E&S Framework comprises of (1) Vision for Sustainable Development, which sets out the Bank's aspirations regarding environmental and social sustainability; (2) The World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and (3) The Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower and projects.

Environmental and Social Standards (ESS)	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	√
ESS 2: Labor and Working Conditions	√
ESS 3: Resource Efficiency and Pollution Prevention and Management	√
ESS 4: Community Health and Safety	√
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	X
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	√
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	X
ESS 8: Cultural Heritage	√
ESS 9: Financial Intermediaries	X
ESS 10: Stakeholder Engagement and Information Disclosure	√

ESMF is an instrument that examines the risks and impacts when a project consists of a program and/or series of sub-projects, and the risks and impacts cannot be determined until the program or sub-project details have been identified. The ESMF sets out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts. It contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts. It includes adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

Environmental and Social Standard	Summary description
ESS 1 - Assessment and Management of Environmental and Social Risks and Impacts	ESS1 applies to all projects supported by the Bank through Investment Project Financing. It sets out the Borrower's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs)
ESS 2 – Labor and Working Conditions	ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. ESS2 applies to project workers including fulltime, part-time, temporary, seasonal, and migrant workers.
ESS 3 – Resource and Efficiency, Pollution Prevention and Management	This ESS sets out the requirements to address resource efficiency and pollution prevention (project related emissions, generation of hazardous and non-hazardous waste, pesticide use) and management throughout the project life-cycle consistent with Good International Industry Practice by promoting sustainable use of resources and avoiding or minimizing adverse impacts on human health and the environment.
ESS 4 – Community Health and Safety	ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. ESS4 addresses the community health, safety, and security risks

	and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable.
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets, or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement, which includes, eligibility classifications, compensation resettlement rehabilitation and displacement community engagement and grievance redress mechanism.
ESS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources	ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. The standard recognizes the importance of maintaining core ecological functions of habitats, ecosystems, and the biodiversity they support. Risks and impacts on biodiversity could have adverse effect on eco system services.
ESS 7- Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	This ESS recognizes that Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities have identities and aspirations that are distinct from mainstream groups in national societies and often are disadvantaged by traditional models of development. In many instances, they are among the most economically marginalized and vulnerable segments of the population without equitable access to project benefits, or benefits are not devised or delivered in a form that is culturally appropriate.
ESS 8 – Cultural Heritage	ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people’s cultural identity and practice.
ESS 10 – Stakeholder Engagement and Information Disclosure	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. A Stakeholder Engagement Plan (SEP) is prepared to meet the requirements of this standard.

Chapter 3: Environmental Profile and Social Conditions of the Project Area

3.1 Environmental Characteristics of Project Area

This chapter details the existing environmental profile of Maldives. The environmental profile is based on the review of secondary information available about Maldives and its islands obtained from literature, journals, websites and observations.

3.1.1 Topography

The Maldives consists of 26 atolls and flat islands with a topographic variation generally less than two meters at highest elevation. Over 80% of the total land area of the country is less than one meter above mean sea level and the highest point recorded in the country is a beach storm ridge at Fuvahmulah, in the Southernmost Atoll with an elevation of four meters above mean sea level.

The 2008 Constitution of the Maldives, in its Schedule Two, divides the Maldives into 20 administrative atolls, and the capital Island of Malé. Most of the atolls have a number of channels or openings in the outer reef which provide access to the islands in the enclosed interior sea or lagoon of the atoll. The shape of the atolls varies from circular and oval, to pear shaped. Some are fairly large such as Huvadhu Atoll in the south, which has approximately 250 islands and a lagoon area covering approximately 2,800 sq. km. Other atolls are very small and contain only a single island, such as Kaashidhoo and Gaafaru in the North Malé Atoll.

Out of 1,192 coral islands 1,074 are vegetated islands and approximately 450 un-vegetated islands. Vegetated islands comprise both natural vegetated islands and artificial vegetated islands. The un-vegetated islands include natural sand banks (Finolhu), natural coral conglomerates above High Tide Level (Huraa) and artificial un-vegetated islands. Inhabited Islands in all 3 zones are built up with housing units, either one (most commonly) or two stories and small home garden plots as well as buildings such as restaurants, office buildings and shops. The inhabited islands land use plans are developed with designated areas for industry, harbours.

3.1.2 Water Resources

Due to the geographic pattern of Maldives, freshwater resources such as rivers and streams are non-existent. The main source of freshwater is the ground water aquifer. However, due to the excess extraction of freshwater and not enough rainfall, freshwater recharge has declined resulting in a dramatic depletion of available freshwater in inhabited islands. Sewerage contamination and saltwater intrusion have made the water in inhabited islands unfit for portable sources thus many inhabited islands obtain water via reverse osmosis of sea water or rainwater harvesting for portable uses and drinking water consumed is usually bottled and transported to the Islands.

3.1.3 Climate

The Maldives, in general, has a warm and humid tropical climate with average temperatures ranging between 25°C to 30°C and relative humidity ranging from 73 per cent to 85 per cent. The country receives an annual average rainfall of 1,948.4 mm. There is some variation in climatic conditions between northern and southern atolls. The Table 2.1 provides a summary of key meteorological findings for Maldives.

Table 1 Key meteorological Conditions of Maldives

Parameter	Value
Average Rainfall	9.1mm/day in May, November 1.1mm/day in February
Maximum Rainfall	184.5 mm/day in October 1994
Average Air Temperature	30.0° C in November 1973 31.7° C in April
Maximum and Minimum Temperatures	34.1° C in April 1973 17.2° C in April 1978
Average Wind Speed	3.7 m/s in March 5.7 m/s in January, June
Maximum Wind Speed	W 31.9 m/s in November 1978

3.1.4 Land use Pattern

Land use in the Maldives revolves around 6 main types of utilization: human settlements, infrastructure islands (e.g. airport, waste disposal, oil storage), economic (tourism, agriculture, fisheries, aquaculture), stewardship or varuvaa, recreation and administrative (e.g. defense). Population increase remains the main pressure on land, despite consistently falling population growth rates, for instance: 3.4 in the 1990s to 1.6 in 2006. The impacts of population increases are more pronounced due to the small land area of the islands, leading to increased competition for the utilization of the little available land and encroachment of beaches for human settlements and other needs.

3.1.5 Terrestrial Flora

The tropical vegetation of Maldives differs in the inhabited and in the uninhabited islands. Inhabited islands have small groves of coconut, banana, papaya, drumstick and citrus trees by the homesteads, while breadfruit trees and coconut palms are grown in available patches of land. On the other hand, uninhabited islands natural vegetation line of the beach crest composes of strand plant communities including a distinct association of trees and shrubs and a few sand binding creepers and herbaceous plants. These strand plant communities include the *Scaveola taccada* (Magoo), *Pemphis acidula* (Kuredhi), *Suriana maritima* (Halaveli), *Tournefortia argentea* (Boashi) and *Guettarda speciosa* (Uni). According to the Fifth National Report to the United Nations Convention on Biological Diversity, the flora of the country consists of 583 vascular plants of which 323 (55%) are cultivated plant species, while 260 are native and naturalized plants. Of the 260 native or naturalized plant species, fewer than 100 are truly indigenous.

3.1.6 Wetland Ecosystems

There are at least 75 islands with wetland or mangroves in the Maldives. According to a survey conducted by the Ministry of Planning and National Development in 2007, approximately 8.01km² of area is of the country is covered with wetland or mangrove areas. It is noted that the largest mangrove ecosystem in an uninhabited exists in Gan in Laamu atoll. Wetland areas in the Maldives are listed on the sensitive list and development activities are approved only after environmental due process of

screening for EIAs. Development activities near these areas on inhabited islands may be limited to environmentally sustainable projects.

3.1.7 Natural calamities

Maldives is not prone to seismicity. However, seismicity of the surrounding plate margins while not in the immediate vicinity of the Maldives causes earth tremors, and more recently the tsunami, which originated some 700km away was experienced. Monsoon weather patterns characterize the islands, but the impact of typhoons has occurred mainly in the form of storm waves which travel out as swell. Several destructive storms have been recorded in the natural hazard history of the Maldives.

3.1.8 Marine Biodiversity

Maldives is an archipelago with a rich marine biodiversity with each island surrounded by a reef system. Over 1200 fish species, as many as 5000 different shell species, 100-200 sponge species, more than 100 crustacean's species and over 100 species of echinoderms sustaining in these reef systems (Pernetta, 1993). In addition, a variety of sharks, eels, rays, dolphins, whales, and aquarium fish are commonly observed throughout the archipelago. Five species of endangered turtles, namely loggerhead turtles, green turtles, hawksbill turtles, olive ridley turtles and leatherback turtles, are also known to live in Maldivian waters (Frazier and Frazier, 1987).

Tuna fishing remains particularly important to the economy of the Maldives. Eight different types of tuna and similar fish are harvested commercially from the open seas. Tuna fishing requires live bait fish which are caught in lift nets near the reef and kept alive in the flooded hull of the dhoani. Bait fish are composed of species associated with the reef and are dependent on a thriving reef environment. Twenty different species, regularly caught and used as bait fish, may be classified into this group.

3.1.9 Protected Area

A total of 79 Protected Areas has been gazetted across the country (Annex F). For the most part these are relatively small, averaging only a few hectares in area. Apart from the traditional live bait fishing and recreational diving, all other activities are officially prohibited in MPAs.

Several government departments are responsible for ensuring the conservation and sustainable use of marine and coastal biodiversity in the Maldives, including the Ministry of Climate Change, Environment and Energy, Ministry of Economic Development and Trade, the Ministry of Fisheries and Ocean Resources, and the Local Government and Public Works. The Environment Ministry not only has the mandate to conserve marine and coastal biodiversity but also promotes sustainable economic development practices via the promotion of environmental management in development activities.

3.1.10 Demography

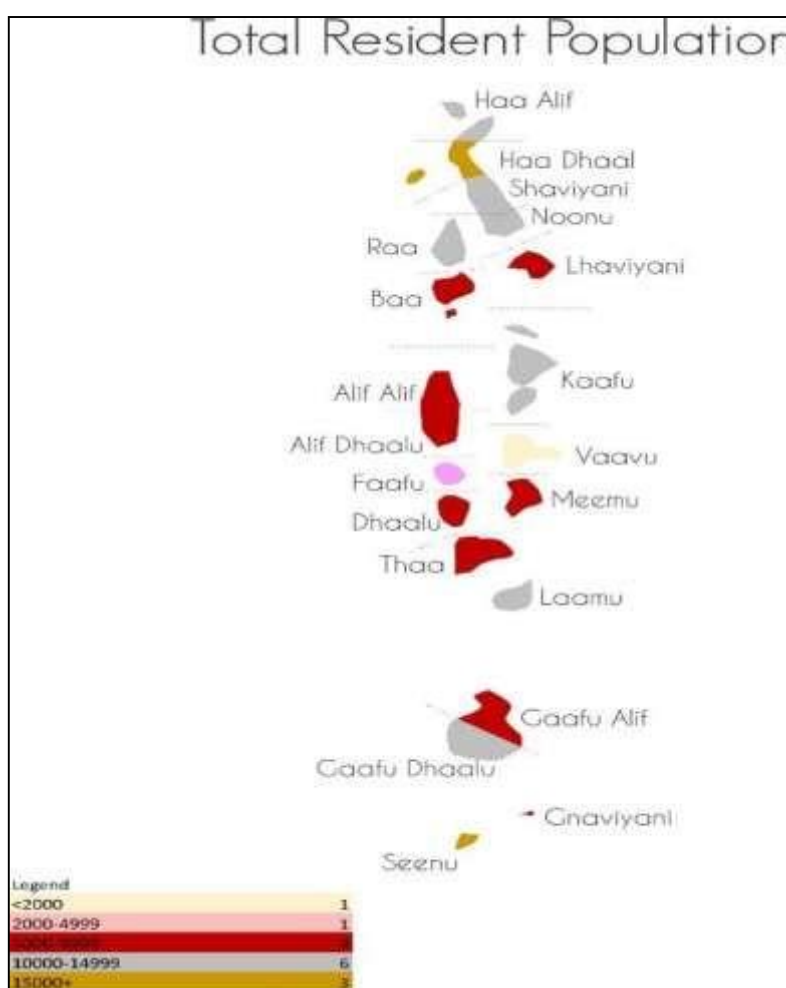
The total population enumerated in Census 2014¹ is 407,660. Details of the total population enumerated is given in Table 2.2 and Table 2.3 provides the Resident Population by sex, nationality, and locality (Atolls) as per 2014 Census.

Table 2. Total Population Enumerated in Census 2014, by Sex

Population	Both Sexes	Male	Female
Total Population	407,660	230,453	177,207
Resident Population	402,071	227,749	174,322
Maldivian	338,434	171,962	166,472
Foreign 1_/_	63,637	55,787	7,850
Non-Resident Maldivian	5,589	2,704	2,885

Source: National Bureau of Statistics

Map of Total Resident Population



¹ The National Bureau of Statistics conducted the most recent Census survey in 2022 and the results are not yet published.

3.1.11 Housing

As per 2014 census, there were 68,249 resident households, out of which 55,949 were Maldivian households and 12,300 as other households. Out of the total households, 39 percent of households are in Male' and 60 percent of households are found in administrative islands of the Atolls and 1 percent in the non-administrative islands of the atolls. The average household size in Male' for a Maldivian household is 5.5 and other households is 6.1. Household size for the whole nation for Maldivian households was at 5.4 percent and 8.1 percent for other households. The household types are divided into 2 categories, which are housing units and collective living quarters.

Table 3. Total Households by type of housing by locality, 2014

Type of Households	Republic	Male'	Atolls		
			Atolls	Administrative Islands	Non- Administrative Islands
Housing Units	65,765	25,673	40,092	39,919	173
Collective living quarters	2484	1066	1418	968	450

Source: Census, 2014

Social Conditions

Maldives' development challenge is not simply just "Atolls versus Malé" – this could lead one to overlook the differences in socio-economic outcomes within the Atolls. Atolls that are more remote from Malé do not necessarily have higher monetary poverty rates. Rather, there are clusters of better-off and worse-off Atolls in each zone. Involvement in primary activities such as fisheries and agriculture or secondary activities such as manufacturing and construction is associated with a higher incidence of poverty, as is any type of self-employment. Poverty does not vary with employment in the public or formal private sector. Persons in informal employment are twice as likely to be impoverished as those in formal employment. Nationally, households that have migrated to their present location are three times less likely to be poor than households native to their location. (WB Maldives Poverty Assessment, 2022.)

Maldives economy is rebounding, mainly due to tourism. However, this economic and social progress has yet to be fully inclusive. Achieving growth and shared prosperity in the Maldives is especially vulnerable to risks stemming from lack of inclusion, especially of the youth: The increase in the working age population, with a shift toward a relatively more educated young labour force, puts enormous pressure on the absorption capacity of Maldives labour market. Indeed, youth unemployment reached 17.7% in 2021 (WB WDI). Unemployment is high among young men, who also increasingly are alienated from society and family. This alienation, combined with a lack of strong alternative social structures to replace the traditional family structures whose breakdown has accompanied Maldives' development trajectory, appear to be propelling young men towards greater social conservatism, participation in gangs, drug use, and violence.

Gender inequality endures for women who are slightly more likely than men to be unemployed. Very few women are employed in the fisheries sector. Despite gender-equal primary schooling, girls' access to tertiary and professional education is hampered by beliefs about girls' and women's mobility, and primacy of household roles over others. Within the home, women face challenges that men do not, such as high risks of domestic violence and little control over household assets. Finally, women have limited presence in politics and governance (WB Understanding gender in Maldives, 2016).

Chapter 4: Application of Environmental and Social Management Framework Process

4.1 Introduction

The Environmental and Social Management Framework (ESMF) provides guidance on how environmental and social aspects shall be identified, assessed and managed during the subproject implementation under component 1, 2 and 3. Specific project locations have not been clearly identified at this stage; hence the main objective of the ESMF process is to ensure that subprojects and activities financed by the Project will not create adverse impacts on the local environment and local communities and the residual and/or unavoidable impacts will be adequately mitigated in line with national requirements and the WB's ESF.

4.2 Sub-project Planning

A. Exclusion Criteria

The following categories of interventions will not be financed by the project.

1. Interventions that will involve significant conversion of or pollution in terrestrial and marine natural habitats.
2. Interventions in island that harbours sensitive biodiversity which involves significant land use changes.
3. Interventions that will involve land acquisition and involuntary resettlement.
4. Interventions that will cause irreversible damage to protected ecosystems.
5. Interventions that will damage cultural resources.
6. Projects that have a high or substantial E&S risk classification

B. Sub-Project Investments under Component 2 and 3

For component 2 and 3 which will be implemented within Maldives, key steps and scope of the ESMF is provided below.

- **Step 1: Environment and Social Screening**

Screening is the process by which sub-project eligibility for funding under the project will be determined, potential E&S issues including risks and impacts classification, application of ESSs and national requirements will be flagged, and the type of E&S documents/instruments to be prepared will be identified.

The Ministry of Fisheries and Ocean Resources relevant departments, through the Project Management Unit (PMU) will carry out environment and social screening for all proposed subprojects proposed under **Components 2 and 3** using the suggested screening checklist in **Annex D**.

The risk classification of each subproject under the appropriate environmental and social category will be based on the provisions of the World Bank Environmental and Social Framework and will fall into one of the four categories High, Substantial, Moderate and Low depending on the type, location, sensitivity, and scale of the sub project and the nature and the magnitude of its potential environmental and social impacts. The overall risk of the Maldives TRANSFORM project is 'moderate' and hence, sub-projects which will carry a higher risk rating will be excluded.

It is important to note that all relevant technical information related to sub-project such as conceptual plans, designs, technical & financial feasibility/pre-feasibility reports are reviewed prior to commencement of the screening process.

- **Step 2: Environmental and Social Impact Assessment (ESIA)**

Based on the screening recommendation, preparation of E&S documents as required will be carried out including the development of mitigation measures to be incorporated into bidding and contract documents. The E&S documents may include, as appropriate but not limited to, full Environmental and Social Impact Assessments (ESIA), Environmental and Social Management Plans (ESMPs), sub-project specific Stakeholder Engagement Plans (SEPs), sub-project specific Labor Management Procedure (LMPs), Environment and Social Codes of Practice (ESCoPs) including health and workers issues related to sexual exploitation and abuse sexual harassment (SEA/SH) and COVID-19. These plans/E&S documents will clearly identify measures to avoid, mitigate and minimize potential negative impacts during project implementation and operation and identify opportunities for social and environmental enhancement.

For public investments under component 2, the PMU will be responsible for conducting the necessary ESIA's either using in-house expertise or through hiring consultancy services. For investments in private goods under component 3, individual private entities will be responsible for conducting the necessary ESIA's assisted and technically facilitated by the PMU.

The assessment process will constitute a systematic approach to the evaluation of the sub-project in the context of the natural, regulatory and environment of the area in which development is proposed. A detailed representation of the EA process is specified in Annex A.

Before the E&S instrument/document preparation is conducted, the following are to be carried out:

- i. Scoping**

The first step in the EA process will be to scope the extent of the assessment required depending on the type, extent and nature of anticipated E&S impacts and risk via a viz the proposed project activities and the environment in which development will occur. The primary focus of Scoping will be on the collection and analysis of pertinent data and the assessment of significant environmental and social attributes that will establish the required EA process.

Key elements to the Scoping exercise will be as follows:

- Gathering and reviewing existing environmental and social data that is relevant to the sub-project investment like land use patterns (agriculture, fisheries, residential, wetland, human settlements), environmentally sensitive areas, livelihood, and socio-economic data etc.
- Identifying and consulting key project stakeholders relevant to the sub-project including local community, Island councils and government departments such as the Fisheries Department, Agriculture Department, Animal Health and Veterinary Service, Plant Protection and Quarantine Services, Plant and Animal Quarantine Services to get input into the EA process.
- Reviewing relevant legislative requirements, environmental standards, and guidelines (national and WB) associated with the proposed development.
- Gathering local knowledge
- Identifying the key environmental and social concerns (community and scientific) related to a project and relative importance of issues.

- Determining the spatial and temporal boundaries for the EA studies and setting the TOR or scope of the EA.

ii. **Environmental Impact Assessment/ESMP preparation**

Following scoping and the TOR (where relevant such as in an ESIA) the E&S analysis will be conducted assembling in greater details the legislative requirements, subproject interventions, environmental and socio-economic data to predict environmental and social consequences of project implementation and to outline a mitigation plan. Under the project, ESIA's may be required to comply with national laws or ESF, or in some instances both.

The EA process, typically, consists of the following elements. Depending on the nature of the E&S instrument required for a particular sub-project some or all the following steps will need to be carried out.

- **Baseline Environmental Conditions**

In order to identify any potential impact on and potential change to the natural and socio-economic environments, the existing baseline environmental and social data need to be collected. Baseline data includes collection of primary and secondary information belonging to meteorology (climate, rainfall, temperature, wind, humidity etc..), soil quality, water quality, air quality, noise, land use, geology, topography, hydrology, surface and groundwater sources, cultural properties, biodiversity (flora and fauna), protected area and socio-economic profile of the project area.

- **Assessment of Policy and Regulations**

Key environmental, social and labour related regulatory and administrative framework within Maldives and the relevant environment and social standards of the World Bank applicable to the project are presented in **Chapter 2: Environmental Regulatory Framework**. The EA will outline which regulatory and ESF requirements are applicable to the specific sub-project and highlight necessary government clearances that are required before project commencement.

- **Impact Prediction and Assessment**

Impact prediction is a crucial stage of the EA process and needs to be dealt diligently using reliable methods and local resources where appropriate. Most predictions, especially impacts from construction activity on surrounding marine ecosystems, are qualitative and typically based on professional judgement but where possible methods to quantify impacts should be used. It is also important to describe the nature of the impacts such as nature, severity, and timescale.

- **Analysis of Alternatives**

Analyses of various alternative options for the project are to be assessed from varying level of impacts as part of the EA. The best alternatives with respect to the subproject interventions, social and environmental aspects are to be considered for implementation. Alternatives includes:

- (1) With or without the project
- (2) Analysis criteria to include environmental, social, technical, and economic options.
- (3) Other project alternatives

- **Stakeholder Consultation**

Stakeholder consultations are an integral part of the EA process and is critical for the success of the project with the community. For ESIA's, relevant stakeholders should be

consulted at least at two stages of the process, once in the initial stage of the project conceptualization and alternative analysis and another after finalization of the ESIA document. For other types of E&S instruments, consultations should be carried out as appropriate.

- **Environment and Social Management and Monitoring Plan**

Mitigation measures is the most important outcome of the EA process, as it investigates ways to avoid, mitigate and minimise negative impacts from the specific subprojects. Where significant impacts are identified, discussions should be held with the project team to discuss the possibility of “designing out” through changes in project interventions, location, or operation. For measures that were unavoidable, the Environment and Social Management Plan (ESMP) should address the anticipated impacts. The ESMP should also have a Monitoring Plan for key environment and social attributes which shall be checked at site. The ESMP should be included in the Bid Document with appropriate Environmental Protection clauses in the technical specification for effective implementation of the EMP during project implementation. Format for the monitoring plan is presented in **Annex C**. A generic construction related ESMP is presented in **Annex E** which can be adapted to specific sub-projects.

- **Environmental Guideline and Codes of Practice for Individual Investments**

Sector specific environmental guidelines including site selection, infrastructure requirements, construction management, waste management etc., shall be prepared to guide project implementation, where this type of E&S instrument is deemed necessary. These will be typically for low E&S risk activities.

iii. E&S documents clearance and information disclosure

- a. *WB clearance*: Before the commencement of the bidding process, E&S documents will be submitted to the WB for review, clearance, and public disclosure.
 - i. The WB will conduct prior review for all screening reports, standalone ESMPs and ECOPs. This approval process will be reviewed later for lower risk projects once the E&S capacity of the PMU and implementing agencies (IA) has been built in which case the Bank may review stand-alone ESMPs and ECOPs on a sample basis.
 - ii. The WB will conduct prior review for all ESIA TORs and thereafter all ESIA/ESMPs
- b. *Government approval*: The WB requires that ESIA as required by the GoM regulation on EIA will be approved by EPA prior to project commencement. The ESIA approval conditions from the EPA will be provided to the WB for information.
- c. All E&S documents and approval condition (where ESIA are concerned) will be posted on the official website of the project/Ministry along with an Executive Summary translated to Dhivehi. A notification will be published about the disclosure and comments will be sought within one month or as specified under the given circumstances. The English version of the ESIA/ESMP will be disclosed on the WB website.

4.3 Sub-project Implementation, Supervision, Monitoring and Reporting

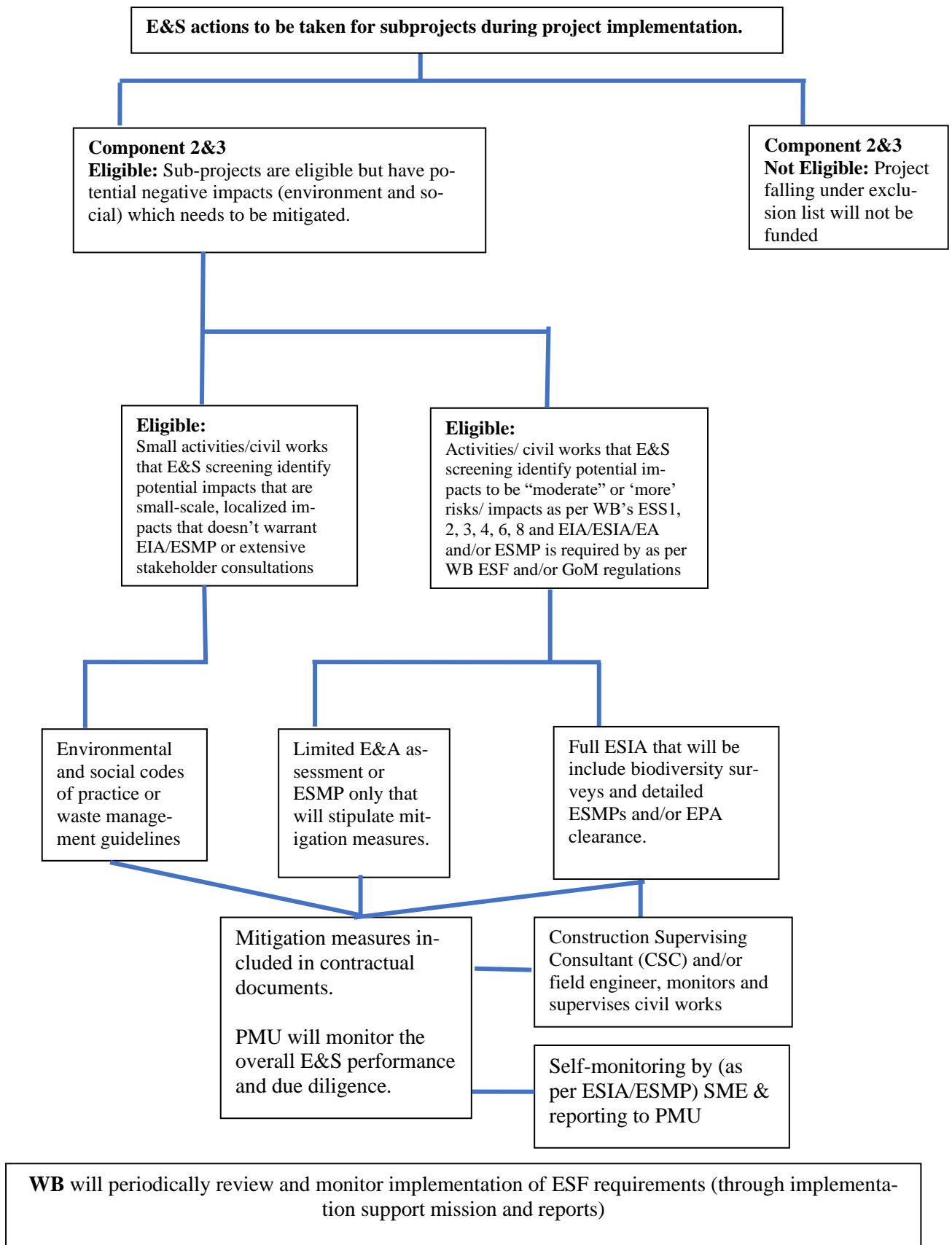
ESMF implementation, supervision, monitoring, and reporting is an integral part of the Project and subproject implementation, and specific E&S staff will be assigned for the task. The WB E&S specialists will supervise and monitor the implementation of E&S activities as part of the WB implementation support mission. Details on responsibility of agencies are described as follows:

□ ***E&S monitoring & performance during project construction/implementation:*** To ensure compliance with E&S instruments and management plans/guidelines.

- For civil works under component 2, the PMU will depend on the contractor's self-monitoring and reporting as per an agreed format and conduct periodic supervision to check on compliance with ESMPs.
- For civil works under component 3, the PMU will depend on the private enterprise owner's self-monitoring and reporting as per an agreed format and conduct periodic supervision to check on compliance with ESMPs.
- For component 3 activities in islands, PMU will conduct 6 monthly environmental quality monitoring, or annually as deemed required, to monitor environmental trends in the surrounding environment.

□ ***E&S monitoring during operation phase.*** To avoid potential E&S risks and impacts during project operation, especially from waste management activities from labs, mariculture and agriculture activities, need to be monitored by MoFAD. A monitoring regime with the required capacity within the Ministry and its technical agencies such as the MMRI will be established during the project.

- ***Biannual E&S monitoring reports to the WB:*** On a 6 monthly basis or as per date agreed with WB, the PMU will submit an aggregate E&S monitoring report to the Bank. The PMU will be responsible for reporting on the implementation of SEP and LMP in the biannual report, including responding to grievance and/or complaints of the subproject affected peoples as well as the project workers.



Chapter 5: Stakeholder Consultations

In accordance with the World Bank ESF, public consultations were conducted with relevant government, private, and other stakeholders. The opinion and concerns have been considered in preparing the Environmental Management Framework (EMF). This chapter provides summary information on the stakeholder consultations conducted during project preparation.

5.1 Sector Wise Consultation

Stakeholder consultation has been organized to identify the environmental and social benefits and risk associated with project implementation for various sectors. The stakeholder consultation has been carried out with the following objectives:

- To identify the level of impacts it has on the communities and the environment.
- To assess the present conditions and evaluate the benefits with the project.
- To find out the communities needs and difficulties.

Main Focus Area	Stakeholder Consulted	Key issues/challenges & assessment of status	Suggestions & Recommendations
Government	Ministry of Finance Environment Protection Agency Ministry of Climate Change, Environment and Energy	<ul style="list-style-type: none"> • Concerns on project outcomes at the end of the project term • Proper informing mechanisms not practiced in the formulation and decision stage of projects. • Monitoring mechanisms not put in place. • Better practice of information dissemination 	<ul style="list-style-type: none"> • Ministry of Environment and EPA to be informed in decisions relate to environment and island selection. • Enforce a stringent monitoring and reporting mechanism through the project. • Share meeting minutes and other project related documents for comments and feedback
Commercial Banks and Financial Institutions	Bank of Maldives Commercial Bank of Maldives Islamic Bank of Maldives State Bank of India SME Development Finance Corporation	<ul style="list-style-type: none"> • Borrower behaviour towards financial disciplines • Issue related to bookkeeping. • Borrowers meeting their commitments to the bank. • Has difficulty recovering loans. • Difficulty to create mortgage for vessels. • Court processes takes time to recover loan 	<ul style="list-style-type: none"> • SMEs and Banks to work closely and manage their bank accounts. • A formal structure to SME businesses • Assist SMEs to create a business model around what they do
Agriculture	Siyaha Maldives Sase Construction Pvt Ltd Maarikilu Pvt Ltd Sandy Crystal Pvt Ltd Voyages Maldives Pvt Ltd Seagull Group Pvt Ltd	<ul style="list-style-type: none"> • Access to credit – problem with cashflow • Changes in the environment / climate change • Pest infestations • Overuse of chemical fertilizers • Issues related to export and its restrictions. • Low Capital 	<ul style="list-style-type: none"> • Banks to provide loans for the sector. • Invest in climate adaptation programs and measures. • Create new measure for pest control in an environment friendly manner. • Enforce legal requirements on the application of chemical fertilizers on crops

	Aarah Investment Pvt Ltd		
Fisheries	V.K.M Investments Pvt Ltd Horizon Fisheries Pvt Ltd Ensis Fisheries Pvt Ltd Maldives Industrial Fisheries Company	<ul style="list-style-type: none"> • Access to credit – problem with cashflow • Competition between MIFCO and other private companies leaves them at a disadvantage. • Price flow – Price of fish in Maldives remains high though the market price is low worldwide. • Issues of MIFCO selling raw fish to Thailand instead of Private companies • Low storage capacity • Low Capital 	<ul style="list-style-type: none"> • A Fisheries bank to give loans for the sector. • Government and Private sector to come to an agreement with selling raw fish to private sector instead of other countries. • Legal measures for price control • Funding to increase storage capacity of fish. • Better arrangements to attain loans for fish production and export
Mariculture	Boduhaikodi Pvt Ltd Step Maldives Pvt Ltd Step Maldives Pvt Ltd Big Fish Maldives Pvt Ltd	<ul style="list-style-type: none"> • High investments needed for startups. • Women involvement is required yet very low. • Banks reluctance to give loans for fisheries sector. • Difficulty to get into the International Market • Lack of awareness about alternate sustainable means for fisheries • Lack of awareness of island communities to create their own business through the sector 	<ul style="list-style-type: none"> • Loans for Sustainable Fisheries • Loans focused to women of island community for start-ups. • Come to an arrangement with Banks for loans and Grants opportunities. • Make a platform with easy access to the international market. • Awareness programs for women and fisher communities
NGO	Parley Maldives Journal	<ul style="list-style-type: none"> • Bad practices used in Pole and Line Fisheries • Low women participation in the sector • Lack of awareness on business ideas and entrepreneurship 	<ul style="list-style-type: none"> • Hatcheries for Bait fish culture • Programs for women empowerment • Legal measures for unsustainable behaviour in catching bait fish

Chapter 6: Assessment of Potential Environmental and Social Impacts and Mitigation Measures

This chapter provides for initial E&S risk assessment of each project component based on available information such as project locations, sensitivity and the nature and type of proposed investments. Overall, the environment and social risks are rated as *Moderate* in line with the World Bank's ESF.

6.1 Positive E and S impacts of the project

The project is expected to have a largely positive environmental impacts through improved marine fishery management in Maldives and the SWIO region. This is expected to be achieved through a range of investments aimed at improving scientific knowledge & regional collaboration for stock management, quarantine & disease surveillance, energy efficiency in the fishery value chain, waste management through circular economy, enterprise development for livelihood diversification in order to relieve pressure on fishery as well as targeted capacity building within Maldives and SWIO countries. The project has a focus on capacity building and promoting meaningful jobs for households in remote atoll communities, especially for women. The project will also help unemployed or underemployed youth. Social impacts are moderate and can be mitigated throughout project implementation. No involuntary resettlement or physical displacement envisaged due to project interventions.

6.2 Negative Risks and Impacts of project

- **Component 1**

Component 1 aims to enhance fishery management in SWIO countries through knowledge products, regional collaboration, capacity building and fishery management advisories. While these will lead to largely environmentally positive outcomes, fishery management measures that involve livelihood transition or switch over to sustainable fishing methods could potentially involve social risks such as loss of income and economic well-being due to restricted access to finances, low levels of skill and market weaknesses. Such impacts need to be carefully evaluated and duly addressed as part of the TA and capacity building work.

- **Component 2**

Component 2 aims for Maldives to provide the regional lighthouse functions by addressing challenges in demonstrating benefits of using ecological limits for improved fisheries governance to the other countries in SWIO region and by doing so benefit by learning and mutual collaboration. The component will include (i) adoption of new technologies for stock management, enhancing of institutional capacity to address illegal, unreported and unregulated fishing in the EEZ (ii) augmenting quarantine, disease surveillance and management capacity through new regulations, certification, protocols and establishment of quarantining facilities in all international ports, establishment of a network of disease surveillance laboratories, trained human capacity and (iii) skill and capacity building for enterprise development in the fishery sector including repair and renovations to selected training facilities.

Most of the adverse E&S risks during implementation of this component will be construction related;

- Risks of alien invasive species being introduced to the country - *In case of an introduction of alien, selectively bred or genetically engineered species into nursing areas and grow-out farms, such farm operation may pose threats to*

aquatic biodiversity of the receiving water bodies. The causes and measures to address the risk are like that of operating aquaculture research centers analyzed in the item of 4.3.2.2 above.

- Air, soil, and water pollution due to the generation of dust, waste, and wastewater from construction activity in busy areas
- Risks and impacts to marine aquatic life due to improper management of waste streams reaching the marine environment.
- Disruption to movement of vehicle and people due to transportation of medium scale construction machinery and materials.
- Risks to health and safety of local people and construction workers.
- Risks of sexual exploitation and abuse of primary supply workers

These impacts are at moderate scale, localized, mostly temporary, and can be mitigated through appropriate design, effective management and supervision of contractors, and close consultation with local authorities and local communities.

During operation, the potential negative impacts and risks would include impacts on water quality and marine biodiversity due to release of untreated wastewater and waste from labs and quarantine facilities that could potentially reach marine/ground water.

- **Componnet 3**

This component aims to leverage private sector finance through promoting small and medium enterprises to take larger roles in the sector and stimulate transition away from public ownership of fisheries sector infrastructure and assets which are meant to raise commercial returns/revenues. It will provide (i) technical assistance and matching grants to decarbonize the fishery sector through unit level energy and GHG audits throughout its value chain (ii) prepare/fund bankable business plans in energy efficiency, circular economy and enterprise development (iii) assess the performance of Fish Aggregating Devices to provide better intelligence to fishing fleets (iv) support livelihood diversification to facilitate through facilitating small and medium businesses in integrated mariculture, aquaculture, aquaponics, hydroponics and agroforestry. For this, 54 uninhabited islands have been identified to be given to leaseholder small enterprises. These business plans will focus on climate resilience, zero discharge to sea and zero emissions to be eligible grantees.

While these activities will lead to very positive environmental outcomes, adverse impacts that need to be managed will range from

- Civilworks related dust, noise and air pollution from construction/renovation of buildings
- Pollution of marine waters from agricultural run off, waste and effluent discharge from new processing plants, installation and operation of equipment on vessels - Sludge from fish farms/hatcheries, domestic wastes at the farm guard tents, hazardous wastes as pesticide/toxic agrochemical containers could be generated from various livelihood diversification activities the project will support. These wastes will pose threats to the environment and health of people if they are improperly managed. *However, this risk is unlikely to be significant as the investment eligibility will strongly consider climate resilience, energy efficiency, zero waste type of criteria.*

- Environmental contamination from improper disposal of e-waste, batteries and solar panels (*The project may support the addition of Solar Panels and battery storage systems for energy efficiency within various facilities and the purchase of IT equipment all of which will require consideration of end-of-life e-waste management*)
- Occupational health, and safety risks to workers – Construction workers and farmers may be affected due to potential exposure to live power when operating electrical equipment and energy systems, particularly in water. The risk of electrical shock is therefore present during the operation in which the farmers are in contact with water. In addition, a variety of chemicals may be used in the operation of an aquaculture facility to treat and/or control pathogens (e.g. *lime, dilute chlorine or salt, fertilizers and other toxic agrochemicals*). Farmers/workers may be directly or indirectly exposed to water - borne disease and insect -borne disease due to frequent contact with water and the close proximity of living quarters to working areas.
- Removing trees and clearing of natural ground cover in the selected uninhabited islands for SME activity in agriculture and mariculture development
- Potential eutrophication and pollution of marine waters from mariculture activities - Effluent released from aquaculture systems typically contains high organic and nutrient load, suspended solids, and may also contain chemical residues including feed supplements and antibiotics. The accumulation of nutrients within the receiving waters may contribute to eutrophication, degradation of water quality harmful to aquatic life including aquaculture species.
- Environmental contamination from improper disposal of e-waste such as solar panels, batteries and other electronic equipment once they have reached the end of their life. The project will promote energy efficiency and renewable power sources as an eligibility criteria for grant proposals.

Most of these impacts are expected to be localized in nature and manageable through good environmental practice. The following table provides a summary of the risks/impacts anticipated and typical mitigatory measures to reduce/minimise these impacts.

A broader social risk, specifically under Component 2 and 3, is the potential exclusion of women and other vulnerable groups to benefit from the capacity building and technical/grant assistance activities. There are very few women working in the fisheries sector compared to men. The selective activities – such as being accepted for training or loans/TA for SMEs - may leave women at risk of SEA-SH. To mitigate this risk, the project will ensure that all impacted groups are included in the SEP. SEA-SH training and awareness will be delivered to the beneficiaries (including women-owned SME, trainees) as well as the PMU, creditors (Banks/FIs) and trainers/training institution. A code of conduct will also apply.

Potential impacts and suggested mitigation measures of Components 2 and 3

Component	Impacts	Severity of Risk and Applicable ESS	Mitigation measures
Component 2	<p>The project will support science based fishery management and further strengthen monitoring via modernization, further strengthened disease surveillance and quarantine capacity, support skill and capacity development for enterprise development in the Sector.</p> <p>Risk of exclusion of women/vulnerable groups (SEA-SH concerns) for capacity building</p>	<p>High positive</p> <p>Low</p>	<ul style="list-style-type: none"> • SEP, Training and awareness raising for PMU, and all relevant actors/beneficiaries (including SEA-SH) • Screening protocols for selecting reputable trainers/training institutes (Apply Code-of-conduct)
	<p>Risks of alien invasive species being introduced to the country</p>	<p>Low</p> <p>ESS1, ESS6</p>	<ul style="list-style-type: none"> • The project shall only support species that are already cultured in the Maldives and other local species only, as per the Maldivian Law. • The project will follow the country’s robust screening process for disease surveillance for imported fingerlings, in line with its Aquaculture Regulations, and quarantining requirements. • The project will further strengthen country capacity for aquatic animal quarantine, disease surveillance and management through investments in additional quarantine facilities & equipment, trained human resources and a fully equipped network of disease surveillance laboratories.
	<p><u>Construction related E&S risks.</u></p> <ul style="list-style-type: none"> • Air, soil, and water pollution due to the generation of dust, waste, and wastewater from construction activity in busy areas • Material sourcing 	<p>Low – moderate</p> <p>ESS1</p> <p>All construction activity will be small/medium</p>	<ul style="list-style-type: none"> • Please refer the generic ESMP in the annex for mitigatory measures to minimize construction related E&S risks/impacts.

	<ul style="list-style-type: none"> • Vegetation removal • Construction of temporary labor camps • Information disclosure among stakeholders • Disposal of construction debris • Transportation of construction material • Damage to reefs during material unloading. • Public and worker safety • Safety gear for workers • Prevention of accidents • Impacts from influx from migrant labours (including SEA-SH/GBV) • Child labour • Operation of labour camps 	<p>scale and within already built areas.</p>	
	<p><u>Operations related E&S risks</u></p> <p>Risks and impacts to (i) limited freshwater resources due to over-use and (ii) marine aquatic life due to improper management of waste streams from labs and quarantine centers reaching the marine environment.</p>		<ul style="list-style-type: none"> • Necessary permits for use of water, including groundwater where applicable, and discharge of wastewater from labs and quarantine facilities shall be obtained in advance of beginning of operations. • The use of water to be minimized through recycling of used of water for cleaning. • The wastewater to be properly channelized through drains and treated to required quality before discharge to the environment. Depending on the expected quantity and quality of WW, labs and quarantine centres should be designed with proper treatment facilities (<i>grease traps, oil/water separators, sedimentation, biological/chemical treatment, disinfection, additional engineering measures to remove feed, antibiotics and other chemicals</i> etc). • The treated effluent should be utilized for irrigation purpose in landscaping or in neighbouring areas, if possible. • Rainwater harvesting facilities will be provided at site to collect the rainwater which should be utilized for ground water recharging and storing for cleaning purpose.

Component 3	<u>Construction related E & S issues</u>	Low – moderate ESS1, ESS2, ESS3, ESS6	<ul style="list-style-type: none"> • Please refer the generic ESMP in the annex for mitigatory measures to minimize construction related E&S risks/impacts.
	<ul style="list-style-type: none"> • Air, soil and water pollution due to the generation of dust, noise and vibration • Water/land pollution from solid waste and wastewater from clearing and construction activity. • Material sourcing • Vegetation removal and associated soil erosion • Construction of temporary labour camps • Disposal of construction debris • Transportation of construction material • Damage to reefs during material unloading. • Worker safety (including SEA-SH/GBV and Child labour) • Prevention of accidents • Operation of labour camps 	All construction activity will be small/medium scale and within selected uninhabited islands	
	Negative impacts on (i) ecologically sensitive wetlands and marine ecosystems (ii) other users of the marine environments such as fishing, navigation etc	Low - Moderate ESS1, ESS2, ESS6	<ul style="list-style-type: none"> • Ensure site selection considers all these aspects and avoids/minimises potential risks.
Removing trees and clearing of natural ground cover in the selected uninhabited islands for SME activity in agriculture and mariculture development	Moderate ESS1, ESS2, ESS6	<ul style="list-style-type: none"> • Please refer the generic ESMP in the annex for mitigatory measures to minimize impacts from tree removal. 	

	Occupational health, and safety risks to workers engaged in constructing and commissioning of start up facilities	Moderate ESS1, ESS2	<ul style="list-style-type: none"> • Please refer the generic ESMP in the annex for mitigatory measures to minimize OHS risks/impacts. • The project will also provide technical guidance (in the form of a technical guideline) and training to aquaculture and agriculture farmers on the (i) prevention and control of communicable disease in aquaculture and (ii) management of physical, chemical and biological hazards.
	<p><u>Operations related E&S risks/impacts</u></p> <p>Water quality deterioration and potential eutrophication of marine ecosystems from waste and effluent generated from mariculture and aquaculture grow out operations</p>	<p>Low – Moderate</p> <p>ESS1, ESS6</p> <p>While the pristine waters in the Maldives and the scale at which mariculture activities are practiced will not lead to major risks</p>	<ul style="list-style-type: none"> • The project will ensure that mariculture and aquaculture activities will not release of excess feed leading to eutrophication (<i>experience with mariculture via the WB funded MSFRDP has shown that the need for excessive feed use, antifouling chemicals and antibiotics have been limited in Maldives</i>) and promote measures to ensure antifouling chemicals and antibiotics are avoided – in line with Good Aquaculture Practice (GAP) guidelines prepared by the MSFRDP. • The matching grant schemes will embed E&S risk management processes into the selection criteria and contract/agreement documents, and lay out requisite impact mitigation and monitoring measures for aquaculture and mariculture activities in ESMPs. • Mainstream E&S risk management into training and capacity building programs for the aquaculture and mariculture entrepreneurs
	Water quality deterioration and potential eutrophication of terrestrial wetlands and marine ecosystems from waste and run off from agriculture and agroforestry activities	<p>Low – Moderate</p> <p>ESS1, ESS3, ESS6</p>	<ul style="list-style-type: none"> • The matching grant schemes will embed E&S risk management into the selection criteria for sites and investments and contract/agreement documents, and lay out requisite impact mitigation and monitoring measures for agriculture and agroforestry activities in ESMPs. • These business plans will be required focus on climate resilience, zero discharge to sea and zero emissions to be eligible grantees • The project will promote integrated pest management as part of sub-project design parameter and develop the necessary technical guidelines for it and carry out training for selected entrepreneurs

	Pollution due to waste from processing plants, installation and operation of equipment on vessels	Low – Moderate ESS1, ESS6	<ul style="list-style-type: none"> The matching grant schemes will embed E&S risk management into the selection criteria for sites and investments and lay out requisite impact mitigation and monitoring measures for SMEs that involve commercial processing. The projects will be designed with adequate treatment facilities to ensure waste streams do not lead to deterioration of environment quality. All wastes from vessel retrofitting and equipment upgrade will be collected, safely stored and a plan prepared for either re-use, recycle or disposed at the Thilafushi solid waste site.
	Environmental contamination from improper disposal of e-waste, batteries and solar panels (<i>The project may support the addition of Solar Panels and battery storage systems for energy efficiency within various facilities and the purchase of IT equipment all of which will require consideration of end-of-life e-waste management</i>)	Moderate ESS1, ESS3	<ul style="list-style-type: none"> To manage impacts from e-waste, the project and its beneficiaries will follow the following two guidelines. <ul style="list-style-type: none"> E-waste Management Guidelines http://www.environment.gov.mv/v2/en/download/14891published on the website of the Ministry of Climate Change, Environment, and Energy Environment and social codes of practice for battery energy storage systems installation under ARISE.
	Risk of exclusion women/vulnerable groups (SEA-SH concerns) for access to TA/Grants and trainings	Low ESS10	<ul style="list-style-type: none"> SEP, Training and awareness raising for PMU and all actors/beneficiaries such as creditors (including SEA-SH) Selection protocols for selecting MSE applicants

Chapter 7: Grievance Redressal Mechanism

The Grievance Redress Mechanism (GRM) addresses grievances in an efficient, timely and cost-effective manner, that arise in the project, either due to the actions of the project staff and from affected communities and external stakeholders. All sub-project specific complaints incidents reported received during the implementation need to be managed according to the following guideline in the EMSF.

7.1 Composition of the Grievance Redressal Committee (GRC)

The PMU will be responsible for establishing and managing the GRM for the entire project. Environment and Social Safeguards Specialist will serve as the main focal point for receiving project grievances. Once a grievance is logged with the PMU, the Environment and Social Specialist will assist in screening and sorting the grievances as per the project components and determining their eligibility for resolution by project based GRM. He/she will also facilitate the participation of relevant agencies under each project component to support the grievance resolution process by PMU. The PMU will have the overall responsibility to administer the GRM process and determine the best course of action to resolve the grievance.

The overall environmental grievance process will be in line with the social grievance process proposed. All procedures on GRM stipulated in the Stakeholder Engagement Plan (SEP). Where required, a separate worker specific GRM will be included in the LMPs for the sub-projects. Further, the project affected persons, as well as other interested parties, will be fully informed of the GRM, its functions, procedures, timelines and contact persons both verbally and through booklets and information brochures during consultation meetings and other stakeholder engagement activities. Moreover, the Communications Officer will be overall responsible to increase awareness of GRM of project affected/interested/disadvantaged parties, especially women.

In the case of the SEA/SH related allegation, a survivor-centric approach should be applied. The case of SEA/SH, the GRM focal point should report minimize sharing potentially sensitive information to the implementing agency, who should then notify the bank task team.

7.2 GRM Monitoring and Reporting

The PMU will assess the functioning of the GRM and will be responsible for regular reporting of the GRM status including those grievances received, resolved, and pending. The GRM coordinator will: (i) ensure accurate entry of GRM data into the online log-sheet (data base); (ii) include details of GRM on project quarterly reports; and (iii) review the status of complaints to track which are not yet resolved and suggest any needed remedial action. The quarterly and annual progress reports will include updated information on the following:

- Status of establishment of the GRM (procedures, staffing, training, awareness building, budgeting etc.).
- Quantitative data on the number of complaints received, the number that were eligible, and the number resolved.
- Qualitative data on the type of complaints and answers provided issues that are unresolved.
- Time taken to resolve complaints.
- Number of grievances resolved and raised/appealed to higher levels.
- Summary of resolutions/decisions made.
- Satisfaction with the action taken.
- Any issues faced with the procedures/staffing or use.

- Factors that may be affecting the use of the GRM/beneficiary feedback system
- Any corrective measures adopted.

The World Bank will be kept informed and where necessary consulted on World Bank requirements, during the process of grievance resolution, and on the outcome of the process. Any complaint or incident categorized as high risk should be reported to the World Bank Task Team immediately.

7.3 GRM Contact Information

Aggrieved parties can approach and use the following contact/s for any inquiries regarding their grievances/complaints and feedback.

Name of the Project	Transforming Fisheries Sector Management in South-West Indian Ocean Region and Maldives Project
Project Implementing Agency	Indian Ocean Commission (IOC) Secretariat Maldives Ministry of Fisheries and Ocean Resources (MoFOR)
Address	Ministry of Fisheries and Ocean Resources, Velaanaage 7 th Floor, Ameer Ahmed Magu, Male'
Email	
Website	https://www.gov.mv/en/organisations/ministry-of-fisheries-and-ocean-resources
Telephone	MoFOR: +960 3033481

Chapter 8: Supervision and Monitoring

ESMF implementation, supervision, monitoring, and reporting is an integral part of Project and sub-project implementation, and specific E&S staff will be assigned to be responsible for E&S due diligence activities. The WB E&S specialists will supervise and monitor the implementation of E&S activities as part of the WB implementation support mission. Details on responsibility of agencies are described as follows:

8.1 Monitoring Supervision and Monitoring Reporting

Supervision and Monitoring of the overall application of the ESMF and the effectiveness of mitigation/management measures as per sub-project specific ESIA/ESMPs will be done as follows:

- (a) **Daily Monitoring by the Contractors/Entrepreneurs:** Contractors in charge of civil works under Component 2 and entrepreneur developers under Component 3 will be directly responsible for implementing and monitoring the agreed E&S management regime, as specified in the ESMPs, ECOPs or other relevant E&S documents. They shall, through appointed EHS officers or nominated focal points (depending on the size, nature, magnitude of the investment) oversee E&S management on a daily basis during construction/business start up phase.
- (b) **Regular Monitoring by the PMU:** The environmental and social specialists in the PMU will carry out regular monitoring on a bi-monthly basis through site supervision and engagement with contractors/business developers. If deemed necessary during project implementation, the PMU may get the assistance of consultants to perform construction monitoring oversight, examine possible areas of environmental concern, compliance with the proposed management and mitigation plans and assess trends in environmental quality around sub-project sites.

A checklist for monitoring has been attached in **Annex B** but it is highly recommended that the project utilises GEMS technology (Kobo Tool) for E&S monitoring and reporting.

Reporting

- (a) The contractors and business developers will share brief E&S monitoring reports with the PMU on a monthly basis.
- (b) Based on the monthly reports and site supervision, the PMU will include overall E&S management observations in the Quarterly Progress Reports.
- (c) The PMU will prepare and submit concise and comprehensive E&S monitoring reports to the World Bank on a bi-annual basis.

8.2 Environmental & Social Audit

An independent E&S audit should be conducted at mid-term of the project to review the efficiency and effectiveness of the E&S management regime for the project and recommend mid-course correction if necessary. An external environmental and social consultant should be hired by the project in accordance with the World Bank's procedures for procurement.

8.3 Indicative Environmental and Social Budget

No.	Head	Detail	Cost Estimate
	Staffing	US\$ 2500 at Minimum (MVR 38,550)	
	Environment and Social Audit	Conducted at mid-term of the project	US\$ 50,000at minimum (MVR 771,000) per audit
	Transport for the PMU staff		US\$ 175,000 (MVR2,698,500) for 84 months
	Awareness		US\$56,000
	Material printing	Information dissemination and awareness materials with translation	US\$ 10,000 (MVR154,200) Quarterly
	Videography	If required for documentation purposed and awareness.	US\$ 15,000 (MVR231,000) for 15 videos
	Water and Sediment quality monitoring (included in sub-component 2.2 budget)		US\$350,000
	ESIA for individual public investments (included in the respective component budget)		US\$20,000
	GHG audit including pollution audits and mitigation plans (included in sub-component 3.1)		US\$300,000
	ESMF Compliance monitoring (included in PMU budget)	Special actions other than regular monitoring	US\$20,000
	SEP implementation		US\$135,000

Chapter 9: Institutional Arrangement and Capacity Building

9.1 Implementation Arrangements

The Project will have two distinct implementation arrangement for the regional and Maldives program of activities. However, since this ESMF is for the Maldives investments and hence includes only implementation arrangements for components 2 and 3.

Components 2 and 3 will be implemented by the Ministry of Fisheries and Ocean Resources (MoFOR)

MoFOR has the sole mandate, jurisdiction and experience in managing fisheries, and therefore, will lead implementation of Components 2 and 3. The MoFOR has implemented or participated in implementation of Bank-financed projects, notably for the Maldives Sustainable Fisheries Resources Development Project (MSFRDP - MP157801, 2017-22), capacities built by which will continue to be used by the MoFOR for the proposed project, notably with respect to monitoring, control and surveillance (MCS), extension services for grouper mariculture, E&S management, financial management, procurement and project management.

Given the need for focused attention for implementation of this project and to ensure internal capacity building for project management services, the MoFOR will set up a Project Management Unit (PMU) to implement the project activities on a full-time basis. The PMU will ensure operational compliance with World Bank policies as defined in the Project Appraisal Document, Financing Agreement, ESMF and Operations Manual and Government policies as applicable; It will also be accountable to achieve PDOs; conduct regular monitoring and periodic evaluations, E&S risk management, facilitate statutory clearances including environmental permits, procure works, goods and services and implement of specific capacity building activities.

The PMU at the MoFOR will be headed by a Project Manager who will report to the Project Director. The PMU will have dedicated staff for procurement, Financial Management, Communication and stakeholder engagement, regional cooperation, implementation of environmental and social management framework, Monitoring and Evaluation. It will draw on the technical experts from the MMRI, MMRDF and the relevant departments/division of MoFOR who will lead the technical work and proposed fishery sector reforms under the project. The PMU organizational structure will include a full-time Environment specialist and Social Specialist, who will be responsible for the day-to-day E&S management and monitoring and providing the relevant technical assistance to implementing agencies and the recipients of the matching grant scheme as well as reporting to the MoFOR and the World Bank. A communications officer will be recruited to assist with ensuring information sharing and assisting E&S specialists in stakeholder engagements. A proposed organisational structure of the PMU is attached as annex G.

The PMU 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).

To guide the PMU, MoFOR have set up a Steering Committee. The Table below outlines the different levels of management within the Government of Maldives and the respective roles and responsibilities in relation to implementing the proposed project.

IA	Responsibilities	Special Modality	Delegated Responsibilities
MoFOR (Components 2 and 3)	Steering Committee chaired by Minister, MoFOR and including industry and civil society representatives.	Providing framework for national policy and project implementation; approval of project's overall annual action plans and budget; and implementation oversight	Maldives' Representative in the SWIOFC, Scientific Committee, and Working Group – coordination with SWIO countries on training, jobs, apprenticeship program
	MoFOR	Project Implementation leadership; accountability to achieving PDOs; monthly, quarterly, and bi-annual reviews; securing budget, overall compliance monitoring, and undertaking all technical due diligence including certifying quality of work, installation, studies and/or assessments at completion (at every stage).	MMRI – for conducting technical studies (in subcomponent 2.1) Biosecurity Division – for overall technical oversight of subcomponent 2.2 MMRDF - overall technical oversight of subcomponent 2.3 and parts of 3.2 Policy, Compliance & Agriculture Divisions – overall technical oversight of subcomponents 2.1, 2.3, 3.1 and 3.2
	PMU set up under the MoFOR (to manage all projects implemented by the MoFOR, in particular, to work as the project management unit for this project)	Regular project management including managing procurement and contract management; Monitoring, Evaluation and Verification; ensuring compliance to ESCP, Grievance Redress Procedures, Communication; Stakeholder Engagement Plan, Citizen Engagement Processes.	MoFOR Divisions for regular review/monitoring and all technical in procurement and contract management processes Matching Grant management consultant (firm) to be selected competitively, for monitoring and verification of Matching Grants (subcomponents 3.1 and 3.2)

Roles and Responsibilities of World Bank

The World Bank project task team, specifically the environmental and social specialists, will provide close supervision and necessary implementation support in the initial stages of the project in conducting screening, preparation of ESIA, ESMPs and ECOPs as required;

- Undertake prior review of screening reports, ESIA/ESMPs and other relevant documentation of all project interventions as mentioned in Chapter 6
- Ensure regular missions to review overall E&S performance and provide further implementation support
- Share knowledge on technologies and best practices
- Provide training support on Bank's ESF and requirements of the project.

9.2 Capacity Building

- The Environmental and Social Specialist in the PMU along with the rest of the PMU team will be trained by the Environmental Specialist and Social Specialist of the WB project team on the ESMF implementation, World Bank ESF and procedural requirements of the WB.
- The PMU's trained E&S specialist will provide training to the Implementing Agencies on the Project's E&S requirements with special emphasis on how to monitor and report on environmental and social requirements grievance redressal mechanism, consultations etc.

- All investors/contractors are expected to disseminate and create awareness within the workforce on ESMP compliance, and any staff training necessary for their effective implementation, specific training on basic Occupational Health and Safety considerations, use of PPE and worker codes of conduct must be conducted. Where contractors/entrepreneurs do not have existing environmental staff or inhouse capacity, the PMU’s Environment and Social Specialist and team and IAs will plan for adequate capacity building within the workforce & staff to be involved.

Training Program	Target Audience	Conducted By	Minimum Number to be conducted over project period
ESF E-Learning Program- Online Modules	PMU and selected IA Staff	Online Modules	Should be completed within the 1 st 2 months post recruitment.
ESMF and ESF Implementation Training: to cover world bank environmental and social management procedures, instrument preparation, consultation and monitoring during project implementation and reporting- (including refresher)- Training for Trainers Modality	PMU and selected IA Staff	World Bank Environmental and Social Specialists and team	2 programs at minimum
Training on implementation of Environmental Management Plans in construction contracts- focused on contract management	Cluster of project contractors, implementing works under the project	PMU’s Environmental and Social Specialists and team and external resource persons	3 programs at minimum
Training on implementing Environmental Management Plans in new livelihood activities for SMEs under component 3	Cluster of project grantees, thematically, implementing works under the project	PMU’s Environmental and Social Specialists and team and external resource persons	5 programs at minimum
Training on Occupational Health and Safety considerations, use of PPE equipment and worker codes of conduct	To all contractor staff, private investors who are grantees during the sub-project implementation	PMU	Annually

ANNEX C

Format of Environment and Social Management and Monitoring Plan

Project Activity												
Sub-activity												
Activ-ity	Location/Pro-ject Phase	As-pect	Impact	Ris-k Rat-ing	Control in Place			Method	Proposed Protec-tive and Preven-tive Measures	Institutional Responsibility		Mitigation Cost
					Yes	No	Planned			Implementation	Supervision	

ANNEX D

Format of Environment and Social Screening Report

Environmental and Social Screening Format for All Subprojects

The Screening Report must include photographs of the site and be completed for the potential coastal area selected for the maricultural activity as well as any terrestrial sites where ancillary facilities, such as processing centers, sorting centers, storage centers will be established.

A. Description of Intervention

Project Identification

Project title	
Project Proponent	

Project Location

Location	(Location Map and Site Photographs to be Annexed):
Definition of Project Area <i>(The geographical extent of the project & areas affected during construction)</i>	
Adjacent land and features	

Project Justification

Need for the project <i>(What problem is the project going to solve)</i>	
Purpose of the project <i>(what is going to be achieved by carrying out the project)</i>	
Alternatives considered <i>(different ways to meet the project need and achieve the project purpose)</i>	

Project Description

Proposed start date	
Proposed completion date	
Estimated total cost	
Present land ownership	

Description of the project (with supporting material such as maps, drawings etc. attached as required)	
Project Management Team	Agency – Contact person - Nature of consultation and input received

Screening against the list of excluded sub-projects

Criteria	Yes	No
1. This investment involves significant conversion of or pollution in terrestrial and marine natural habitats		
2. This investment will be sited in an island that harbors sensitive biodiversity which involves significant land use changes		
3. This investment involves land acquisition and involuntary resettlement		
4. This investment will cause irreversible damage to protected ecosystems		
5. This investment will damage cultural resources		
6. This investment will have a high or substantial E&S risk classification		

B. Screening for Potential Environmental Impacts in relation to the proposed project intervention

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
1	Will the establishment and operation of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc)				
2	Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?				
3	Will the Project produce solid wastes during establishment or operation? If so what sort of waste?				
4	Will the Project release pollutants or any hazardous, toxic or noxious substances to air? Including the use of antibiotics or other substances in to a marine environment?				

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Re- marks
5	Will the Project establishment and operation cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into marine waters, groundwater or terrestrial waters?				
7	Will there be any risks and vulnerabilities to public safety due to physical hazards during construction or operation of the Project?				
8	Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?				
10	Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?				
11	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?				
12	Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other water bodies, known sites of breeding or spawning of marine animals?				
13	Is the location within or adjacent to the coastal zone? If so, what is the distance to the coast?				
14	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g., for breeding, nesting, foraging, resting, migration, which could be affected by the project?				
15	Is there mangrove, coral reef, sea grass bed, turtle beach habitats etc within close proximity?				
16	Are any project facilities located in a previously undeveloped area where there will be loss of green-field land?				
17	Will the project cause the removal of trees in the locality?				
18	Can any of the identified historic or culturally importance sites on or around the location be affected by the project?				
19	Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?				
20	Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?				

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Re- marks
21	Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project				
22	Will the activity lead to any resource use conflict, ie is there fishing, harvesting of marine species or plants conducted in the vicinity of the site				
23	Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, which could be affected by the project?				
24	Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?				
25	Will the project involve generation of Solid Waste/liquid waste, if so indicate the amounts, nature of waste and briefly describe proposed waste management technologies to be implemented on site?				
26	Will the project involve the addition of				
Specific Screening Questions on Cage Mariculture					
3	Water body identified for activity is lagoon, coastal water way, harbor/jetty area or other, please provide details in the comments of the site				
4	Is the identified water body is used for water supply?				
5	Is the identified water body used for fishing activities?				
6	Is the identified water body used for any other human activity, such as recreation, docking of boats etc?				
7	Will the project activity restrict access to the water body or lead to safety concerns?				
8	Will the establishment of the cages lead to aesthetic issues on site?				
9	Will there be any associated facilities- such as processing centers required for the activity?				
10	Are there apparent water quality issues observed in the site selected for the marine cages?				
Social Impact Screening					
1	Will the project create significant/ limited/ no social impacts? If so please provide details of what they will be.				
2	Land acquisition resulting in loss of income from agricultural land, plantation or other existing land-use.				
3	Land acquisition resulting in relocation of households.				
4	Cause any reduction of access to traditional and river dependent communities (to river and areas where they earn for their primary or substantial livelihood).				

	Screening question	Yes	No	Significance of the effect (Low, moderate, high)	Remarks
5	Cause any displacement or adverse impact on tribal settlement(s).				
6	Lead to any specific gender issues (including SEA/SH)				
7	Will the project create significant / limited / no Social impacts during the construction stage?				
Impacts of Construction of Ancillary Facilities					
1	Will the project lead to flooding of adjacent areas				
2	Will it involve the improper storage and handling of substances leading to contamination of soil and water				
3	Will the activity lead to elevated noise and dust emission?				
4	Will project activities lead to disruption to traffic movements				
5	Will project activities lead to damage to existing infrastructure, public utilities, amenities etc.				
6	Possible conflicts with and/or disruption to local community				
7	Will lead to likely damage to existing infrastructure, public utilities, amenities etc.				
8	Are there adequate facilities for storage of construction goods & materials				
9	Will need to establish facilities for storage of any hazardous material				
10	Facilities for long term housing for operational workers				
11	Will the construction works (Permanent & Temporary) lead to alterations of the site				
12	Are facilities for construction workers (temporary labour camp, drinking water, waste disposal, etc.) required during implementation				
13	Are facilities for disposal of solid waste available on the Island- please specify the forms in the comments				
Cumulative Impacts					
1	Cumulative effects due to proximity to other existing or planned projects with similar impacts				

8. Project operating requirements

		Yes	No
24	Does the project belong to a prescribed category of the Environmental Protection Authority for EIA		
25	Does the project need to obtain clearances from agencies such as the EPA, Island Council, Atoll Council etc :		

9. Conclusion and Screening Decision

Summary of environmental effects:

Assuming that all mitigation measures are implemented as proposed, the following effects can be predicted

	N/S - Effect not significant, or can be rendered insignificant with mitigation
	SP - Significant positive effect
	SN - Significant negative effect
	U - Outcome unknown or cannot be predicted, even with mitigation

10. Details of Persons Responsible for the Environmental Screening

Screening report completed by

Name/Designation/Contact information Date

Signature

Screening report reviewed by

Name/Designation/Contact information Date

Signature

Approved by

Name/Designation/Contact information Date

Signature

ANNEX E

Standard Format for Environmental Management Plan (EMP) for Subproject

- Name of Subproject
- Location
- Nature of Subproject: New Construction/ Rehabilitation/ Renovation/other
- Implementing Agency
- Project Period
- Name of Contractor

	Activities and Associated Impacted	Protection and preventive measures	Mitigation cost	Responsibility	
				Implementation	Monitoring
PRE-CONSTRUCTION AND SITE PREPERATION					
1.					
2.		❖			
CONSTRUCTION PHASE					
3.		❖			
4.		❖			
POST CONSTRUCTION/CONTRACTOR DEMOBILIZATION					
5.		❖			
6.		❖			
OPERATIONAL PHASE (FACILITY OPERATIONS)					
7.		❖			
8.		❖			



27	Hurasdhoo	Island/MPA	ADh	72.77467	3.666983	14-Jun-06	174-AB1/2006/13
28	Olhugiri	Island/MPA	B	72.90589	5.00154	14-Jun-06	174-AB1/2006/13
29	Hithaadhooh Island	Island/MPA	GA	73.24232	0.849573	14-Jun-06	174-AB1/2006/13
30	South Ari Atoll MPA	MPA	ADh	72.79942	3.454913	11-Jul-19	(IUL)438-ENV/438/2019/175
31	Hanifaru Area	MPA	B	73.14384	5.17388	5-Jun-06 & 5-Jun-11	138-EE/2009/19 & 138-FS2/1/2011/35
32	Angafaru Area	MPA	B	73.08859	5.188966	5-Jun-09	138-EE/2009/19
33	Mendhoo Region	Island/MPA	B	72.99541	5.175546	5-Jun-11	138-FS2/1/2011/35
34	Goidhoo Koaru	Mangrove	B	72.99846	4.879428	5-Jun-11	138-FS2/1/2011/35
35	Bathalaa Region	Island/MPA	B	73.07259	5.361869	5-Jun-11	138-FS2/1/2011/35
36	Mathifaru Huraa	Island/MPA	B	72.89361	4.813333	5-Jun-11	138-FS2/1/2011/35
37	The wreck of "Corbin"	MPA	B	72.90083	4.909167	5-Jun-11	138-FS2/1/2011/35
38	Maahuruvalhi Reef Region	MPA	B	72.86032	5.186928	5-Jun-11	138-FS2/1/2011/35
39	Bandaara Kilhi and Surrounding Wetlands	Mangrove/Wetland	Gn	73.43063	-0.29959	13-Sep-18	2018/R-106
40	Dhandimagu kilhi	Mangrove/	Gn	73.41771	-0.28562	13-Sep-18	2018/R-106
41	Thoondi Area (Fuvahmulah)	Terrestrial	Gn	73.41637	-0.27653	13-Sep-18	2018/R-106
42	Kandihera-Maakandu Channel (Addu Manta Point)	MPA	S	73.15527	-0.60963	13-Sep-18	2018/R-105
43	British Loyalty Shipwreck	MPA	S	73.11379	-0.63888	13-Sep-18	2018/R-105
44	Rasdhooh Madivaruu Area	MPA	AA	72.99807	4.264382	7-Oct-18	(IUL)438-ENV/438/2018/262
45	Dhigulaabadhooh	Island	GDh	73.15431	0.213965	7-Oct-18	(IUL)438-ENV/438/2018/262
46	Farukolhu	Island	Sh	73.29859	6.19064	7-Oct-18	(IUL)438-ENV/438/2018/262
47	Baarah Mangrove Area	Terrestrial	HA	73.21189	6.814087	30-Dec-18	(IUL)438-ENV/438/2018/322
48	Keylakunu	Terrestrial	HDh	73.00937	6.603193	30-Dec-18	(IUL)438-ENV/438/2018/322
49	Neykurendhooh Mangrove Area	Terrestrial	HDh	72.98563	6.542357	30-Dec-18	(IUL)438-ENV/438/2018/322
50	Bileydhoo Thila (including Innafinolhu)	Island/MPA	HA	72.81635	7.05445	17-Jun-19	(IUL)438-ENV/438/2019/150
51	Gallandhooh	Island/MPA	HA	72.97359	6.951933	17-Jun-19	(IUL)438-ENV/438/2019/150
52	Kelaa Mangrove Area	Terrestrial	HA	73.21612	6.943761	17-Jun-19	(IUL)438-ENV/438/2019/150
53	Finey Thila	MPA	HDh	73.05934	6.744661	17-Jun-19	(IUL)438-ENV/438/2019/150
54	Innafushi	Island/MPA	HDh	72.63721	6.418002	17-Jun-19	(IUL)438-ENV/438/2019/150
55	Bollissafaru	Sandbank/MPA	Sh	73.11641	6.003466	17-Jun-19	(IUL)438-ENV/438/2019/150

Environmental Protection Agency
Green Building, 3rd Floor, Handhuvaree HingunMale', Rep. of Maldives, 20392

+960 333

+960 798

secretariat@epa.gov.mv

www.epa.gov.mv

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ANNEX G; Proposed Organisational Structure of the PMU

