



The Ministry of Finance, Trade and Economic Planning
Republic of Seychelles

**THIRD SOUTH WEST INDIAN OCEAN FISHERIES GOVERNANCE AND
SHARED GROWTH PROJECT (SWIOFish3)**

Process Framework for SWIOFish3 Project

February 2017

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ACRONYMS

BIF	Blue Investment Fund
CBO	Community-Based Organization
DBS	Development Bank of Seychelles
EAPS	Environmental Assessment and Permit Section
EEZ	Exclusive Economic Zone
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization
FPIC	Free, Prior and Informed Consultation
GDP	Gross Domestic Product
GEF	Global Environment Facility
GRM	Grievance Redress Mechanism
HSMP	Health and Safety Management Plan
IBRD	International Bank for Reconstruction and Development
IPHS	Ile du Port Handling Services
LRP	Livelihood Restoration Program
MEECC	Ministry of Environment, Energy and Climate Change
MFTEP	Ministry of Finance, Trade and Economic Planning
MOFA	Ministry of Fisheries and Agriculture
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plan 2015-2020
NGO	Non-Governmental Organization
OP	Operational Policy
PAN	Protected Area Network
PAP	Project Affected Person
PIU	Project Implementation Unit
PF	Process Framework
SeyCCAT	Seychelles Conservation and Climate Adaptation Trust
SS-ESMP	Site-Specific Environmental and Social Management Plan
SS-HSMP	Site-Specific Health and Safety Management Plan
SWIOFC	South West Indian Ocean Fisheries Commission
SWIOFish3	Third South West Indian Ocean Fisheries Governance and Shared Growth Project
TOR	Terms of Reference
UN	United Nations
UNDP	United Nations Development Program
WB	World Bank

EXECUTIVE SUMMARY

This document develops the Process Framework (PF) for the Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3). The following sections summarize: i) the SWIOFish3 Project; ii) the environmental and social characteristics of Seychelles; iii) the legal, institutional and policy framework of the country; iv) the World Bank safeguards policies applicable to the Project; and v) the Process Framework.

I. SWIOFish3 PROJECT

i) Project Development Objective

The Project Development Objective of SWIOFish3 is to improve management of marine areas and fisheries in targeted zones and strengthen fisheries value chains in the Seychelles.

ii) Components

The SWIOFish3 Project will support the Government of Seychelles in achieving its dual objectives of marine resources conservation and expansion of the seafood value chains. Seafood value-chains are a cornerstone of the country's blue economy strategy and their expansion is expected to deliver long-term, resilient growth, jobs and food security and will be the focus of component 3. However, this development will not be sustainable if their marine resource base is not properly managed, which will be supported by components 1 and 2. Because marine and coastal resource management will potentially translate into reduced access to the resource, component 3 will provide opportunities for investment in post-harvesting and service components of the fisheries value chain, thus offsetting socioeconomic impacts and fostering adherence to the management measures.

Component 1: Expanded Sustainable-Use Marine Protected Areas

Budget: US\$4.15 million
 Including: US\$2.65 million (GEF grant)
 US\$1.5 million (Blue Bond proceeds)

The first component of the project will support the Government of Seychelles to implement its pledge to protect an increasing share of its maritime space. It will build on the marine spatial planning exercise that the Government is currently undertaking through a scientific and consultative process.

Component 2: Improved Governance of Priority Fisheries

Budget: US\$4.15 million
 Including: US\$2.65 million (GEF grant)
 US\$1.5 million (Blue Bond proceeds)

The second component of the project will have a greater focus on national fisheries management. The key current fisheries management initiative in Seychelles is the Mahé Plateau fisheries management plan, which is being finalized by the Government. Component 2 will have a major focus on the finalization and the implementation of the Mahé Plateau fisheries management plan, as well as on the other management initiatives. It will also reinforce the sector's governance by an array of targeted investments.

Component 3: Sustainable Development of the Blue Economy

Budget: US\$16.0 million

Including: US\$4.0 million (IBRD loan)
US\$12.0 million (Blue Bond proceeds)

Component 3 will help finance the sustainable development of the Seychelles blue economy and support increased value-addition in the aquaculture, industrial, semi-industrial and artisanal fishing and processing sectors. Component 3 will help compensate fishers for any reduced access to the resource resulting from marine and coastal resource management measures implemented under the first two components and foster adherence to the management agenda.

Component 4: Project Management and Coordination

Budget: US\$1.0 million (IBRD loan)

The last component will support the coordination and implementation of the project. It will support the operation of the Project Implementation Unit (PIU) and steering committee. Activities supported include monitoring and evaluation, audits, mid-term and final evaluation reports, and other costs associated with core operational functions (training, equipment, staff, manuals, etc.).

iii) Project Cost and Financing

The project will be financed through a \$5 million loan from the International Bank for Reconstruction and Development (IBRD) and a \$5.3 million grant from the GEF, as well as the proceeds of the first Blue Bond.

iv) Institutional and Implementation Arrangements for SWIOFish3

The project will be implemented jointly by the Ministry of Finance, Trade and Economic Planning (MFTEP), the Ministry of Fisheries and Agriculture and the Ministry of Environment, Energy and Climate Change. The MFTEP will lead the implementation of the project. It has the mandate, convening power and vision necessary to oversee the preparation and implementation of the project, as well as sufficient management and fiduciary capacity to ensure efficient coordination of project activities. The two other ministries have the technical expertise to implement the project activities but lack the necessary workforce.

A PIU will be embedded within the MFTEP. The PIU will be in charge of coordinating the implementation of the project activities, and of the procurement and the financial management of the project. An Environmental and Social Specialist will be designated as part of the staff of the PIU.

Each ministry will be responsible for the implementation of its activities, and the PIU at the MFTEP will act as the coordinating body. Focal points will be appointed within the Ministry of Fisheries and Agriculture and the Ministry of Environment, Energy and Climate Change. The PIU will implement the project under the oversight of a steering committee.

The proceeds of the Blue Bond will follow two tracks. The first track will consist of grants that will fund the implementation of the marine spatial planning and the Mahé Plateau fisheries management plan. The grant process will be managed by the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT). The second track will create a Blue Investment Fund and provide loans to fishers and other private and public entities for activities consistent with the provisions of the Mahé Plateau fisheries management plan. This second track will be managed by the Development Bank of Seychelles.

II. ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF SEYCHELLES

Given the nature of the SWIOFish3 Project, the description of main ecosystems, natural resources and economic activities focuses on those associated with marine and coastal areas.

i) Country and Sectoral Context

Seychelles' geography is unique but challenging. The Seychelles archipelago consists of 115 granite and coral islands with an exclusive economic zone (EEZ) of approximately 1.4 million km², almost three thousand times the size of its land area. The population is about 90,000, around 90 percent of which is located on the main island of Mahé. Small size, insularity, limited land, capital, and human resources restrict its ability to benefit from economies of scale in production and economic diversification. High dependency on external markets creates vulnerability to external factors. The country's comparative advantage lies with its natural capital, vividly preserved by public policies. Seychelles is endowed with an extremely rich biodiversity, both marine and terrestrial, making it part of one of Conservation International's designated biodiversity hotspots. Endemism is exceptionally high at over 60% for animals in general and 50% for plants. Seychelles is one of the world's most environmentally conscious nations, having officially protected more than half of its total land area from development and pledged to protect 30 percent of its EEZ.

In 2015, Seychelles was the African country with the highest gross domestic product (GDP) per capita. Seychelles' economy expanded strongly in 2015, by 4.3%. Unemployment is low and labor force participation is particularly high, at 70% in 2015. The tourism sector remains the major engine of growth, and is benefiting from efforts to diversify source markets to the Middle East and Asia. Despite the recent, robust pace of growth, inflation has remained contained, due partly to favorable imported energy and food prices. Poverty rates in Seychelles are expected to remain among the lowest in the world outside the Organization for Economic Cooperation and

Development. Recent estimates show that extreme poverty, stood at 1.1% of the population in 2013. However, inequality is substantial, with a gross income-based Gini index of 0.46 in 2013.

The fisheries sector is the second most important sector of the Seychellois economy. Its annual contribution to GDP varies from 8 to 20 percent and it employs 17 percent of the total population. Nonetheless, the contribution of fisheries is underestimated as many services to the sector, notably those in support of the industrial tuna fishery, are not captured in the GDP estimates. In 2012, the value of exports of consumable fish and fish products constituted 93% of the total value of domestic exports. The sector can broadly be divided into three sub-sectors: (i) the artisanal demersal fishery; (ii) the industrial and semi-industrial pelagic fisheries; and (iii) the seafood processing industry. The artisanal demersal fishery is of paramount importance to the Seychellois. The industrial, and to a lesser extent the semi-industrial, pelagic fisheries account for the lion's share of the catch. They are located offshore, in deeper waters, and involve significantly larger vessels: purse seiners and longliners. Seychelles is a major seafood processing hub and intends to increase the contribution of the seafood industry to its blue economy.

The Government of Seychelles has placed the seafood industry at the center of its blue economy strategy and aims at progressively increasing the share of landed catch that is processed locally instead of being transshipped, targeting in particular non-canned tuna products as well as bycatch and byproducts of the tuna industry. There is increasing evidence that the pressures exerted by the fisheries and tourism sectors on the marine natural resources are reaching unsustainable levels. Though skipjack and bigeye tuna stocks are currently healthy, yellowfin tuna is overfished and subject to a rebuilding plan. Several species of demersal fish are subject to overfishing, or at risk from overfishing, with declining catch rates symptomatic of worsening status in key fisheries. The pressures on demersal and reef-associated pelagic resources come from overfishing in the artisanal, recreational and sport fishing sub-sectors and from an increasing environmental footprint of the tourism industry. They are particularly acute on the Mahé Plateau, where the population and economic activity are concentrated. The fisheries are open-access, which impedes any action to limit the fishing effort and ensure their sustainability.

The unsustainable use of the marine environment is a major risk to the future of Seychelles' blue economy. The country's comparative advantage lies in its natural capital and the tourism and fisheries sectors are overly dependent on the health of coastal and marine ecosystems. Depleting fisheries would rapidly lead to a loss of income for fishers and tourism operators, and would jeopardize the local seafood industry and any future investment in the blue economy. It would also pose significant risk to nutrition and food security in the country, where almost all the fish that is consumed is fished locally. The management of Seychelles marine ecosystems and fisheries is hampered by insufficient financing, capacity, and legal and institutional frameworks

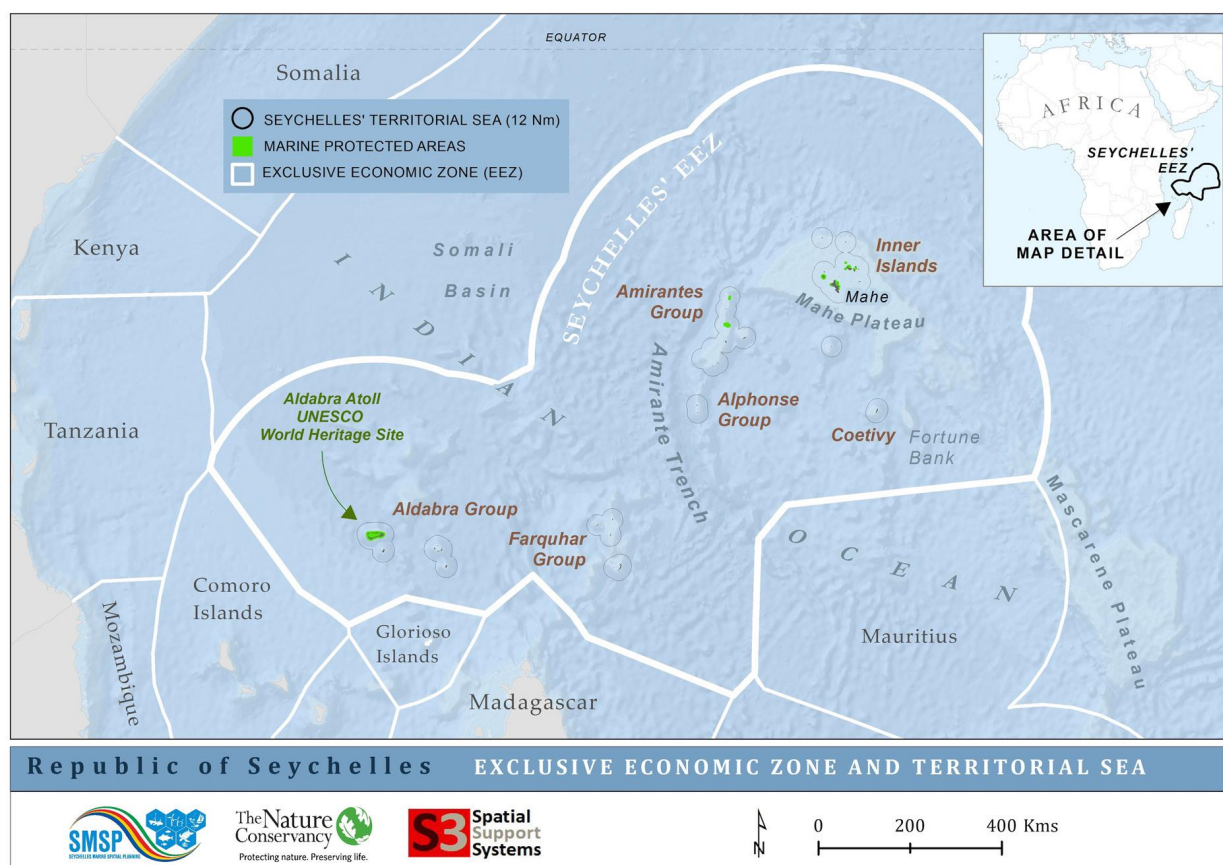
Faced with the need to preserve its comparative advantage in natural capital for the future generations, the Government of Seychelles adopted an ambitious marine conservation strategy. Seychelles pledged to protect 30% of its EEZ by 2020 and initiated a marine spatial planning exercise to serve as the foundation of its sustainable blue economy and conservation strategy. This marine spatial planning exercise started in 2015 and aims at improving the planning and management of the country's vast maritime space. It will progressively identify and gazette areas

amounting to 15% of the EEZ to be protected as high biodiversity zones, where fishing will be prohibited, and another 15% to be protected as medium biodiversity zones, allowing for some sustainable economic activities - including controlled fishing. In parallel but in the same framework, Seychelles is preparing to implement new management plans for its major fisheries, including the first fisheries management plan for the Mahé Plateau, with a view to progressively transition from an open-access fishery to a more controlled fishery. The Mahé Plateau fisheries management plan has been drafted and is in the final stages of consultation. It will follow a continuous improvement approach, focusing on easy-gain and priority species during the first years of its implementation, and progressively moving to a more comprehensive coverage of the demersal fisheries.

ii) Location

The following map provides the location of Seychelles in the African continent, and delineates its Exclusive Economic Zone and marine protected areas.

Geographic Location of Seychelles



Source: SMSP, 2015, p. 2.

iii) Coastal and Marine Ecosystems

The coastal-marine environment of Seychelles is complex and includes a series of habitats and biogeochemical processes that influence the dynamics and functionality of ecosystems. These ecosystems include coastal plains, mangrove forests, coral reefs, reef flats, seagrass beds, rocky shores and intertidal areas.

These ecosystems are interconnected to form a complex coastal-marine ecosystem. They provide important nesting and foraging grounds for numerous micro and macro-organisms, assist in nutrient and hydrological cycles, larval and sediment transport and provide important protein sources for the coastal communities.

The coastal terrestrial ecosystems of Seychelles are: coastal terrestrial ecosystems, and mangrove forests and coastal wetlands. The marine ecosystems are: coral reefs, reef flats, seagrass beds, rocky shores, and the intertidal zone. Chapter 3.0 describes in detail these ecosystems.

iv) Protected Areas

The terrestrial Protected Area Network (PAN) constitutes 46.6% of Seychelles' total landmass, an enormous commitment to biodiversity conservation. Furthermore, recently the Government stated the political objective of incorporating more than 50% of Seychelles landmass in the PAN and preliminary approval has been given for the declaration of additional areas to take the total over 50%. These percentages are very impressive, but perhaps more important than the quantity is the quality of protected areas in question. The vast majority of Seychelles endemic biodiversity is to be found in the ancient granitic inner islands. Within the granitic islands however, 22.3% of the landmass or significantly less than the national average is currently protected.

Marine Protected Areas (MPAs) in Seychelles present a very different scenario. Seychelles was the first country in east Africa to establish a network of MPAs, but at the time of their selection they were primarily chosen for touristic utility, as opposed to biodiversity criteria, as at that time the marine environment was still of a relatively homogenous high quality. Subsequent human development activities and impacts, and notably the 1998 coral bleaching event, have changed that scenario. Furthermore, unlike the terrestrial scenario where nearly 50% of the landmass lies within the PAN, the existing MPAs in Seychelles constitute less than 1% of the country's Exclusive Economic Zone (EEZ).

In Seychelles there are at least the following five different types of MPAs: marine national park, shell (mollusk) reserve, special reserve, protected areas, and strict natural reserve.

The Seychelles Government has recognized this shortfall in the marine domain and has initiated a marine spatial planning process with the ultimate objective of designating 30% of the EEZ as protected. Half of that area, or 15% of the EEZ, is to be designated as strict no-take zones.

v) Fish Resources

The vast majority of fish found in Seychelles are wide ranging species that extend across the Indian Ocean to the western or mid Pacific Ocean. In addition to open ocean pelagic waters, which constitute the bulk of the EEZ, Seychelles is characterized by a series of continental shelves with a total surface area of almost 50,000 km². Therefore, there are a wide range of marine habitats for fishes, including shallow water fringing reefs, granitic reefs, banks, plateaus, shelves and drop-offs, atolls, lagoons, seamounts, abyssal and pelagic habitats.

Seychelles waters are relatively rich in fishing resources. A total of 1196 marine species belonging to 140 families have been recorded in Seychelles. However, a relatively low percentage of these species are targeted by the fisheries sectors (industrial, semi-industrial or artisanal).

It has become increasingly apparent since the mid-1980s that the demersal fishery resources of the Mahé Plateau were being overexploited. Initially, it was considered a concern of the inner reefs and policies were introduced to relocate fishing pressure to offshore banks. Analysis of Vessel Monitoring System data indicate that the entire plateau is now heavily exploited, with fishery indicators and stock assessments presenting evidence of overfishing for high value species. This is particularly apparent in the decline of the occurrence, diversity and abundance of *Serranidae* on the plateau, with several species now very scarce or absent from the Mahé Plateau catch. Declines and overfishing are also apparent in the emperor red snapper (*Lutjanus sebae*) and the brownspotted grouper (*Epinephelus chlorostigma*).

vi) Economic Activities

Fisheries Sector

As mentioned above, Seychelles has a well-developed fishing sector that is a vital part of the social and economic development of the country. Fishing alone accounts for around 8 per cent of the Gross Domestic Product (GDP) and around one sixth of employment. It is the country's largest foreign exchange earning sector.

It is estimated that the fishing sector, including ancillary activities, generates both directly and indirectly around 6,000 jobs, amounting to about 17% of total formal employment. Since 2004, the percentage of fisheries contribution to the total GDP has been increasing from 6.4% to 7.7% in 2008. It is believed that if all fisheries-related activities were taken into account, the annual true contribution to GDP would be between 15 and 20%.

The per capita consumption of fish in Seychelles is one of the highest in the world at around 54-65 kg/person/year.

Small-Scale Fisheries

Subsistence and semi-industrial small-scale fishing contribute between 1% and 2% to GDP annually. Land-based economic opportunities are very limited in the Seychelles. Fishing is,

therefore, an integral source of income, employment, food security and foreign exchange in the country. Of the total employment generated by the fisheries sector, some 30% of this employment is in the small-scale fisheries, and 10% of the population is reliant on income from the small-scale fishing sector.

The estimated number of full-time fishers employed in the artisanal demersal fishing sector in 2007 amounted to approximately 1,050, plus an indeterminate number of part-time and recreational fishermen. It has been estimated that full-time demersal fishers represent 62% of the total number of fishers in the artisanal fisheries sector and account for 73% of total fish landings. The number of persons employed in the land-based artisanal fisheries processing sector is approximately 200 (including around 25 part time workers).

The artisanal fisheries, which are largely open access, provide the bulk of all fish consumed locally. Catches in the commercial sector of the artisanal fishery have declined steadily from 4778 tons in 2008 to 2511 tons in 2012, but have increased to 4135 tons in 2013 (as a consequence of an increase in effort). Landings of the sport and recreational sectors, which are suspected to be significant, are however unknown.

The submarine banks of Seychelles form the basis of the artisanal fisheries, providing vital food security, employment and high value trade commodities. The Mahé Plateau is of particular importance. This shallow bank of some 39,000 km² supports important demersal fisheries such as: *Lethrinidae*, *Lutjanidae*, *Scaridae*, *Serranidae*, and *Siganidae*. Some 100 species of demersal fish are commonly caught. Also important are the sea cucumber, lobster and octopus fisheries.

The artisanal fisheries, practiced solely by Seychellois fishers, comprise a variety of vessel and gear types. Although still used in a few near-shore areas, the traditional wooden canoes have largely been replaced by more powerful craft. The fleet is now dominated by small fiberglass boats powered by outboard motors (over 15 horsepower) and partially decked whaler vessels powered by inboard motors. Until the introduction of the schooner fishery in 1974, the fleet was largely restricted to near-shore fishing grounds on the Mahé Plateau, but now has moved further offshore. The outlying coralline islands and atolls are less exploited. The main gear type employed is hook and line, with bamboo traps, beach seines, droplines and longlines of lesser importance. Spear guns and shark gill nets are prohibited in Seychelles, as is the use of trawl nets to target demersal resources.

Semi-Industrial and Industrial Fisheries

Within the Seychelles EEZ, semi-industrial and industrial fishing is practiced by a combination of fleets of local- and foreign-owned vessels, primarily capturing Bluefin and Bigeye tuna. Semi-industrial fishing comprises locally-owned longliners plying techniques such as longlining, handlining and droplining to land swordfish and tuna, whereas industrial fishing is comprised of foreign-owned long-liners and purse seiners. Over 110,000 tons of fish were landed by semi-industrial and industrial fishing within the Seychelles EEZ in 2013.

The semi-industrial fisheries have a large-pelagic longline component, a demersal hook and line fishery and a sea cucumber diving component. Most of the fish from these fisheries, except for a small proportion of linefish and tuna, is exported.

As a result of the semi-industrial and industrial fisheries within the Seychelles EEZ, the second largest cannery in the world is the leading employer in the Seychelles, with a workforce of over 2,500.

Tourism and Recreation

A major contributor to the GDP of Seychelles is tourism, amounting to 25.6% in 2010, which is an increase of 2.2% from 2007. The tourism industry directly employed 25% of the labor force and generated in the order of \$270 million per year in 2012.

The sport and the recreational sectors target demersal fish species. The sport fisheries are a relatively small sector made up of licensed super ski boats, primarily taking tourists out for big game fishing for species such as wahoo, dolphin fish, sailfish, tuna and marlin. The main gear type used is trolling; however, some handline fishing for demersal species are also conducted. Its contribution to the coastal livelihood is relatively unknown, as there are few data collected for these fisheries. Similarly, the monitoring of recreational fisheries is virtually nonexistent, since anyone can fish for leisure or as a hobby in Seychelles, and no license is required for recreational fishing. Recreational fishers are mostly active during the evenings and weekends, and most of this catch is commercialized.

III. LEGAL, INSTITUTIONAL AND POLICY FRAMEWORK

Given the nature of the Project, this summary focuses on the pertinent frameworks for protected areas, the fisheries sector and the blue economy.

i) Protected Areas

The Convention on Biological Diversity is the main international commitment that Seychelles has vis-a-vis Protected Areas. Seychelles committed to protection of 30% of its marine area in Rio+20 (2009). These obligations are furthered in the newly developed Protected Areas Policy 2013 and the National Biodiversity Strategy and Action Plan 2015- 2020.

The following institutions are involved in the management of marine protected areas: Department of Environment within the Ministry of Environment, Energy and Climate Change (MEECC), the Seychelles National Parks Authority, the Seychelles Fishing Authority, the Seychelles Islands Foundation and several Non Governmental Organizations, including Nature Seychelles and the Islands Conservation Society.

The following pieces of legislation are relevant: National Parks and Nature Conservancy Act (1969), Fisheries Regulations (1987), Protected Areas Act (1967), Beach Control Act (1971), Forest Reserves Act (1995) and Wild Birds Protection Act (1966).

ii) Fisheries

The Ministry of Agriculture and Fisheries (MAF) is responsible for providing policy directions for the fisheries sector. The Seychelles Fishing Authority (SFA), a line agency of MAF, is the executive arm of government for fisheries.

The Fisheries Act (2014) provides for the management and sustainable development of fisheries, including aquaculture. It also makes provision for the licensing of fishing vessels, the regulation and enforcement of fishing activities, and offences.

iii) Blue Economy

Seychelles has adopted a strategic development agenda built conceptually on the blue economy, which recognizes the challenges of reconciling economic growth while maintaining the integrity of socio-ecological systems. The importance of the ocean to sustainable economic development was recognized by the formation of a Department of the Blue Economy, under the Ministry of Finance, Trade and the Blue Economy, in 2015. In late 2016, the Department migrated to the Office of the Vice-President. Seychelles has prepared a National Blue Economy Roadmap to support its transition to a more integrated and sustainable ocean-based economy.

IV. APPLICABLE WORLD BANK SAFEGUARDS POLICIES

The table below identifies the World Bank safeguard policies triggered by the Project and explains why.

Applicable World Bank Safeguards Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	Yes	Sub-component 3.2: Expansion of the Sea-Food Value Chains includes funding of sub-projects dealing potentially with aquaculture, facilities to process fish and fish byproducts, facilities for cold storage, and service enterprises for cold storage and cold-chain maintenance, vessel services and vessel refitting. All of the above potential sub-projects are small to medium scale. As elaborated in Chapter 6.0, they are likely to generate minor to moderate negative environmental and social impacts and risks that can be prevented and managed with standard mitigation measures. The Environmental and Social Management Framework (ESMF) identifies the likely impacts and risks of the SWIOFish3 Project, which will be overwhelmingly positive, and provides procedures to screen sub-projects, determine the level of environmental and social assessment required for each sub-project based on identified impacts and risks, and oversee the environmental and social performance of sub-projects during implementation.
Natural Habitats OP/BP 4.04	Yes	SWIOFish3 Project activities included in Components 1 and 2 involve capacity building and technical assistance, research, monitoring and control of natural resources and economic activities, improvement of the fisheries statistics system, finalization and approval of marine resources management and co-management plans, and improvement of the regulatory framework for fisheries and protected areas. All these activities will lead to the improved management and protection of marine and coastal ecosystems that serve as habitats for fauna species of commercial and recreational value, as well as species important to overall ecosystem health and functioning. Under Sub-component 3.2: Expansion of the Sea-Food Value Chains, aquaculture sub-projects

Safeguard Policies	Triggered?	Explanation
		are potentially eligible for funding. The likely sites for these projects are certain pre-established coastal and marine areas, some of which are natural habitats for aquatic fauna. As stipulated in Seychelles environmental regulatory framework, the ESMF requires the preparation of an <u>Environmental and Social Impact Assessment</u> for each of these sub-projects.
Forests OP/BP 4.36	No	The SWIOFish3 Project will not be implemented in forested areas.
Pest Management OP 4.09	No	The SWIOFish3 Project does not require the use of pesticides.
Physical Cultural Resources OP/BP 4.11	No	There are no comprehensive surveys of shipwrecks in Seychelles (SFA, 2016, p. 97) and a recent study found no records or publications on maritime or terrestrial archaeological work in Seychelles (Ibid). The development of the small and medium scale aquaculture sub-projects likely to receive financing under the SWIOFish3 Project will not disturb the sea floor where shipwrecks might be found.
Indigenous Peoples OP/BP 4.10	No	There are no indigenous peoples settled in the area of implementation of the SWIOFish3 Project.
Involuntary Resettlement OP/BP 4.12	Yes	Sub-component 2.1: Fisheries Management Plans and Sub-component 1.1: Expansion of the Medium Biodiversity Areas involve support in developing and implementing fisheries co-management plans and the marine spatial plan, as well as their associated regulatory frameworks. Although these sub-components will lead to the sustainable management of marine resources, in the short to medium term they will affect the livelihoods of fishing- and tourist-related enterprises, communities and individuals that currently have open access to the areas and resources that will be subjected to much stricter protection, management and regulation. In addition, the fleet licensing scheme included in the fisheries co-management plans will result in the decommissioning from service of some fishing and tourism vessels, and the consequent displacement from fishing and tourism activities of affected vessel owners, operators and fishers. Following the guidelines established in OP/BP 4.12, a separate report includes a Process Framework to address the impacts of the restriction of access to marine and coastal areas and resources.
Safety of Dams OP/BP 4.37	No	The SWIOFish3 Project does not involve the construction, rehabilitation or upgrade of dams.
Projects on International Waterways OP/BP 7.50	No	The SWIOFish3 Project will not be implemented on international waterways.
Projects in Disputed Areas OP/BP7.60	No	The SWIOFish3 Project will not be implemented in disputed areas.

V. PROCESS FRAMEWORK (PF)

i) Need for Process Framework

The support to the implementation of the Fisheries Co-Management Plans and the Marine Spatial Plan and their associated regulatory frameworks that the SWIOFish3 Project will provide under, respectively, Sub-Component 2.1: Fisheries Management Plans and Sub-Component 1.1: Expansion of the Medium Biodiversity Areas, will limit the open access that fishers and tourist

users currently have to practically all marine areas, with the exception of protected areas. At present, there are virtually no restrictions regarding the species and amount of fish caught, or the seasonality of the capture. For example, some of the management strategies introduced in the *Mahé Plateau Demersal Trap and Line Fishery Co-Management Plan* include the development and implementation of a fishing license framework for fishing and tourism fleets, minimum size limits for key species, recreational bag limits for some key species, a recreational combined bag limit, a maximum number of active traps for licensed vessels for commercial fishing, among others

Access controls could be spatial or temporal, and range in scope from short-term closures of certain locations to fishing, to longer-term or even permanent prohibitions on fishing in certain areas such as marine reserves or marine conservation areas. These restrictions may involve one or multiple species in a particular location. Other fishery conservation measures may include limiting the number of licensed fishers or boats, or prohibiting certain types of fishing gear currently used by fishers.

The additional Fisheries Co-Management Plans for Sea Cucumber and Tuna to be developed with support from Sub-Component 2.1 will also contain strategies that will restrict open access to these fish resources. Likewise, the proposed zoning types for Seychelles' Exclusive Economic Zone, as defined in the preliminary zoning design of the marine spatial planning exercise, comprise areas with highly restrictive human uses in the high biodiversity zones and moderate restrictions in the medium biodiversity zones. Further, the SWIOFish3 Project will also support the extension of medium biodiversity areas and the preparation of management plans and corresponding regulations for these areas.

The above actions, in the short to medium term, will affect the livelihoods of fishing- and tourist-related enterprises, communities and individuals that currently use the areas and resources that will be subjected to much stricter protection, management and regulation. In addition, the fleet licensing scheme to be implemented will result in the decommissioning from service of some fishing and tourism vessels, and the consequent displacement from fishing and tourism activities of affected vessel owners, operators and fishers.

The impact of this restriction of access to marine and coastal areas and resources has not been established requiring, therefore, the development of this Process Framework.

This PF follows the requirements stated in the World Bank Operational Policy on Involuntary Resettlement (OP 4.12), specifically with respect to the Process Framework instrument (i.e., Paragraphs 7, 17, 18 and 31 of OP 4.12, and Paragraphs 26 and 27 of OP 4.12, Annex A - Involuntary Resettlement Instruments. The overall objective of the PF is to avoid, minimize or mitigate potentially adverse effects of access restrictions and ensure Project Affected Persons (PAPs) are meaningfully consulted and enabled to participate in project activities that may affect them. Therefore, a participatory approach is central to the PF process.

The scope of the PF does not include activities that involve physical resettlement of persons as a result of involuntary land acquisition because they are ineligible for financing under the Project,

as established in the Exclusion List of the Environmental and Social Screening Tools Form of the Environmental and Social Management (ESMF) for the Project.

Specific types of changes that could occur in the fisheries sector include:

- Loss of access to marine resources in a particular area, i.e. displacement of fishers.
- Change to the quality or quantity of resources a household can access.
- Change in seasonal access to a resource.
- Change in nature of access (i.e. from unregulated to regulated).
- Change in types of assets needed to access resources (e.g. banning certain fishing gear).

Restricting access on an involuntary basis when an area is under open access rights causes direct and indirect impacts on local communities. Impacts may include the loss of access to areas that support subsistence lifestyles, the loss of access to places with cultural and spiritual value, economic displacement, and/or increased food insecurity. Restricting access to certain areas may also inhibit access to assets or result in a loss of fixed physical assets. The adverse social and economic impacts of these restrictions usually affect fishers and fisheries stakeholders disproportionately.

ii) Participatory Process Requirements

As already indicated, a participatory planning process is essential to make certain that all Project Affected Persons (PAPs) and communities are sufficiently consulted on proposed activities and that any negative impacts are avoided or adequately mitigated. Therefore, a formal Consultation Plan is necessary, which will be developed by the PIU. The Plan must enable meaningful consultation and must follow the principle of Free, Prior and Informed Consultation (FPIC). In consultation with co-implementing ministries, the PIU will determine the appropriate roles and reporting arrangements for consultation and engagement activities, such as who will prepare and conduct engagement sessions and document engagement activities and collect stakeholder feedback.

The participation of those who may lose access to particular resources or assets and are consequently adversely impacted upon is critical to the successful implementation of the Project and, therefore, the accurate and early identification of Project Affected Persons (PAPs) is essential.

Although PAPs are generally associated with a specified geographic area or targeted site, the extent to which persons may be impacted will vary depending on the economic activities in which they are typically engaged. The stakeholder mapping exercise to be conducted as part of the Consultation Plan should consider relevant stakeholders across the value chain, such as artisanal fishers, processors, mongers/sellers, etc.

The criteria for eligibility of affected persons will be as follows:

- Profile of coastal communities.
- Communities and persons most likely to be affected by access controls.
- Selection criteria.

Eligible groups might include:

- Members of a community who are directly affected by new restrictions: because their access to natural resources (i.e. fishing) will be restricted and/or lost. This group would also include vulnerable persons; and
- The wider community: that includes multiple users who access specific areas for shorter periods of time or who have economic links to resources in the area. This includes migratory fisherman who seasonally move down the coast to different regions.

Within these categories, three types of affected persons can be defined for inclusion under the Process framework. These include:

- **Affected individuals:** These are individuals who suffer a loss of assets or investments, or access to natural or economic resources as a result of the Project. These might include individuals who normally have access to marine resources for fishing that are partially or completely off limits. These individuals include vulnerable persons, possibly including elderly, youth, women and the disabled.
- **Affected households:** Affected households are those where due to Project-derived access restrictions, one or more individuals are no longer able to access marine resources for their livelihoods, and also includes their relatives or other co-residents who depend on them for part or all of their well-being.
- **Affected local communities:** A community that is affected by implementation of access controls or other loss of access to marine resources as a result of the Project may see changes in its overall socioeconomic standing or its social cultural relationships and cohesion.

In order to implement the other steps of the PF process, it is necessary to conduct a social assessment to collect demographic and socioeconomic data on PAPs and affected communities with the purpose of establishing a baseline from which impacts can be measured and improvements can be monitored. The data will include key socioeconomic indicators used for social analysis and monitoring and evaluation purposes.

Further engagement sessions are required to discuss:

- Grievance resolution procedures in place for the Project.
- Options for those who wish to voluntarily opt out of participating in the Project altogether (and will be subsequently excluded from future events and activities).
- Future stages of the Project, including participatory activities.
- Clarify roles and responsibilities moving forward.

The PIU in collaboration with co-implementing ministries will facilitate an open dialogue with participating communities about options for access restrictions and collect their feedback on anticipated livelihood impacts. The aim of this assessment is to ascertain, with the participation of PAPs, the extent of economic displacement that may be attributed to Project activities, how particular segments of the community may be affected differently and how adverse livelihood impacts can be avoided or restored. The assessment should provide an indication of the economic value related to proposed access restrictions and, therefore, an estimate of costs worn by PAPs, so the value of specific livelihood activities is captured. The findings of this assessment will inform agreements put in place with communities and PAPs regarding mitigation procedures.

During the consultation and stakeholder engagement process, specific livelihood mitigation measures will be developed with the full participation of PAPs and communities. As already indicated, this activity may be undertaken through a subcontractor such as an NGO, CBO, university or consulting firm.

The objective of the Livelihood Restoration Plan (LRP) is to improve or restore the livelihoods of PAPs to pre-displacement levels while maintaining the sustainability of the protected area. The LRP will be based upon decisions made by PAPs and formal agreements with the PIU. Co-implementing ministries will assist in the set up and management of the LRP.

Monitoring is the systematic gathering and analysis of data to gauge if something is changing and inform decision making. Participatory monitoring is a mechanism that drives learning, adaptation and improvement that typically involves collaboration between scientists, government and local communities in an iterative process. Specifically, communities and PAPs will be involved in the monitoring of the implementation of the LRP once formal agreements are in place.

Monitoring requires the establishment of baseline indicators, done as part of the social assessment exercise mentioned above, with periodic assessment of conditions to assess change. The PIU will be responsible for regular follow-up with PAPs regarding effectiveness of the LRP once activities are underway.

iii) Grievance Redress Mechanism

The Grievance Redress Mechanism (GRM) outlines a process for resolving community-level grievances raised by PAPs or community members regarding specific activities, the engagement processes, and/or unanticipated social impacts resulting from Project implementation. The PIU will develop a formal and detailed GRM prior to actual execution of the Project, in order to ensure the protection of the rights of PAPs and beneficiaries during Project implementation.

Requirements for the GRM are as follows: (i) the grievance process must not impose any cost to those raising the grievances (i.e., the complainants); (ii) concerns arising from Project implementation must be adequately addressed in a timely manner; and (iii) participation in the grievance process must not preclude pursuit of legal remedies under the laws of Seychelles.

The GRM process will be managed by a Grievance Committee. The recommended make up of the Committee is as follows: a staff member of the PIU, such as the Project Coordinator or the Environmental and Social Specialist, and the Focal Points that the other ministries responsible for implementing the Project (i.e., MOFA and MEECC) must designate, as established in the institutional and implementation arrangements for Project execution. The PIU will be embedded within the MFTEP. None of the members of the Committee should have a conflict of interest involving any complaint lodged. The Committee should have female representation.

The formal, detailed GRM to be developed by the PIU will contain specific grievance procedures, including both informal (i.e., customary) and formal grievance mechanisms. In

general, complaints and disputes should be resolved at the lowest possible level. Each grievance should be treated in a confidential manner.

The grievance resolution process comprises four stages: (i) reception; (ii) investigation and inquiry; (iii) response; and (iv) follow up and close out.

iv) Institutional Arrangements for PF Implementation

The Project Implementation Unit (PIU) will coordinate the execution of the PF. In relation to the PF process, the PIU will be responsible for, among other tasks: (i) preparing formal agreements with Project co-implementing ministries (i.e., Ministry of Agriculture and Fisheries – MAF, and Ministry of Environment, Energy and Climate Change - MEECC) and other relevant parties (e.g., non-governmental organizations, fishers’ associations, etc.), such as memoranda of understanding, for the implementation of specific PF activities; (ii) compiling and maintaining a register of stakeholders; (iii) planning and delivering stakeholder and PAPs consultation sessions; (iv) planning and delivering stakeholder and PAPs information and awareness sessions; (v) managing the Grievance Redress Mechanism; (vi) managing the mitigation and livelihood restoration process; and (vii) managing procurement and contracting processes to subcontract particular PF activities as necessary, such as studies, capacity building and consultation processes, as well as managing the implementation of subcontracts.

The following table details the roles and responsibilities of the different organizations with participation in the implementation of the PF.

Process Framework Roles and Responsibilities

Level/Type	Organization	Role(s) in Process Framework
National	Ministry of Finance, Trade and Economic Planning; Department of the Blue Economy; Marine Spatial Planning (MSP) Executive Committee	Lead Agencies, overall policy planning, coordination and decision-making for the project through National Steering Committee (NSC).
National	Ministry of Environment, Energy and Climate Change; Ministry of Agriculture and Fisheries; Seychelles Fishing Authority (SFA); Fisheries co-management committees	Overall project implementation responsibilities with support from PIU. Determines where/when access controls will be implemented Supports communications and awareness raising of stakeholders on PF. Engages/manages consultants or NGOs to carry out socioeconomic surveys, participate in consultation process, develop alternative livelihoods programs.
District/marine area/or fishery Local co-management	Area-specific MSP implementation institutions; SFA; coastguard; fisher associations; NGOs	Involved in implementing access controls, MCS, other local fisheries management. Participate in communications and consultations with affected persons and other stakeholders on PF.

Other	NGOs, Fisher Associations, other CSO or CBOs, tertiary educational institutes, consultants	Conduct socioeconomic surveys, facilitate stakeholder communications and consultations, helps identify impacts and mitigation solutions, support implementation of alternative livelihood programs through training and technical assistance.
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v) Process Framework Timeline

- This PF assumes that project-imposed access controls may not occur for initial year(s) of project, pending ramping up of other preparatory activities, such as:
 - Research on fish stocks and coastal and marine ecosystems.
 - Strengthening of governance tools and capacity-building of co-management units and supporting national & local government agencies will be underway.
 - General socioeconomic data-gathering may be carried out in some coastal regions likely to be targeted for access controls as part of broader data-gathering effort.
- By year 2 or 3, areas or species targeted for access controls identified, initial local PF processes initiated in target communities.
- PF process will be refined based on experience in initial communities for rollout in other communities as needed due to later rollout of access controls in other locations.

1.0 INTRODUCTION

This document develops the Process Framework (PF) for the Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3). It consists of six chapters, including this Introduction.

Chapter 2.0 provides a description of the Project. It first gives an overview of the global SWIOFish Program. It then describes the SWIOFish3 Project development objective, Components and corresponding Sub-Components, cost and financing, and institutional and implementation arrangements.

Chapter 3.0 presents an overview of the geographic location of Seychelles, and describes the salient physical, ecological and socioeconomic characteristics of the country. Given the nature of the SWIOFish3 Project, the description of main ecosystems, natural resources and economic activities focuses on those associated with marine and coastal areas.

Chapter 4.0 discusses the Seychellois legal, institutional and policy framework applicable to the SWIOFish3 Project. Given the nature of the Project, this chapter focuses on the pertinent frameworks for protected areas, the fisheries sector and the blue economy.

Chapter 5.0 identifies the World Bank safeguard policies triggered by the Project and explains why.

Chapter 6.0 contains the PF. This chapter: i) explains the need to prepare the Framework in the context of the Project; ii) establishes the requirements for the participatory process associated with the preparation of the detailed PF, and includes guidance and tools to plan and conduct the participatory process; iii) provides the Grievance Redress Mechanism associated with the PF; iv) describes the institutional arrangements for implementing the PF; and v) outlines the timeline and budget considerations for the implementation of the PF.

2.0 SWIOFish3 PROJECT

This chapter provides details on the design of the SWIOFish3 Project.¹ Section 2.1 gives the background to the Project. Sections 2.2 to 2.5 describe, respectively, the project development objective, the components and corresponding sub-components of the project, the project cost and financing, and the institutional and implementation arrangements.

2.1 Background

The SWIOFish3 Project in Seychelles is part of the broader SWIOFish program launched by the World Bank in February 2015, which adopts a regional and long term approach to supporting the South West Indian Ocean countries in sustainably developing their fisheries sector. The overarching program goal is to increase the economic, social, and environmental benefits to South West Indian Ocean countries from sustainable marine fisheries. The program goal results indicators are as follows:

- a) Status of fish stocks;
- b) Fisheries-related Gross Domestic Product (GDP) in participating countries; and
- c) Local fisheries-related value-addition benefitting the households.

The 15-year multi-phase program establishes a financing, coordinating and knowledge exchange mechanism and supports a suite of regional and country-level activities over the medium and long term. Given the range of issues affecting countries of the South West Indian Ocean region, the program activities target core governance and productivity challenges, remove critical constraints to private investment and sustainable business, bring part of the ‘offshore fisheries economy’ within country economies, and add value through regional collaboration and integration.

2.2 Project Development Objective

The Project Development Objective of SWIOFish3 is to improve management of marine areas and fisheries in targeted zones and strengthen fisheries value chains in the Seychelles..

The SWIOFish3 Project will support the Government of Seychelles in achieving its dual objectives of marine resources conservation and expansion of the seafood value chains. Seafood value-chains are a cornerstone of the country’s blue economy strategy and their expansion is expected to deliver long-term, resilient growth, jobs and food security and will be the focus of component 3. However, this development will not be sustainable if their marine resource base is not properly managed, which will be supported by components 1 and 2. Because marine and coastal resource management will potentially translate into reduced access to the resource, component 3 will provide opportunities for investment in post-harvesting and service components of the fisheries value chain, thus offsetting socioeconomic impacts and fostering adherence to the management measures.

¹ This chapter reproduces sections of the draft Project Appraisal Document for the SWIOFish3 Project available at the time of preparation of this ESMF and PF.

2.3 Components

Component 1: Expanded Sustainable-Use Marine Protected Areas

Budget: US\$4.15 million

Including: US\$2.65 million (GEF grant)
US\$1.5 million (Blue Bond proceeds)

The first component of the project will support the Government of Seychelles to implement its pledge to protect an increasing share of its maritime space. It will build on the marine spatial planning exercise that the Government is currently undertaking through a scientific and consultative process.

With the support of The Nature Conservancy and in the framework of a very innovative climate adaptation debt restructuring, Seychelles pledged to protect 30% of its exclusive economic zone (EEZ) by 2020 and initiated a marine spatial planning exercise to serve as the foundation of its sustainable blue economy strategy. This marine spatial planning exercise started in 2015 and will progressively identify and gazette areas amounting to 15% of the EEZ to be protected as high biodiversity zones, and another 15% to be protected as medium biodiversity zones, allowing for some sustainable economic activities - including fishing. The debt restructuring supported by The Nature Conservancy reduces the cost of part of the debt Seychelles owes to its Paris Club creditors. In turn, it allows Seychelles to fund marine conservation and climate adaptation with the cost difference. These funds are channeled through a sinking fund, for immediate measures, and through an endowment fund that will ensure a sustainable financing stream in the future. Both of these funds will be hosted by the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT).

The medium biodiversity areas will allow for some sustainably-managed economic activities, including fisheries and tourism, and they will be the focus of component 1. The high biodiversity areas will be managed under stricter protection and will be supported by a parallel project financed by the GEF and the United Nations Development Programme.

Sub-component 1.1: Expansion of the Medium Biodiversity Areas. The first sub-component will expand the coverage of medium biodiversity areas by supporting their creation, and the preparation of related management plans and specific regulations. This will entail investments in: (i) research to define the management measures and mortality controls and assess the blue carbon potential; (ii) the preparation of management plans for the first medium biodiversity areas, including the definition of their governance mechanisms; (iii) the legal framework to support the creation and operationalization of these marine areas; and (iv) the update of the zoning.

Sub-component 1.2: Management of the Sustainable-Use Areas. The second sub-component will support the operationalization of these medium biodiversity areas by investing in their effective management. It will support: (i) the strengthening of the public sector to allow it to supervise the areas and enforce the management measures adequately and cost-effectively; (ii) the monitoring, control and surveillance of the natural resources and economic activities, including satellite-based imaging, patrols, staff costs, equipment and infrastructure; (iii) intense

communication, consultations and capacity-building efforts targeted at the main stakeholders, including fishers, tourism operators and government; (iv) and the promotion of more sustainable practices, mostly in the tourism and fisheries sectors, aiming for instance at reducing energy consumption, waste generation, bycatch and discards of fish, improving fish-handling and selective fishing.

Component 2: Improved Governance of Priority Fisheries

Budget: US\$4.15 million

Including: US\$2.65 million (GEF grant)
US\$1.5 million (Blue Bond proceeds)

The second component of the project will have a greater focus on national fisheries management. The key current fisheries management initiative in Seychelles is the Mahé Plateau fisheries management plan, which is being finalized by the Government. Component 2 will have a major focus on the finalization and the implementation of the Mahé Plateau fisheries management plan, as well as on the other management initiatives. It will also reinforce the sector's governance by an array of targeted investments.

Sub-component 2.1: Fisheries Management Plans. The first sub-component will support the preparation and implementation of several fisheries management plan, including the Mahé Plateau fisheries management plan, the sea-cucumber fisheries management plan, and the domestic tuna fisheries management plan. As in the case of the medium biodiversity areas, this will entail intense communication, consultations and capacity-building efforts targeted at the main stakeholders, including fishers, tourism operators and government; enhanced monitoring, control and surveillance of the natural resources and economic activities, including satellite-based imaging, patrols, staff costs, equipment and infrastructure; environmental research and data collection, including an electronic catch reporting system; promotion of more sustainable practices, mostly in the tourism and fisheries sectors, aiming for instance at reducing energy consumption, waste generation, bycatch and discards of fish, improving fish-handling and selective fishing; supporting economic diversification and transition to alternative livelihoods, consistent with the provisions of the respective management plans; purchasing and retaining of total allowable catch allocation of some over-exploited species by Government to support faster stock restoration. In parallel, the sub-component will support the preparation and implementation of fleet management and development plans.

Sub-component 2.2: Fisheries Sector Institutions. The second sub-component will ensure that the institutions involved in fisheries management are in a position to contribute to it. It will in particular support: (i) the update of the legal and public institutional framework and prepare the related strategies and policies; (ii) capacity-building and ad-hoc technical assistance for the relevant public entities, including the Ministry of Fisheries and Agriculture and the Seychelles Fishing Authority; and (iii) strengthening the fishers contribution to the fisheries management process, including the different fishers associations.

Sub-component 2.3: Fisheries and Marine Statistics. The last sub-component will focus on the provision of relevant and reliable information on the status of the marine environment and

fisheries, and their respective contribution to the economy. It will: (i) improve the fisheries statistics system and design the fisheries dashboard; and (ii) develop fisheries economic monitoring through a support to the nascent Fisheries Economic Intelligence Unit and the setting-up of a satellite economic account for fisheries.

Component 3: Sustainable Development of the Blue Economy

Budget: US\$16.0 million

Including: US\$4.0 million (IBRD loan)
US\$12.0 million (Blue Bond proceeds)

Component 3 will help finance the sustainable development of the Seychelles blue economy and support increased value-addition in the aquaculture, industrial, semi-industrial and artisanal fishing and processing sectors. Component 3 will help compensate fishers for any reduced access to the resource resulting from marine and coastal resource management measures implemented under the first two components and foster adherence to the management agenda.

Sub-component 3.1: Enabling Environment for the Seafood Industry. The first sub-component will strengthen the enabling environment for the seafood industry. It will in particular: (i) facilitate a sustainable, economically-sound port development process; (ii) increase the sanitary monitoring capacity, especially in the context of exports of seafood products; and (iii) contribute to the enabling environment for the development of aquaculture, a nascent industry in Seychelles.

Sub-component 3.2: Expansion of the Sea-Food Value Chains. The second sub-component will facilitate the expansion of value-chains and promote synergies with other value chains (e.g. tourism). It will: (i) identify value chain development opportunities and provide targeted capacity-building to fishers and operators; (ii) support the Government and the Fishers and Boat Owners Association to complete and start the operation of an innovative artisanal fish auction house; (iii) promote the nascent labeling scheme for sustainable artisanal fisheries, linking the fisheries and tourism value chains.

As part of this second sub-component, (iv) a Blue Investment Fund will be created with part of the proceeds of the Blue Bond to finance private and public investments aimed at facilitating the implementation of the Mahé Plateau fisheries management plan and the transition from open-access to better controlled fisheries. These investments will include alternative business opportunities for fishers in the seafood value chain, the restructuring of fishing capacity and the rebuilding of stocks. To avoid that these investments create a price signal that would increase the pressure on the resource, a list of acceptable projects has been developed that includes management prerequisites (e.g. management plan operational).

Component 4: Project Management and Coordination

Budget: US\$1.0 million (IBRD loan)

The last component will support the coordination and implementation of the project. It will support the operation of the Project Implementation Unit (PIU) and steering committee. Activities supported include monitoring and evaluation, audits, mid-term and final evaluation reports, and other costs associated with core operational functions (training, equipment, staff, manuals, etc.).

2.4 Project Cost and Financing

The project will be financed through a \$5 million loan from the International Bank for Reconstruction and Development (IBRD) and a \$5.3 million grant from the GEF, as well as the proceeds of the first Blue Bond. The Government of Seychelles will issue a Blue Bond for an estimated total of \$15 million to finance part of the SWIOFish3 project, in a landmark new kind of transaction that mobilizes capital markets to finance Seychelles' blue economy objectives. The GEF Non-Grant Instrument Pilot will be used alongside an IBRD guarantee to lower the cost of this Blue Bond, ideally down to the 3% area. The use of the Non-Grant Instrument Pilot will take the form of a loan to the Government of Seychelles with a 40-year maturity, a 10-year grace period and a 0.25% interest rate. The Blue Bond is expected to have strong replicability potential for other borrowers in the future, by attracting investors to a new field and creating an affordable financing package for the country.

2.5 Institutional and Implementation Arrangements for SWIOFish3

The project will be implemented jointly by the Ministry of Finance, Trade and Economic Planning (MFTEP), the Ministry of Fisheries and Agriculture and the Ministry of Environment, Energy and Climate Change. The MFTEP will lead the implementation of the project. It has the mandate, convening power and vision necessary to oversee the preparation and implementation of the project, as well as sufficient management and fiduciary capacity to ensure efficient coordination of project activities. The two other ministries have the technical expertise to implement the project activities but lack the necessary workforce.

A PIU will be embedded within the MFTEP. The PIU will be in charge of coordinating the implementation of the project activities, and of the procurement and the financial management of the project. The Project Coordinator, a staff of the MFTEP, will be seconded by an Assistant financed by the project and will be in charge of the overall coordination and management of the project. A Financial Management Specialist and a Procurement Specialist will be designated within the existing MFTEP Project Coordinating Unit, currently in charge of the fiduciary aspects of several World Bank-financed projects. An Environmental and Social Specialist and a Monitoring and Evaluation Specialist will also be designated.

Each ministry will be responsible for the implementation of its activities, and the PIU at the MFTEP will act as the coordinating body. Focal points will be appointed within the Ministry of Fisheries and Agriculture and the Ministry of Environment, Energy and Climate Change.

Additional focal points in other implementing entities could be appointed as required. These focal points will be in charge of the planning, implementation and reporting of the project activities pertaining to their agency.

The PIU will implement the project under the oversight of a steering committee. The tasks of the steering committee will be to: (i) provide overall policy guidance and decision-making on all issues relating to the project; (ii) facilitate coordination among the relevant agencies; and (iii) review and approve annual work and expenditure plans. The MFTEP will chair the steering committee and the Assistant to the Project Coordinator will act as its Secretary. The steering committee will include representatives from the Ministry of Fisheries and Agriculture, the Ministry of Environment, Energy and Climate Change, the Ministry of Foreign Affairs and Transport, the Seychelles Fisheries Authority, the Seychelles National Parks Authority and the Seychelles Port Authority. The World Bank and other groups, including for instance artisanal fishers, civil society, donors (including The Nature Conservancy and the United Nation Development Programme), may be invited to participate as observers. The steering committee will meet twice a year or as needed.

The proceeds of the Blue Bond will follow two tracks. The first track will consist of grants made to public and private entities on a project proposal basis. These grants will fund the implementation of the marine spatial planning and the Mahé Plateau fisheries management plan, as described above. They will amount to US\$3 million and the grant process will be managed by the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT) on a call for proposal basis. The second track will create a Blue Investment Fund and provide US\$12 million or loans to fishers and other private and public entities for activities consistent with the provisions of the Mahé Plateau fisheries management plan, focusing specifically on economic diversification and sustainability. This second track will be managed by the Development Bank of Seychelles on behalf of the Government. All Blue Bond repayments will be the obligation of the Government of Seychelles and will not directly come from the revenues generated by the lending track, which could be re-injected into the Blue Investment Fund for additional lending.

3.0 ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF SEYCHELLES

This chapter provides an overview of the geographic location of Seychelles, and describes the salient physical, ecological and socioeconomic characteristics of the country.² Given the nature of the SWIOFish3 Project, the description of main ecosystems, natural resources and economic activities focuses on those associated with marine and coastal areas.

3.1 Country and Sectoral Context

Seychelles' geography is unique but challenging. The Seychelles archipelago consists of 115 granite and coral islands with an exclusive economic zone (EEZ) of approximately 1.4 million km², almost three thousand times the size of its land area. The population is about 90,000, around 90 percent of which is located on the main island of Mahé. Small size, insularity, limited land, capital, and human resources restrict its ability to benefit from economies of scale in production and economic diversification. High dependency on external markets creates vulnerability to external factors. The country's comparative advantage lies with its natural capital, vividly preserved by public policies. Seychelles is endowed with an extremely rich biodiversity, both marine and terrestrial, making it part of one of Conservation International's designated biodiversity hotspots. Endemism is exceptionally high at over 60% for animals in general and 50% for plants. Seychelles is one of the world's most environmentally conscious nations, having officially protected more than half of its total land area from development and pledged to protect 30 percent of its EEZ.

In 2015, Seychelles was the African country with the highest gross domestic product (GDP) per capita. Seychelles' economy expanded strongly in 2015, by 4.3%. Unemployment is low and labor force participation is particularly high, at 70% in 2015. The tourism sector remains the major engine of growth, and is benefiting from efforts to diversify source markets to the Middle East and Asia. Despite the recent, robust pace of growth, inflation has remained contained, due partly to favorable imported energy and food prices. Poverty rates in Seychelles are expected to remain among the lowest in the world outside the Organization for Economic Cooperation and Development. Recent estimates show that extreme poverty³, stood at 1.1% of the population in 2013. However, inequality is substantial, with a gross income-based Gini index of 0.46 in 2013.

The fisheries sector is the second most important sector of the Seychellois economy. Its annual contribution to GDP varies from 8 to 20 percent and it employs 17 percent of the total population. Nonetheless, the contribution of fisheries is underestimated as many services to the sector, notably those in support of the industrial tuna fishery, are not captured in the GDP estimates. In 2012, the value of exports of consumable fish and fish products constituted 93% of the total value of domestic exports. The sector can broadly be divided into three sub-sectors: (i) the artisanal demersal fishery; (ii) the industrial and semi-industrial pelagic fisheries; and (iii) the

² This chapter is based on the following sources: Republic of Seychelles, undated; SFA, 2016; SMSP, 2015; Vivid Economics, 2015a; and Welch and Kerrigan, 2015a and 2015b, with some paragraphs following very closely the contents of SFA, 2016. In addition, information was collected during two site visits performed by the ESMF Consultant in order to conduct visual surveys of different potential sub-project sites.

³ Using the international poverty line of US\$1.90 per day in 2011 purchasing power parity

seafood processing industry. The artisanal demersal fishery is of paramount importance to the Seychellois. The industrial, and to a lesser extent the semi-industrial, pelagic fisheries account for the lion's share of the catch. They are located offshore, in deeper waters, and involve significantly larger vessels: purse seiners and longliners. Seychelles is a major seafood processing hub and intends to increase the contribution of the seafood industry to its blue economy.

The Government of Seychelles has placed the seafood industry at the center of its blue economy strategy and aims at progressively increasing the share of landed catch that is processed locally instead of being transshipped, targeting in particular non-canned tuna products as well as bycatch and byproducts of the tuna industry. There is increasing evidence that the pressures exerted by the fisheries and tourism sectors on the marine natural resources are reaching unsustainable levels. Though skipjack and bigeye tuna stocks are currently healthy, yellowfin tuna is overfished and subject to a rebuilding plan. Several species of demersal fish are subject to overfishing, or at risk from overfishing, with declining catch rates symptomatic of worsening status in key fisheries. The pressures on demersal and reef-associated pelagic resources come from overfishing in the artisanal, recreational and sport fishing sub-sectors and from an increasing environmental footprint of the tourism industry. They are particularly acute on the Mahé Plateau, where the population and economic activity are concentrated. The fisheries are open-access, which impedes any action to limit the fishing effort and ensure their sustainability.

The unsustainable use of the marine environment is a major risk to the future of Seychelles' blue economy. The country's comparative advantage lies in its natural capital and the tourism and fisheries sectors are overly dependent on the health of coastal and marine ecosystems. Depleting fisheries would rapidly lead to a loss of income for fishers and tourism operators, and would jeopardize the local seafood industry and any future investment in the blue economy. It would also pose significant risk to nutrition and food security in the country, where almost all the fish that is consumed is fished locally. The management of Seychelles marine ecosystems and fisheries is hampered by insufficient financing, capacity, and legal and institutional frameworks

Faced with the need to preserve its comparative advantage in natural capital for the future generations, the Government of Seychelles adopted an ambitious marine conservation strategy. Seychelles pledged to protect 30% of its EEZ by 2020 and initiated a marine spatial planning exercise to serve as the foundation of its sustainable blue economy and conservation strategy. This marine spatial planning exercise started in 2015 and aims at improving the planning and management of the country's vast maritime space. It will progressively identify and gazette areas amounting to 15% of the EEZ to be protected as high biodiversity zones, where fishing will be prohibited, and another 15% to be protected as medium biodiversity zones, allowing for some sustainable economic activities - including controlled fishing. In parallel but in the same framework, Seychelles is preparing to implement new management plans for its major fisheries, including the first fisheries management plan for the Mahé Plateau, with a view to progressively transition from an open-access fishery to a more controlled fishery. The Mahé Plateau fisheries management plan has been drafted and is in the final stages of consultation. It will follow a continuous improvement approach, focusing on easy-gain and priority species during the first years of its implementation, and progressively moving to a more comprehensive coverage of the demersal fisheries.

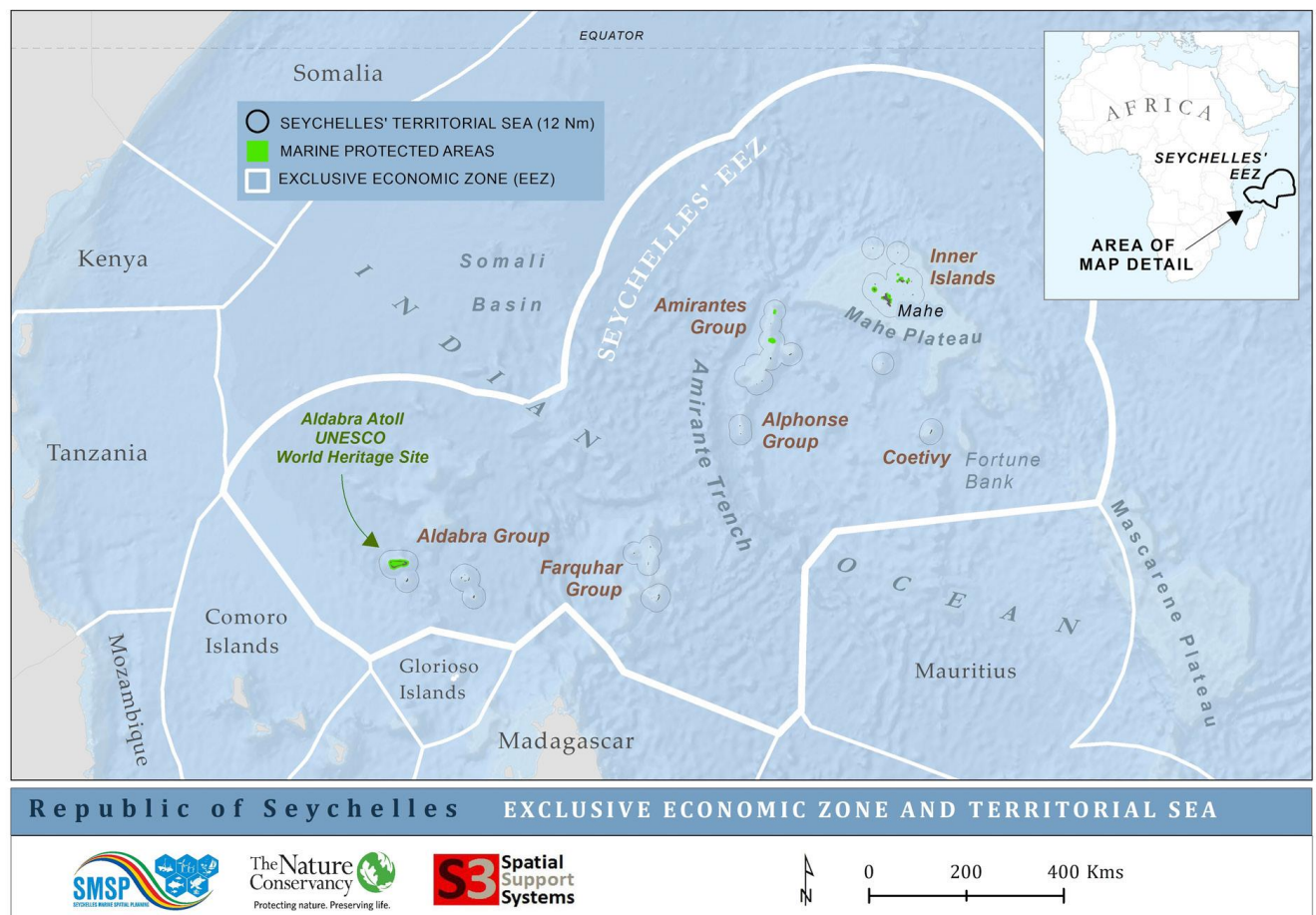
3.2 Geographic Location

The Republic of Seychelles is located between 4 and 10 degrees south of the Equator, and lies between 480km and 1,600km from the east coast of Africa in the middle of the Western Indian Ocean. It is composed of more than 115 islands distributed over an area of more than 1,3 million km². The islands constituting Seychelles may be divided into two groups: (i) the Mahé Group, comprised of 45 islands, is characterized as mountainous with much granite and includes the outlying islands; and (ii) the Coralline Group, which includes 70 islands that are mostly just above sea-level.

Mahé is the main island and hosts the capital city, Victoria. Mahé Island is 27 km long and 11 km wide. It has a maximum height above sea level of 905 meters (Morne Seychellois Mountain). Two other major islands are Praslin and La Digue. Both islands are close to Mahé, 33.6 and 48 km respectively.

Map 1 provides the location of Seychelles in the African continent, and delineates its Exclusive Economic Zone and marine protected areas.

Map 1
Geographic Location of Seychelles



Source: SMSP, 2015, p. 2.

3.3 Physical Characteristics

3.3.1 Climate

The climate of Seychelles Islands is warm (monthly mean temperature of 26-28°C) and can be classified as humid tropical. No distinct dry season occurs throughout the year, and even during the driest and coolest month in July the mean rainfall exceeds 70 mm. The average annual rainfall is 2,200 mm.

The prevailing winds are the North west (December to March), which are influenced by the Coriolis Effect at the Equator and changes to a North easterly wind and result in the north-west monsoon and the other is the south-east winds associated with the south-east monsoon (May to October). Data for the period 1972-2001 show that the mean evaporation is 5.2 mm.

Alternating monsoons generated by changes in the air pressure over the Indian sub-continent dominate the seasonality. During northern hemisphere's summer, the Asian mainland warms faster than the adjacent water, creating low pressure over the continent and forcing air to move from the Indian Ocean onto the Asian landmass. During winter, the pattern is reversed and air over the Asian mainland rapidly cools, creating high pressure and the movement of atmospheric masses off the continent and out over the ocean.

In contrast to many other inhabited South West Indian Ocean Islands such as Reunion, Madagascar, Comoros, Mauritius and Rodrigues, Seychelles inner islands fall outside of the tropical cyclone belt.

During the majority of the El Niño/La Niña years, an extreme weather event typically occurred over Seychelles. Severe drought during the La Niña phenomenon of 1998-1999 caused acute shortage of freshwater resulting in the shutdown of public establishments. In 1997-1998, the strongest El Niño ever recorded caused a 40% loss of revenue from the tuna fisheries sector and generated massive coral bleaching in the shallow reefs of Seychelles granitic islands.

3.3.2 Geology and Soils

The Seychelles are made up of 115 granite and coral islands. The inner islands comprise some of the oldest mid-oceanic granite islands on earth, while the outer islands consist primarily of low-lying coral atolls and reef islets. The inner islands cluster mainly around the largest islands of Mahé, Silhouette, Praslin and La Digue. The outer islands are those situated beyond the Seychelles Plateau. The outer islands owe their existence to continental drift, upliftment and subsequent volcanic activity which ultimately led to the formation of island land masses.

The soils of the granitic islands are generally very poor and slightly acidic. This is due to the geologically very old granitic base rock, which is inherently poor in nutrients. The shallow, leached soils are typically short of organic matter.

3.3.3 Hydrology

There are 146 water courses on the three main islands of Mahé, Praslin and La Digue, and these are listed for protection under the State Lands and River Reserves Act (1976), in recognition of their importance for socioeconomic development. The lower reaches of watercourses in many regions have been affected by human activity including enrichment and chemical pollution, canalization and reclamation of flood plains.

Lowland wetlands were a characteristic feature of many of the original coastal plains of the granitic inner islands. The coastal dune formations naturally created a simple basin-like structure to the landward that prevented free drainage resulting in the formation of extensive inland wetlands. These habitats were historically used for agricultural purposes such as rice production. However, as agricultural patterns and development pressures changed, these areas were increasingly drained to meet the demand for flat land and this trend has continued into the 21st century, such that lowland wetlands can be considered the most severely threatened habitat type in Seychelles. It is estimated that some 90% of lowland wetlands have been lost to reclamation since the colonization of the islands in 1770.

3.4 Coastal and Marine Ecosystems

The coastal-marine environment of Seychelles is complex and includes a series of habitats and biogeochemical processes that influence the dynamics and functionality of ecosystems. These ecosystems include coastal plains, mangrove forests, coral reefs, reef flats, seagrass beds, rocky shores and intertidal areas.

These ecosystems are interconnected to form a complex coastal-marine ecosystem. They provide important nesting and foraging grounds for numerous micro and macro-organisms, assist in nutrient and hydrological cycles, larval and sediment transport and provide important protein sources for the coastal communities.

3.4.1 Coastal Ecosystems

3.4.1.1 Coastal Terrestrial Ecosystems

The coastal plateau is made up of calcareous sand derived from adjacent fringing reefs which have accumulated over the last 6,000 years. The coastal plateau has been colonized by coastal plants such as coconut (*Cocos nucifera*), takamaka (*Calophyllum inophyllum*) and badamier (*Terminalia catappa*).

The mountainsides of Mahé and Silhouette from approximately 200 meters above sea level harbor the bulk of Seychelles known endemic biodiversity, while Praslin Island supports unique stands of Coco-de-Mer Palm (*Lodoicea maldivica*) dominated forest and associated species.

Coastal brackish water marshes are also present and play an important role in settling out sediments from freshwater systems before entering the sea, especially after rainfall events. The islands have extensive white sandy beaches which are used primarily by the tourism industry and

the locals. Many of these beaches are also used for nesting by marine turtles. The terrestrial coastal habitats of many of the inhabited inner islands have been heavily modified for human settlement, industries, public infrastructure and tourism.

3.4.1.2 Mangrove Forests and Coastal Wetlands

Mangrove forests and coastal wetlands are found within the inner granitic islands. There are 8 species of mangrove described in Seychelles, occupying a total area of 29 km². At Port Launay in Mahé, all eight species of mangroves are found in an area that has been designated as a RAMSAR site.

Mangroves once covered many shores of the granitic inner islands, especially close to river mouths and marshland. Since men first settled in Seychelles in the late 1700s, mangrove forests have been cleared to make way for coastal construction. There is presently a proliferation of mangrove in Seychelles, clearly visible on the east coast of Mahé, from Victoria to Pointe Larue, in the lagoons created by coastal reclamation and in places such as Anse Soulliac in the Port Launay Marine National Park, where the mangrove forest is slowly extending seawards.

The mangrove faunal assemblage in the inner islands is characterized by low species diversity and high abundance, dominated by herbivorous gastropods and suspension feeding bivalves. The fauna of freshwater wetlands includes pan-tropical indigenous species, as well as introduced ones. Endemic insects from the family *Rhagovelia*, *Nepidae* and *Notonectidae* still occur in healthy marshes. Freshwater wetlands and rivers are also habitat for the 2 endemic sub species of terrapins, *Pelusios castanoides intergularis* and *Pelusios subniger parietalis*. The tilapia, *Oreochromis mossambicus*, has been introduced to Seychelles and is now described as an invasive species affecting freshwater wetlands and rivers. An endemic bird, the Black Paradise Flycatcher, *Terpsiphone corvina*, is sometimes associated with La Mare Soupape on la Digue.

The typical flora of freshwater wetlands consists of reeds, sedges, grasses and herbs. The large fern *Acrostichum aureum* (Fouzer Lanmar) is common around the edges of lowland marshes. Common coastal trees such as *Calophyllum inophyllum* (Takamaka), *Terminalia catappa* (Bodanmyen) and *Hibiscus tiliaceus* (Var) often establish themselves near the edges. Introduced weed species, in particular *Eichornia crassipes* (Water Hyacinth) and *Pistia stratiotes* (Water Lettuce), now dominate many wetlands on Mahé, Praslin and La Digue.

3.4.2 Marine Ecosystems

3.4.2.1 Coral Reefs

The coral reefs cover an estimated area of 1,690 km², most of which are found in the Southeast of the Seychelles Archipelago, around the outer coralline islands, with fewer reefs found in the inner granitic islands.

There are 2 main types of reefs: granite reefs, which are made up of corals growing over large granite boulders, and carbonate reefs which are further divided into fringing reefs, atolls and

platform reefs. Fringing reefs are characteristic of the granitic inner islands. The fringing reefs are most extensive on the islands of Mahé and Praslin, where they occupy large areas.

Along the east coast of Mahé, the reef is continuous and unbroken (width: 500 – 750 m), apart from places where they have been dredged or reclaimed. Conversely, on the west coast of Mahé they are mostly small and discontinuous and are mainly found in bays and are generally narrower than those found on the east coast. The situation reverses for Praslin, where the coral reefs are widest on the east coast with width up to 2850 meters.

More than 300 species of *Scleractinian* corals are found in Seychelles; however, so far there are no identified Seychelles endemics.

The back reef environment is mostly covered by macro-algae of the genus *Sargassum* and *Turbinaria* or seagrass comprising mostly of *Thalassodendron ciliatum* and *Thalassia hemprichii*. Reef associated animals groups include corals, crustaceans, echinoderms, fish, macroalgae, mollusk and sponges. There are gaps in the diversity of other reef associated phyla.

In 1998, there was a coral bleaching event. Before that event, the coral reefs of the Seychelles were considered as healthy and were characterized in 3 different assemblages distinguished by the main coral species they host. These assemblages were: (i) *Pocillopora*, associated with rough water, especially in or near the surf zone; (ii) *Acropora*, found along open water reef fronts; and (iii) *Porites*, reef flat environments.

The coral bleaching event of 1998 was brought about by high sea temperature, which prompted the corals to bleach and die after a few weeks. This was the first case of wide scale coral bleaching event recorded in Seychelles. Early assessments in 1999 found that the fast growing *Acroporas* and *Pocilloporas* had suffered the most. At the time of these assessments the most dominant genus were the *Porites*, thus suggesting that they were better able to withstand the high sea temperature that caused widespread bleaching in 1998. The 1998 bleaching was followed by 2 smaller scale events in 2002 and 2003.

Although mortality among corals was extensive and the diversity at most sites surveyed was low following the 1998 event, no extinctions have been reported but, rather, the abundance and distribution of species have reduced.

Since the bleaching event, management focus had to change from managing healthy and diverse coral reefs to promoting the recovery of coral reefs. Recent reports indicate that today the situation on the reefs of the inner islands is drastically different from that of the pre-bleaching event. Since the bleaching event, the coral reef system of the inner Seychelles has undergone a widespread phase shift from a coral-dominated state to a rubble and algal-dominated state. Before the 1998 bleaching event the reefs were characterized by high cover of live branching and massive coral, soft coral, and high structural complexity, whereas today the reefs are of low complexity, comprising mostly of rubble, standing dead coral and algal fields. Average coral cover is presently low with few of the benthos consisting of fast growing, habitat forming branching and plating functional groups of corals. Recovery of corals reefs from the bleaching

events has been relatively slow and it is highly apparent that the carbonate based reefs are not doing as well as the granitic based reefs.

3.4.2.2 Reef Flats

This mixed habitat complex has been subject to intensive disturbance around populated islands. In the central archipelago, reef flats are utilized extensively for gleaning fisheries (e.g., octopus and shell fish) and shell collecting activities. In the last 25 years significant areas of this habitat have been lost to major land reclamations. Sedimentation and in some areas pollution are also factors of concern.

Most reef flats consist of a complex patchwork of habitats: areas of sand and gravel interspersed between areas of coral rubble, coral outcrops, sea grass and algal growth. In their natural state these habitats are rich in life and commodity species such as octopus, lobster and sea cucumber. Mollusk fauna can be very rich with Cowries (*Cypraea moneta*, *C. annulus*, *C. Lynx*, *C. caurca* and *C. helvola* being common), Cones (*Conus leopardus*, *C. litteratus*, *C. virgo*, *C. maldivus*, *C. betulinus* and *C. quercinus*) readily found in the seagrass; while species such as *Bittium zebrum* and *Smaragdia rangiana* can be found in algal mats. Four Shell Reserves were declared in the 1960s and were subsequently incorporated under the 1986 Fisheries Act (1987 Shell Reserve Regulations) but the areas are not managed or enforced.

3.4.2.3 Seagrass Beds

The extensive shallow submarine banks of Seychelles support significant sea grass areas. A particularly large sea grass bed (estimated at 45km long and 15km at its widest) lies on the Providence-Cerf bank. Many of the outer islands, such as the lagoons of Aldabra, Cosmoledo and Astove, support large sea grass communities. Sea grass habitats are also common around the granitic inner islands, notably in the St Anne Marine National Park and off Grand Anse-Amities coast of Praslin.

To date, 8 species of seagrass have been described from Seychelles: *Cymodocea rotundata*, *Cymodocea serrulata*, *Enhalus acocroides*, *Halodule uninervis*, *Halophila ovalis*, *Syringodium isoetifolium* *Thalassia hemprichii* and *Thalassodendron ciliatum*, with 6 of them present around Mahé.

A brief survey of inshore sea grass bed substrate around the island of Mahé, conducted as part of the Environmental and Social Impact Assessment for the Mariculture Master Plan (SFA, 2016), recorded 58 species of infauna invertebrates. Sea grass beds are also essential for many marine herbivore species including megafauna such as the green turtle and the Dugong.

There is evidence that sea grass beds around the main populated islands are in decline due to a combination of anthropogenic factors – pollution, reclamation, coastal development and climate change. It is also likely that the historical exploitation of the main sea grass grazers, green turtles, and ongoing fishery activities mean that the natural grazer/growth balance in sea grass beds has been lost, potentially leading to changes in community structure and health.

3.4.2.4 Rocky Shores

Rocky Shores are the most common shore habitats in the granitic islands and are typified by a limited vegetation structure consisting of species such as *Hibiscus tiliaceus*, occasional stands of the endemic Balfour's pandanus (*Pandanus balfouri*), *Scaevola sericea*, creepers (e.g., *Ipomea pescaprae*) and grasses. In their natural state and particularly on promontories and rocky islets, rocky shores historically supported important seabird populations and and/or roosts (e.g. *Sterna anaethetus*, *Phaethon lepturus*, *Puffinus pacificus*), such as those still found on reserve islands like Cousin and Aride.

3.4.2.5 Intertidal Zone

The intertidal zone is rich in gastropods, some of which are commonly exploited for food (e.g., *Patella exusta* and *Cellana radiata*). The trochus *Monodonta australis* and the majority of Seychelles *Nerites* (*Nerita albicilla*, *N. plicata*, *N. polita*, *N. textilis*) are common in this zone; as are various species of Littorinid (*Littorina kraussi*, *L. scabra*, *L. undulata* and *Peasiella roepstorffiana*). *Planaxis sulcatus* occurs in large colonies in this zone, the Morulas, *Morula granulata* and *M. uva* are also common and the cowrie *Cypraea caputserpentis* is common in rocks clefts typified by strong wave action.

Rocky shores also harbor large crab populations (*Grapsus* and *Geograpsus* spp) and occasionally the distinctive *chiton*, *Acanthopleura brevispinosa*. Accessible rocky shores are intensively harvested for shell fish for both domestic and commercial use. Increasingly physical development is encroaching in these areas to meet the demand for seaside properties.

3.5 Protected Areas

The terrestrial Protected Area Network (PAN) constitutes 46.6% of Seychelles' total landmass, an enormous commitment to biodiversity conservation. Furthermore, recently the Government stated the political objective of incorporating more than 50% of Seychelles landmass in the PAN and preliminary approval has been given for the declaration of additional areas to take the total over 50%. These percentages are very impressive, but perhaps more important than the quantity is the quality of protected areas in question. The vast majority of Seychelles endemic biodiversity is to be found in the ancient granitic inner islands. Within the granitic islands however, 22.3% of the landmass or significantly less than the national average is currently protected.

Marine Protected Areas (MPAs) in Seychelles present a very different scenario. Seychelles was the first country in east Africa to establish a network of MPAs, but at the time of their selection they were primarily chosen for touristic utility, as opposed to biodiversity criteria, as at that time the marine environment was still of a relatively homogenous high quality. Subsequent human development activities and impacts, and notably the 1998 coral bleaching event, have changed that scenario. Furthermore, unlike the terrestrial scenario where nearly 50% of the landmass lies within the PAN, the existing MPAs in Seychelles constitute less than 1% of the country's Exclusive Economic Zone (EEZ).

In Seychelles there are at least the following five different types of MPAs: marine national park, shell (mollusk) reserve, special reserve, protected areas, and strict natural reserve.

The Seychelles Government has recognized this shortfall in the marine domain and has initiated a marine spatial planning process with the ultimate objective of designating 30% of the EEZ as protected. Half of that area, or 15% of the EEZ, is to be designated as strict no-take zones.

3.6 Marine Fauna

3.6.1 Marine Mammals

According to a UNEP report (2008), two orders of marine mammals (Sirenia and Cetacea) occur in Seychelles waters. In 1963, the humpback whale was officially protected in the southern hemisphere but captures continued up to 1974. In 1979, the Indian Ocean Whale Sanctuary was created prohibiting the further capture of whales. Today, both baleen (Mysticetes) and toothed (Ondocetetes dolphins, beaked whales and sperm whales) whales are still found in the Seychelles. Over 26 species have been observed, comprising 7 dolphin species of which 4 are common and 19 whale species. Some of these species such as the Bottlenose dolphin (*Tursiops truncatus*) and sperm whale (*Physeter microcephalus*) are regularly sighted whereas others such as the Blue whale (*Balaenoptera musculus*) are rare. The most important areas for cetaceans in the Seychelles include the area north and south of the Mahé Plateau, the Amirantes and the area around the Aldabra atoll. There have been no specific studies to investigate whether these areas are important breeding, foraging or resting grounds. The Marine Conservation Society of Seychelles (MCSS), a locally-based NGO, has been active in monitoring and management of marine mammals in the Seychelles. In 2005 an informal Marine Mammal Observatory was set up to provide a central collection point for opportunistic as well as formal marine mammal sighting data. Seychelles is also a party to the Convention on Migratory Species (CMS).

3.6.2 Birds

The Seychelles' high ornithological profile is partly due to the vast amount of breeding seabirds that occur within its EEZ. Despite the fact that the archipelago is not situated along any important migratory routes, some colonies of Frigate spp. regularly consist of more than 1 million birds and hence, are amongst the largest colonies in the world. Hence, seabird conservation is of great importance in maintaining both national and international bird biodiversity. To date, 18 species of seabirds are known to breed in the Seychelles.

3.6.3 Sea turtles

Four species of sea turtles are found in Seychelles waters. However, only the Green turtle (*Cheloniemydas*) and the Hawksbill turtles (*Erethmochelys imbticata*) nests in the Seychelles. Hawksbill turtles nest mainly in the granitic islands whereas Green turtles nest mainly in the outer islands. The other 2 species found in Seychelles waters are the Leatherback turtle (*Dermochelys coriacea*) and the Loggerhead turtle (*Caretta caretta*). The Seychelles hosts 1 of the 5 most significant populations of hawksbill turtle, which is listed as critically endangered. There has been a decline in the number of female nesting hawksbill turtles over the past few

decades. Fortunately, some of the most important nesting sites have protected status either as special reserves or as marine national parks. For green turtles, the numbers of nesting females appear to have increased significantly during the past few decades. The Marine National Parks of Ste. Anne and Curieuse and the two Special Reserves of Cousin and Aride and the island of Cousine remain some of the most important hawksbill nesting sites in Seychelles. Aldabra atoll, in the outer islands, is both a Special Reserve and a UNESCO World Heritage site and has one of the largest populations of nesting green turtles in the World. All species of turtle are protected in Seychelles.

3.6.3 Sharks

There are over 100 species of sharks and rays known to occur in the Seychelles and it is estimated that there is between 50,000 and 56,000 Mt of shark biomass on the Mahé Plateau with an additional 34,000 Mt on the other banks. The whale shark is also common in Seychelles waters and is protected. Many other species of sharks are targeted or taken as bycatch in artisanal, semi-industrial and industrial fisheries. A number of regulations prescribe measures for shark fisheries, while Seychelles has recently prepared its second National Plan of Action for the Conservation and Management of Sharks (2016-2020). Some oceanic sharks are also subject to monitoring and regulations under the auspices of the Indian Ocean Tuna Commission. .

3.6.3 Sea Cucumber

The sea cucumber fishery in the Seychelles has seen a rapid development during the past decade or more. By 1999 there were already signs of population depletion, including lower volumes of high value species and fishers having to travel further and dive deeper to maintain catch rates, and concerns were raised regarding the sustainability of the fishery. The fishery moved to a limited access regime in the early 2000s to prevent a worsening of overexploitaion, with the introduction of a maximum of 25 licenses and limits on the number of divers operating under each license. As a result a survey of sea cucumber density at 246 sites throughout the Amirantes and Mahé Plateau was undertaken by SFA in 2004. Two species were considered as over exploited, 3 as fully exploited, and the remainder as either under exploited or at virgin levels. Efforts to introduce total allowable catches for sea cucumbers based on the outcome of the survey were unsuccessful. Despite the limited access, effort was relatively unconstrained and the fishery progressed to exploit most divable habitat on the banks and plateaux by 2010. Catches of high value species continued to rise until 2011, but have subsequently exhibited year-on-year declines.

3.7 Fish Resources

The vast majority of fish found in Seychelles are wide ranging species that extend across the Indian Ocean to the western or mid Pacific Ocean. In addition to open ocean pelagic waters, which constitute the bulk of the EEZ, Seychelles is characterized by a series of continental shelves with a total surface area of almost 50,000 km². Therefore, there are a wide range of marine habitats for fishes, including shallow water fringing reefs, granitic reefs, banks, plateaus, shelves and drop-offs, atolls, lagoons, seamounts, abyssal and pelagic habitats.

Seychelles waters are relatively rich in fishing resources. A total of 1196 marine species belonging to 140 families have been recorded in Seychelles. However, a relatively low percentage of these species are targeted by the fisheries sectors (industrial, semi-industrial or artisanal).

It has become increasingly apparent since the mid-1980s that the demersal fishery resources of the Mahé Plateau were being overexploited. Initially, it was considered a concern of the inner reefs and policies were introduced to relocate fishing pressure to offshore banks. Analysis of Vessel Monitoring System data indicate that the entire plateau is now heavily exploited, with fishery indicators and stock assessments presenting evidence of overfishing for high value species. This is particularly apparent in the decline of the occurrence, diversity and abundance of *Serranidae* on the plateau, with several species now very scarce or absent from the Mahé Plateau catch. Declines and overfishing are also apparent in the emperor red snapper (*Lutjanus sebae*) and the brownspotted grouper (*Epinephelus chlorostigma*).

3.8 Socioeconomic Characteristics

3.8.1 Demographics

The Seychelles population stood at 94,677 in mid-2016, comprising 47,343 males and 47,334 females. The population growth rate is 1.3% since 2015. The Seychelles population is projected to grow to some 100,000 in mid-2020 and to reach 108,000 in mid-2045.

There are indications that the Seychellois population is slowly growing older. The growth rate is projected to decrease steadily to as low as 0.1% from 2042 to 2045.

The population is mainly located on the three main islands of Mahé, Praslin and La Digue. 78.9% of the population is located on Mahé Island, 8.7 % on Praslin and the rest (3.7%) on La Digue and the Outer Islands. The average household size in 2013 was 3.4 persons, down from 3.7 persons in 2010. In 2013, the number of households were 28 367.

3.8.2 Ethnicity

The ethnic groups in Seychelles consist of primarily the Seychellois Creole at 89%, with Indian (5%), Malagasy (3%) and Chinese (1%) making up the rest. Most citizens consider themselves as Seychellois. The constant flux of immigrants to Seychelles, initially from continental Africa, Europe and the Indian sub-continent, and later from China, have created an ethnically diverse population.

3.8.3 Education

In 2015, the national literacy rate was 95.32%. According to 2012 figures, the literacy rate is almost even for both genders, with male at 91.4% and female at 92.3%. These figures are noteworthy, when considering that the 2004 literacy rate was 88%.

3.8.4 Employment

Seychelles is classified as a high income country. The national unemployment rate in 2014 was 3%, decreasing from 3.3% in 2013. In comparison, the national unemployment rate reached 4.2% in the second quarter of 2016. In the latter year, the female unemployment rate (4.6%) was higher than that of the males at 3.9%.

The private sector provides the majority of employment and employment within this sector is steadily growing. In contrast, the employment by the government sector shows a relative stability, while employment within the parastatal sector showed slight but constant growth.

The highest concentration of employment occurs in the accommodation and food service activities (19%). The second largest employment industry is that of construction (12%).

3.8.5 Land Use

Almost half of the land (about 47%) is protected by a number of conservation areas. Arable land includes approximately 10,000 ha, of which about 60% consists of coconut and other tree-crop plantations. A large amount of arable land has been used for other purposes, especially for housing.

On the major granitic islands, 42% of the land is covered by forests. Forest cover consists of unprotected natural forest (41%), national park forests (48%) and plantations (11%). Forested areas do not lend themselves to other uses due to the topography of the land. However, as land availability decreases, housing developments are rapidly encroaching into the higher forested areas.

Industrial developments include coconut oil and soap manufacturing factories, a tuna-canning operation and various related operations. Land is also needed for public utilities such as sewage works and desalination operations. On Mahé, the airport, the Victoria Sewage Works and the desalination plant are all located on reclaimed land. Other industries and some housing are also located on reclaimed land

3.8.6 Economic Activities

3.8.6.1 Fisheries Sector

As mentioned in the first section, Seychelles has a well-developed fishing sector that is a vital part of the social and economic development of the country. Fishing alone accounts for around 8 per cent of the Gross Domestic Product (GDP) and around one sixth of employment. It is the country's largest foreign exchange earning sector.

It is estimated that the fishing sector, including ancillary activities, generates both directly and indirectly around 6,000 jobs, amounting to about 17% of total formal employment. Since 2004, the percentage of fisheries contribution to the total GDP has been increasing from 6.4% to 7.7%

in 2008. It is believed that if all fisheries-related activities were taken into account, the annual true contribution to GDP would be between 15 and 20%.

The per capita consumption of fish in Seychelles is one of the highest in the world at around 54-65 kg/person/year.

3.8.6.1.1 Small-Scale Fisheries

Subsistence and semi-industrial small-scale fishing contribute between 1% and 2% to GDP annually. Land-based economic opportunities are very limited in the Seychelles. Fishing is, therefore, an integral source of income, employment, food security and foreign exchange in the country. Of the total employment generated by the fisheries sector, some 30% of this employment is in the small-scale fisheries, and 10% of the population is reliant on income from the small-scale fishing sector.

The estimated number of full-time fishers employed in the artisanal demersal fishing sector in 2007 amounted to approximately 1,050, plus an indeterminate number of part-time and recreational fishermen. It has been estimated that full-time demersal fishers represent 62% of the total number of fishers in the artisanal fisheries sector and account for 73% of total fish landings. The number of persons employed in the land-based artisanal fisheries processing sector is approximately 200 (including around 25 part time workers).

The artisanal fisheries, which are largely open access, provide the bulk of all fish consumed locally. Catches in the commercial sector of the artisanal fishery have declined steadily from 4778 tons in 2008 to 2511 tons in 2012, but have increased to 4135 tons in 2013 (as a consequence of an increase in effort). Landings of the sport and recreational sectors, which are suspected to be significant, are however unknown.

The submarine banks of Seychelles form the basis of the artisanal fisheries, providing vital food security, employment and high value trade commodities. The Mahé Plateau is of particular importance. This shallow bank of some 39,000 km² supports important demersal fisheries such as: *Lethrinidae*, *Lutjanidae*, *Scaridae*, *Serranidae*, and *Siganidae*. Some 100 species of demersal fish are commonly caught. Also important are the sea cucumber, lobster and octopus fisheries.

The artisanal fisheries, practiced solely by Seychellois fishers, comprise a variety of vessel and gear types. Although still used in a few near-shore areas, the traditional wooden canoes have largely been replaced by more powerful craft. The fleet is now dominated by small fiberglass boats powered by outboard motors (over 15 horsepower) and partially decked whaler vessels powered by inboard motors. Until the introduction of the schooner fishery in 1974, the fleet was largely restricted to near-shore fishing grounds on the Mahé Plateau, but now has moved further offshore. The outlying coralline islands and atolls are less exploited. The main gear type employed is hook and line, with bamboo traps, beach seines, droplines and longlines of lesser importance. Spear guns and shark gill nets are prohibited in Seychelles, as is the use of trawl nets to target demersal resources.

3.8.6.1.2 Semi-Industrial and Industrial Fisheries

Within the Seychelles EEZ, semi-industrial and industrial fishing is practiced by a combination of fleets of local- and foreign-owned vessels, primarily capturing Bluefin and Bigeye tuna. Semi-industrial fishing comprises locally-owned longliners plying techniques such as longlining, handlining and droplining to land swordfish and tuna, whereas industrial fishing is comprised of foreign-owned long-liners and purse seiners. Over 110,000 tons of fish were landed by semi-industrial and industrial fishing within the Seychelles EEZ in 2013.

The semi-industrial fisheries have a large-pelagic longline component, a demersal hook and line fishery and a sea cucumber diving component. Most of the fish from these fisheries, except for a small proportion of linefish and tuna, is exported.

As a result of the semi-industrial and industrial fisheries within the Seychelles EEZ, the second largest cannery in the world is the leading employer in the Seychelles, with a workforce of over 2,500.

3.8.7 Tourism and Recreation

A major contributor to the GDP of Seychelles is tourism, amounting to 25.6% in 2010, which is an increase of 2.2% from 2007. The tourism industry directly employed 25% of the labor force and generated in the order of \$270 million per year in 2012.

The sport and the recreational sectors target demersal fish species. The sport fisheries are a relatively small sector made up of licensed super ski boats, primarily taking tourists out for big game fishing for species such as wahoo, dolphin fish, sailfish, tuna and marlin. The main gear type used is trolling; however, some handline fishing for demersal species are also conducted. Its contribution to the coastal livelihood is relatively unknown, as there are few data collected for these fisheries. Similarly, the monitoring of recreational fisheries is virtually nonexistent, since anyone can fish for leisure or as a hobby in Seychelles, and no license is required for recreational fishing. Recreational fishers are mostly active during the evenings and weekends, and most of this catch is commercialized.

3.8.8 Agriculture and Forestry

Due to the restrictive nature of land-based opportunities in Seychelles, agriculture and forestry contribute considerably less to the GDP than the more lucrative tourism sector. There has recently been a revival in the traditional exports of cinnamon and copra, as the government provides incentives to the sector to increase productivity. The heavy reliance on the importation of staple foods means that food security remains an issue. This is in spite of the country becoming mostly self-sufficient in eggs, poultry and pork during the late 1990s.

Most agricultural practices are focused in the South of Mahé. They consist mainly of small-scale commercial farming that is conducted in small open fields and greenhouse tunnels. The mountainous terrain and low soil fertility of the Seychelles greatly reduce productivity in the agricultural sector.

4.0 LEGAL, INSTITUTIONAL AND POLICY FRAMEWORK

This chapter discusses the Seychellois legal, institutional and policy framework applicable to the SWIOFish3 Project.⁴ Given the nature of the Project, this chapter focuses on the pertinent frameworks for protected areas, the fisheries sector and the blue economy.

4.1 Protected Areas

The Convention on Biological Diversity is the main international commitment that Seychelles has vis-a-vis Protected Areas. Seychelles committed to protection of 30% of its marine area in Rio+20 (2009). These obligations are furthered in the newly developed Protected Areas Policy 2013 and the National Biodiversity Strategy and Action Plan 2015- 2020. Seychelles is also a party to several other conventions or initiatives that concern protected areas, including UNCLOS, the Ramsar (Wetlands) Convention, the World Heritage Convention, the Migratory Species or Bonn Convention and the International Coral Reef Initiative.

4.1.1 Institutional Framework

The following institutions are involved in the management of marine protected areas: Department of Environment within the Ministry of Environment, Energy and Climate Change (MEECC), the Seychelles National Parks Authority, the Seychelles Fishing Authority, the Seychelles Islands Foundation and several Non Governmental Organizations, including Nature Seychelles and the Islands Conservation Society.

4.1.2 Legal Framework

The following pieces of legislation are relevant:

- National Parks and Nature Conservancy Act (1969): establishes 4 categories of protected areas: Strict Nature Reserves, Special Reserves, National Parks, and Areas of Outstanding Beauty. In addition, it established the National Environment Commission to coordinate all activities in Seychelles, including activities of the Government, concerned with conservation or management of the environment. The Commission can by order published in the Gazette, designate any area as a National Park, a Strict Natural Reserve, a Special Reserve or an Area of Outstanding Natural Beauty.
- Fisheries Regulations (1987): make provision for protected areas where the use of any net, which is operated by being dragged across the seabed is prohibited. In addition, foreign vessels are prohibited from fishing within nine zones of the EEZ – Industrial Fishing Exclusion Areas.
- Protected Areas Act (1967): establishes that protected areas may be declared if it is found to be necessary or expedient in the public interest that special precautions should be taken to prevent the entry of unauthorized persons to such areas, place or premises.

⁴ This chapter is based on the following sources: Carolus, 2015; SFA, 2016; and Vivid Economics, 2015a, with some paragraphs following very closely the contents of Carolus, 2015.

- Beach Control Act (1971): Regulations for controlling use of the seashore and inshore waters, which includes prohibition or regulation of fishing by such means as may be prescribed within designated areas of the inshore waters of the sea.
- Forest Reserves Act (1995), which allows the designation of forest reserves and stipulates permits and penalties related to destruction, removal of any trees, wood or forest produce. Written permits issued by the Chief Agricultural Officer are required for movement within forest reserves, including being accompanied by a forest officer of delegate.
- Wild Birds Protection Act (1966) lists the nature reserves and the birds that are protected from purchase, sell or exhibit for sale, or export and tampering with the eggs or nests.

4.1.3 Policy Framework

4.1.3.1 Debt-for-Climate-Adaptation Swap and marine spatial planning

Seychelles has embarked on the debt-for-climate-adaptation swap that redirects a portion of Seychelles' debt payments to fund nature-based solutions to climate change. The redirected portion of the debt service goes through an independent public-private trust fund call the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), which was established by a bill in 2016. The primary mechanism is to improve the ecological resilience through a commitment by Seychelles to protect 30% of its marine area. To identify areas for protection, the MEECC is leading the Seychelles Marine Spatial Planning (MSP) initiative, a multistakeholder planning process supported by The Nature Conservancy. The MSP initiative aims to identify and protect high and medium biodiversity areas (about 15% of coverage of each in the EEZ) and to define compatible uses for each area, including fisheries.

4.1.3.2 Seychelles Protected Areas Policy (2013)

The vision of the Policy is to have a Protected Areas System on land and in the sea that protects and conserves high quality, comprehensive and ecologically representative examples of Seychelles natural diversity and cultural heritage, and that provides ample opportunities for the fair and equitable sharing of the benefits arising from the sustainable use of these resources.

The principal goal of the policy is to achieve an effective and multi-use protected area system that is representative, comprehensive and balanced, and to maintain the highest quality examples of ecosystems within the country by engaging all stakeholders.

The Policy establishes the following five categories of protected areas: (i) Strict Nature Reserve (IUCN Ia); (ii) Ecological Reserve (IUCN IV); (iii) National Park (IUCN II); (iv) Protected Landscape/Seascape (IUCN V); and (v) Sustainable Use Area (IUCN VI).

Legislation that gives effect to the policy has been drafted (the Nature Protection and Conservancy Bill) and is expected to be presented for review by the National Assembly in 2017.

4.1.3.3 Seychelles Sustainable Development Strategy 2012-2020

The Strategy sets out goals and corresponding strategic objectives in the thematic area of Biodiversity and Forestry. The two goals are as follows: (i) Goal 1: conserve and manage terrestrial and aquatic biodiversity to ensure sustainable use and equitable benefits to the people; and (ii) Goal 2: Improve our understanding of biological diversity and ecosystem functioning in a changing environment.

4.1.3.4 National Biodiversity Strategy and Action Plan (NBSAP) 2015-2020

The NBSAP addresses Seychelles' obligations under Article 6a of the Convention on Biological Diversity. It establishes climate change as a cross-cutting threat and complicating factor in assessing priority threats to terrestrial biodiversity and is also seen as a major threat to the conservation and sustainable use of marine biodiversity, in particular the biodiverse habitat of coral reefs. Furthermore, the document sees overfishing as the primary threat in marine ecosystems. The combined effect of overfishing and raised sea temperatures is discussed with regards to the impact on reef systems.

The NBSAP further discusses the legal basis and classification of the Seychelles Protected Area Network, as well as problem areas such as its representative nature, the shortfalls in Marine Protected Areas, management issues and lack of sustainable financing mechanisms.

4.2 Fisheries

4.2.1 Institutional Framework

The Ministry of Agriculture and Fisheries (MAF) is responsible for providing policy directions for the fisheries sector. The Seychelles Fishing Authority (SFA), a line agency of MAF, is the executive arm of government for fisheries. SFA was incorporated by the Seychelles Fishing Authority (Establishment) Act of 1984, which specifies that the role of the parastatal is to: (i) promote, organize and develop fishing, fishing industries and fishing resources in Seychelles; (ii) assist in the formulation and the implementation of the national policy with respect to fishing, fishing industries and fishing resources; (iii) conduct negotiations, or engage in meetings, seminars or discussions, with regard to fishing or fisheries or the establishment or operation of fishing industries, whether at a national or international level, on behalf of the Republic or otherwise; and (iv) identify the manpower training requirements of Seychelles with regard to fishing and fishing industries.

4.2.2 Legal Framework

4.2.2.1 Fisheries Act (2014)

The Fisheries Act (2014) provides for the management and sustainable development of fisheries, including aquaculture. The Fisheries Act (2014) also makes provision for the licensing of fishing vessels, the regulation and enforcement of fishing activities, and offences. The Act provides SFA with the mandate to manage and sustainable develop fisheries in accordance with: (1)

internationally recognized norms, standards and best practices, including the United Nations Convention on the Law of the Sea (1982) and the FAO Code of Conduct for Responsible Fisheries 1995; and (ii) an ecosystem approach to fisheries which ensures that the development and management of fisheries addresses the multiple needs and desires of the society without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems. The Fisheries Act seeks to implement the international and regional fisheries obligations that Seychelles is party to, including Conservation and Management Measures of the Indian Ocean Tuna Commission. Under the Act, the SFA has the mandate to prepare and keep under review a plan for the management of fisheries. To this end, the Praslin Artisanal Trap and Line Fishery Co-Management Plan 2013 (revised in 2015) has been developed and the Mahé Plateau Trap and Line Fishery Co-management Plan is its final stages of preparation. A Mariculture Master Plan (MMP) is currently being developed.

4.2.2.2 Fisheries Regulations (1987)

The Fisheries Regulations (1987) were prepared under the previous Fisheries Act (1987) and are in the process of being revised to conform to the 2014 Act. Until such time, the provisions of the 1987 Regulations remain in force.

Some relevant provisions are contained in the following 15 regulations: (i) requirements and conditions of license for a fishing vessel (Regs 3 and 6); (ii) designation of No fishing Zones (First Schedule); (iii) licenses for use of nets, including demersal nets (Regs 10 and 14); (iv) designation of protected areas where the use of any net which is operated by being dragged across the sea bed is prohibited (Reg 15); (v) prohibition to place any net in any reef pass or channel in such a way as to obstruct the passage of fish (Reg 16); (vi) prohibition on use, possession, sale of a spear gun for fishing (Reg 18); (vii) licensing of fishing sea cucumbers (Reg 19A); (viii) regulation on female crustaceans (Reg 20); (ix) return to the sea of protected aquatic organism unintentionally caught (Reg 22); (x) protection of fish or other aquatic organism from in any net, trap, line, fish aggregating device or other fishing gear (Reg 23); (xi) aquaculture (Reg 24); (xii) prohibition on landing or transshipping of any fish caught contrary to international management measures (Reg 24A); and (xiii) the regulation of live trade of wild finfish and other marine species (Reg 25A). Foreign vessels are prohibited from fishing within nine zones within the EEZ, termed the Industrial Fishing Exclusion Areas.

4.2.2.3 Licenses (Fisheries) Regulations (1987)

The regulations, prepared under the Licenses Act 2010, provide for the licensing of foreign and local fishing vessels.

4.2.2.4 Other Relevant Legislation for the Management of Fisheries and Marine Resources

These pieces of legislation include:

- The Maritime Zones Act (1999), which establishes the boundaries for Seychelles' maritime zones, the territorial sea, archipelagic waters, contiguous zone as well as the exclusive economic zone and the continental shelf;

- The Environment Protection Act (1994), which serves to ensure that all development and activities, including fisheries, are subject to environmental controls; and
- The National Parks and Nature Conservancy Act (1969), which provides the legal instrument to establish and manage marine protected areas for fisheries conservation, as well as other purposes.

4.2.3 Policy Framework

4.2.3.1 Fisheries Policy

The Fisheries Policy 2005 remains the guiding policy for the sector with the main aim of promoting conservation and management of marine resources in order to ensure the sustainability and long-term viability of the industry. The policy emphasizes the importance of a precautionary approach to management. Specific policy objectives include the promotion of sustainable management and responsible fishing practices, and the development of the sector to provide food security, employment, income, and foreign exchange earnings, while ensuring the effective protection of the marine ecosystem. It further seeks to maintain Port Victoria as the major hub for tuna landings and transshipment in the region, and to encourage greater use of the port by longliners, through investments in port infrastructure, services and processing.

The Seychelles National Agricultural Investment Plan (SNAIP) 2015-2020, which aligns with the National Food and Nutrition Security Policy (2013), identifies programs of support for the fisheries and aquaculture sector. The Seychelles Sustainable Development Strategy (2012-2020) also sets out goals and corresponding strategic objectives in the thematic area of Fisheries and Marine Resources. The two goals are as follows: (i) Goal 1: manage demersal, semi-pelagic and pelagic resources in the Seychelles EEZ sustainably; (ii) Goal 2: develop a sustainable mariculture industry in Seychelles.

As mandated by the Fisheries Act (2014) and to meet policy aims and objectives, SFA is required to maintain active fisheries management plans. While many fisheries are regulated, in terms of licensing and technical measures, operational fisheries management plans, developed and implemented in accordance with international best practice, are currently lacking. To address this, SFA have recently collaborated with stakeholders to draft the Praslin Artisanal Trap and Line Fishery Co-Management Plan 2013 (revised in 2015) and the Mahé Plateau Trap and Line Fishery Co-management Plan. Measures that will be introduced by the plans in early phases include the development of a fishery-specific licensing framework, with the ultimate objective of ending open access, as well as minimum size limits for key species and recreational fishery bag limits. Both plans are pending implementation. A fishery co-management plan for sea cucumber will also be supported under SWIOFish3, as well as a tuna fishery development plan that will address fleet capacity management.

The development of an aquaculture sector has been prioritized by the Seychelles government as a core component of the Blue Economy. A MMP has been drafted by SFA and MAF, which describes the strategic development of an aquaculture industry across four different zones – land-based, inshore, aquaculture development zone and offshore. A detailed Environmental and Social impact Assessment has been completed for implementation of the MMP.

4.3 Blue Economy

4.3.1 Institutional Framework

Seychelles has adopted a strategic development agenda built conceptually on the blue economy, which recognizes the challenges of reconciling economic growth while maintaining the integrity of socio-ecological systems. The concept was formally launched at the First Blue Economy Summit co-hosted by Seychelles and Abu Dhabi in 2014. A focus on the blue economy aims to support implementation of the Paris Climate Change Agreement and Sustainable Development Goal 14 on the Oceans, and its related targets. The importance of the ocean to sustainable economic development was recognized by the formation of a Department of the Blue Economy, under the Ministry of Finance, Trade and the Blue Economy, in 2015. In late 2016, the Department migrated to the Office of the Vice-President. Seychelles has prepared a National Blue Economy Roadmap to support its transition to a more integrated and sustainable ocean-based economy.

4.3.2 Legal and Policy Framework

The blue economy concept seeks to work with existing legal and institutional structures for ocean-based sectors rather than create parallel structures. The blue economy roadmap, currently being developed, aims to increase the data and knowledge on ocean habitats and ensure knowledge-based integration of policy and development across the two main sectors of economy, namely fisheries and tourism. The roadmap will focus on improved fisheries management through equitable, non-subsidized and sustainable practices. Protective measures will be enhanced, including improvements to monitoring and surveillance tools. Capacity building, research and innovation are central components. The Department of Blue Economy is also supporting the development of new ocean-based economies, in particular renewable energies, marine biotechnology and aquaculture.

5.0 APPLICABLE WORLD BANK SAFEGUARDS POLICIES

The SWIOFish3 Project is classified as Category B in the World Bank Draft Project Appraisal Document, indicating that moderate and minor negative environmental and social impacts and risks are anticipated.

Table 5.0 identifies the World Bank safeguard policies triggered by the Project and explains why.

Table 5.0
Applicable World Bank Safeguards Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	Yes	<p>Sub-component 3.2: Expansion of the Sea-Food Value Chains includes funding of sub-projects dealing potentially with aquaculture, facilities to process fish and fish byproducts, facilities for cold storage, and service enterprises for cold storage and cold-chain maintenance, vessel services and vessel refitting.</p> <p>All of the above potential sub-projects are small to medium scale. As elaborated in Chapter 6.0, they are likely to generate minor to moderate negative environmental and social impacts and risks that can be prevented and managed with standard mitigation measures.</p> <p>The Environmental and Social Management Framework (ESMF) identifies the likely impacts and risks of the SWIOFish3 Project, which will be overwhelmingly positive, and provides procedures to screen sub-projects, determine the level of environmental and social assessment required for each sub-project based on identified impacts and risks, and oversee the environmental and social performance of sub-projects during implementation.</p>
Natural Habitats OP/BP 4.04	Yes	<p>SWIOFish3 Project activities included in Components 1 and 2 involve capacity building and technical assistance, research, monitoring and control of natural resources and economic activities, improvement of the fisheries statistics system, finalization and approval of marine resources management and co-management plans, and improvement of the regulatory framework for fisheries and protected areas. All these activities will lead to the improved management and protection of marine and coastal ecosystems that serve as habitats for fauna species of commercial and recreational value, as well as species important to overall ecosystem health and functioning.</p> <p>Under Sub-component 3.2: Expansion of the Sea-Food Value Chains, aquaculture sub-projects are potentially eligible for funding. The likely sites for these projects are certain pre-established coastal and marine areas, some of which are natural habitats for aquatic fauna. As stipulated in Seychelles environmental regulatory framework, the ESMF requires the preparation of an Environmental and Social Impact Assessment for each of these sub-projects.</p>
Forests OP/BP 4.36	No	The SWIOFish3 Project will not be implemented in forested areas.
Pest Management OP 4.09	No	The SWIOFish3 Project does not require the use of pesticides.
Physical Cultural Resources OP/BP 4.11	No	<p>There are no comprehensive surveys of shipwrecks in Seychelles (SFA, 2016, p. 97) and a recent study found no records or publications on maritime or terrestrial archaeological work in Seychelles (Ibid).</p> <p>The development of the small and medium scale aquaculture sub-projects likely to receive financing under the SWIOFish3 Project will not disturb the sea floor where shipwrecks might be found.</p>
Indigenous Peoples OP/BP 4.10	No	There are no indigenous peoples settled in the area of implementation of the SWIOFish3 Project.

Safeguard Policies	Triggered?	Explanation
Involuntary Resettlement OP/BP 4.12	Yes	Sub-component 2.1: Fisheries Management Plans and Sub-component 1.1: Expansion of the Medium Biodiversity Areas involve support in developing and implementing fisheries co-management plans and the marine spatial plan, as well as their associated regulatory frameworks. Although these sub-components will lead to the sustainable management of marine resources, in the short to medium term they will affect the livelihoods of fishing- and tourist-related enterprises, communities and individuals that currently have open access to the areas and resources that will be subjected to much stricter protection, management and regulation. In addition, the fleet licensing scheme included in the fisheries co-management plans will result in the decommissioning from service of some fishing and tourism vessels, and the consequent displacement from fishing and tourism activities of affected vessel owners, operators and fishers. Following the guidelines established in OP/BP 4.12, a separate report includes a Process Framework to address the impacts of the restriction of access to marine and coastal areas and resources.
Safety of Dams OP/BP 4.37	No	The SWIOFish3 Project does not involve the construction, rehabilitation or upgrade of dams.
Projects on International Waterways OP/BP 7.50	No	The SWIOFish3 Project will not be implemented on international waterways.
Projects in Disputed Areas OP/BP7.60	No	The SWIOFish3 Project will not be implemented in disputed areas.

6.0 PROCESS FRAMEWORK (PF)

The development of a Process Framework (PF) is necessary “...when Bank-supported projects may cause restrictions in access to natural resources in legally designated parks and protected areas. The purpose of the process framework is to establish a process by which members of potentially affected communities participate in design of project components, determination of measures necessary to achieve resettlement policy objectives, and implementation and monitoring of relevant project activities” (WB, OP 4.12, Annex A - Involuntary Resettlement Instruments, Revised February 2011, Paragraph 26).

This chapter presents the Process Framework for the SWIOFish3 Project. Section 6.1 explains the need to prepare the Framework in the context of the Project. Section 6.2 establishes the requirements for the participatory process associated with the preparation of the detailed PF, and includes guidance and tools to plan and conduct the participatory process. Section 6.3 provides the Grievance Redress Mechanism associated with the PF. Section 6.4 describes the institutional arrangements for implementing the PF. Section 6.5 outlines the timeline and budget considerations for the implementation of the PF.

6.1 Need for Process Framework

The support to the implementation of the Fisheries Co-Management Plans and the Marine Spatial Plan and their associated regulatory frameworks that the SWIOFish3 Project will provide under, respectively, Sub-Component 2.1: Fisheries Management Plans and Sub-Component 1.1: Expansion of the Medium Biodiversity Areas, will limit the open access⁵ that fishers and tourist users currently have to practically all marine areas, with the exception of protected areas. At present, there are virtually no restrictions regarding the species and amount of fish caught, or the seasonality of the capture. For example, some of the management strategies introduced in the *Mahé Plateau Demersal Trap and Line Fishery Co-Management Plan* include the development and implementation of a fishing license framework for fishing and tourism fleets, minimum size limits for key species, recreational bag limits for some key species, a recreational combined bag limit, a maximum number of active traps for licensed vessels for commercial fishing, among others

Access controls could be spatial or temporal, and range in scope from short-term closures of certain locations to fishing, to longer-term or even permanent prohibitions on fishing in certain areas such as marine reserves or marine conservation areas. These restrictions may involve one or multiple species in a particular location. Other fishery conservation measures may include limiting the number of licensed fishers or boats, or prohibiting certain types of fishing gear currently used by fishers.

The additional Fisheries Co-Management Plans for Sea Cucumber and Tuna to be developed with support from Sub-Component 2.1 will also contain strategies that will restrict open access to these fish resources. Likewise, the proposed zoning types for Seychelles’ Exclusive Economic

⁵ Fisheries in the country are open access, meaning that they are “... restricted only in the sense that vessels must be registered in the Seychelles. Other than nationality, the other principal control is a prohibition on spear fishing. There are no controls over effort or catch” (Vivid Economics, 2015a, p. 2).

Zone, as defined in the preliminary zoning design of the marine spatial planning exercise, comprise areas with highly restrictive human uses in the high biodiversity zones and moderate restrictions in the medium biodiversity zones. Further, the SWIOFish3 Project will also support the extension of medium biodiversity areas and the preparation of management plans and corresponding regulations for these areas.

Although the above actions will lead to a sustainable management of marine resources,⁶ in the short to medium term they will affect the livelihoods of fishing- and tourist-related enterprises, communities and individuals that currently use the areas and resources that will be subjected to much stricter protection, management and regulation. In addition, the fleet licensing scheme to be implemented will result in the decommissioning from service of some fishing and tourism vessels, and the consequent displacement from fishing and tourism activities of affected vessel owners, operators and fishers.

The impact of this restriction of access to marine and coastal areas and resources has not been established⁷ requiring, therefore, the development of this Process Framework.

This PF follows the requirements stated in the World Bank Operational Policy on Involuntary Resettlement (OP 4.12), specifically with respect to the Process Framework instrument (i.e., Paragraphs 7, 17, 18 and 31 of OP 4.12, and Paragraphs 26 and 27 of OP 4.12, Annex A - Involuntary Resettlement Instruments. The overall objective of the PF is to avoid, minimize or mitigate potentially adverse effects of access restrictions and ensure Project Affected Persons (PAPs) are meaningfully consulted and enabled to participate in project activities that may affect them. Therefore, a participatory approach is central to the PF process.

While the overall SWIOFish goal is long-term improvement of fisheries resources and fishers' incomes, project activities may lead to some short-term negative impacts on some fishers' communities due to loss of access to resources. Improving fisheries management will likely require policy changes in use of coastal and marine resources, including introducing restrictions on access to fisheries by those who have traditionally made a living through fishing and related activities.

In such cases, World Bank Safeguard Policy OP 4.12 is triggered, because it involves a project restricting people's access to marine resources. OP 4.12's Annex A mandates the development of a Process Framework, which will serve as a guide to help ensure the participation of affected people in the design of project activities and to ensure that affected communities have an

⁶ Annex I of the separate report on the ESMF lists the potential positive environmental and social impacts of the SWIOFish3 Project by Component.

⁷ Preliminary data suggest that this impact would be minor to moderate. For example, it is estimated that the fishing sector, including ancillary activities, generates around 6,000 jobs, both directly and indirectly (SFA, 2012, p. 8; and David J. Welch, D.J. and B., April 2015, p. 9). In addition, "The estimated number of full-time fishers employed in the artisanal demersal fishing sector in 2007 amounted to approximately 1,050 plus an indeterminate number of part-time and recreational fishermen. It has been estimated that full-time demersal fishers represents 62% of total number of fishers in the artisanal fishery sector and account for 73% of total fish landings. The number of persons employed in the land-based artisanal processing sector is approximately 200 (including around 25 part time workers)" (Ibid).

opportunity to improve or restore their incomes and standards of living after loss of access to their traditional livelihoods.

The scope of the PF does not include activities that involve physical resettlement of persons as a result of involuntary land acquisition because they are ineligible for financing under the Project, as established in the Exclusion List of the Environmental and Social Screening Tools Form of the Environmental and Social Management (ESMF) for the Project.

6.1.1 Possible Access Restrictions

Access restrictions are management measures designed to maintain sustainable harvest rates within a specific geographic area that may be imposed by national governments. These measures are typically enforced to deter illegal, unregulated and unreported fishing activities, and avoid exploitation or overfishing of existing fish stocks and valuable export commodities; however, they are inherently challenging to implement given the nature of open access resources. Lack of capacity and understanding of environmental processes, loss of traditional knowledge, poor management and economic incentives that drive overharvesting are prevalent in open access areas and remain as key challenges for effective community-based management (Pacific Islands Regional Oceanscape Program, 2014, pp. 97-98).

Specific types of changes that could occur in the fisheries sector include:

- Loss of access to marine resources in a particular area, i.e. displacement of fishers.
- Change to the quality or quantity of resources a household can access.
- Change in seasonal access to a resource.
- Change in nature of access (i.e. from unregulated to regulated).
- Change in types of assets needed to access resources (e.g. banning certain fishing gear).

6.1.2 Social and Livelihood Impacts

Restricting access on an involuntary basis when an area is under open access rights causes direct and indirect impacts on local communities. Impacts may include the loss of access to areas that support subsistence lifestyles, the loss of access to places with cultural and spiritual value, economic displacement, and/or increased food insecurity. Restricting access to certain areas may also inhibit access to assets or result in a loss of fixed physical assets (Ibid, p. 99).

The adverse social and economic impacts of these restrictions usually affect fishers and fisheries stakeholders disproportionately. For instance, if harvesting of sea cucumber is limited in an area, fishers involved in the harvesting, processing and selling of this resource would be affected, but other types of fishers would not (e.g., finfishers). The gender dimension of fisheries management and marine resource value chain is also important to consider, as women participate in activities that are different from those undertaken by men (e.g., collection, preparation).

Even if the loss experienced during no-fishing/harvesting periods is likely to be offset by improved harvests and greater income over the long term (and supplemented by alternative species in the short/medium-term), the impact must be assessed on the premise that offsets cannot be guaranteed. As such, although the Project is likely to have an overwhelming positive

benefit to communities, the consequences of the proposed restrictions can only be known after appropriate socioeconomic analysis and sufficient consultation with PAPs is undertaken. For this reason, the participation of PAPs in determining livelihoods impacts and appropriate mitigation measures is essential (Ibid, p. 100). Section 7.3 describes the participatory planning process for the Project.

In all of the above cases, there is a potential for current fishers to see a reduction or elimination of their income from fishing activities if such access controls are enacted. Likewise some land-based activities, including processing that depends on these fisheries, and the families of fishers who depend on the fisheries for subsistence income and/or food, may be negatively affected. These effects could be short-lived in the case of temporary or seasonal closures of fisheries, or longer-term if the access controls stretch beyond a year or two, or become permanent. It is possible that creation of new Marine Protected Areas (MPAs), or Marine Conservation Areas (MCAs), or tighter restrictions on fishing in or near existing ones will lead to reduced access to marine resources for some groups or communities of fishers.

A key aspect of OP 4.12 when it is invoked for loss of assets is that there must be participation of the project affected persons in consultations on specific proposed restrictions, impacts likely to occur those stakeholders, and formulation of possible mitigation measures that will work in the local context.

6.2 Participatory Process Requirements⁸

As already indicated, to ensure compliance with the World Bank Operational Policy on Involuntary Resettlement (OP 4.12) with respect to the PF process, the SWIOFish3 Project will implement a participatory approach in relation to activities that may lead to the limitation of access to marine resources. This section provides guidance on a participatory planning process to make certain that all Project Affected Persons (PAPs) and communities are sufficiently consulted on proposed activities and that any negative impacts are avoided or adequately mitigated.

6.2.1 Consultation Plan

The Consultation Plan will be developed by the PIU. The Plan must enable meaningful consultation and must follow the principle of Free, Prior and Informed Consultation (FPIC). Information must be presented in a format accessible to the target audience through culturally appropriate and relevant methods. Consultation sessions must include special outreach efforts tailored to the needs of vulnerable groups such as women, youth, elderly and disabled persons, so that the process is socially inclusive and a range of stakeholder views and perspectives are adequately represented. Consultation methods must be designed in consideration of the different socio-cultural norms that inhibit participation and input into decision making from vulnerable groups and persons. Each activity must be well-documented to ensure that the views of stakeholders are captured and addressed where necessary. In addition, follow-up with communities on the outcome of consultation and participatory activities must be undertaken where it is due (Pacific Islands Regional Oceanscape Program, 2015, p. 105)

⁸ This section relies heavily on the following source: Pacific Islands Regional Oceanscape Program, 2015.

Annex I contains a procedure for structuring a Consultation Plan, comprising a template for preparing the Plan, a format to conduct a stakeholder mapping exercise and a planning tool. The template provides for the identification of stakeholder groups, and methods and timeframes for engagement. Further, the template includes communication methods and responsibilities for engaging with communities and grievance procedures.

In consultation with co-implementing ministries, the PIU will determine the appropriate roles and reporting arrangements for consultation and engagement activities, such as who will prepare and conduct engagement sessions and document engagement activities and collect stakeholder feedback.

6.2.2 Identifying Project Affected Persons

The participation of those who may lose access to particular resources or assets and are consequently adversely impacted upon is critical to the successful implementation of the Project and, therefore, the accurate and early identification of Project Affected Persons (PAPs) is essential.

Although PAPs are generally associated with a specified geographic area or targeted site, the extent to which persons may be impacted will vary depending on the economic activities in which they are typically engaged. The stakeholder mapping exercise to be conducted as part of the Consultation Plan should consider relevant stakeholders across the value chain, such as artisanal fishers, processors, mongers/sellers, etc.

The PIU will develop and maintain a confidential stakeholder register to record the persons that have participated in community consultations and are identified as PAPs.

The criteria for eligibility of affected persons will be as follows:

- Profile of coastal communities.
- Communities and persons most likely to be affected by access controls.
- Selection criteria.

Eligible groups might include:

- Members of a community who are directly affected by new restrictions: because their access to natural resources (i.e. fishing) will be restricted and/or lost. This group would also include vulnerable persons; and
- The wider community: that includes multiple users who access specific areas for shorter periods of time or who have economic links to resources in the area. This includes migratory fisherman who seasonally move down the coast to different regions.

Within these categories, three types of affected persons can be defined for inclusion under the Process framework. These include:

- Affected individuals: These are individuals who suffer a loss of assets or investments, or access to natural or economic resources as a result of the Project. These might include individuals who normally have access to marine resources for fishing that are partially or

completely off limits. These individuals include vulnerable persons, possibly including elderly, youth, women and the disabled.

- **Affected households:** Affected households are those where due to Project-derived access restrictions, one or more individuals are no longer able to access marine resources for their livelihoods, and also includes their relatives or other co-residents who depend on them for part or all of their well-being.
- **Affected local communities:** A community that is affected by implementation of access controls or other loss of access to marine resources as a result of the Project may see changes in its overall socioeconomic standing or its social cultural relationships and cohesion.

Note that the eligibility criteria should specify which groups are eligible for assistance and mitigation measures, not merely groups affected by the project. The criteria may exclude persons or groups from assistance because their activities are clearly illegal, unsustainable and destructive (such as dynamite fishers or wildlife poachers). The criteria may also distinguish between persons utilizing resources opportunistically and persons using resources for their livelihoods, and between groups with customary right and non-residents or immigrants.

While a process to determine eligibility should be guided by the above criteria, it is the affected communities who must be consulted for their views on who is eligible for project assistance to deal with project impacts. In many cases the entire community may be affected, although some members more so than others.

6.2.3 Social Assessment

In order to implement the other steps of the PF process, it is necessary to conduct a social assessment to collect demographic and socioeconomic data on PAPs and affected communities with the purpose of establishing a baseline from which impacts can be measured and improvements can be monitored. The data will include key socioeconomic indicators used for social analysis and monitoring and evaluation purposes.

The assessment should provide more detail of the local context on aspects such as the following, as applicable:

- Socio-cultural aspects of the community.
- Local economy and subsistence activities.
- Level of dependency on marine and coastal resources and current threats.
- Local governance structures, including decision making on natural resources.
- Customary tenure, boundaries, access rights and authoritative powers.
- Areas and/or resources under dispute.

It is essential to educate participating households and communities about the purpose of the social assessment and be transparent about how the information may be used.

Further engagement sessions are required to discuss:

- Grievance resolution procedures in place for the Project (see Section 6.3).
- Options for those who wish to voluntarily opt out of participating in the Project altogether (and will be subsequently excluded from future events and activities).

- Future stages of the Project, including participatory activities.
- Clarify roles and responsibilities moving forward.

Each stakeholder engagement session should be comprehensively documented, specifying agreements reached, and should be included in progress reports throughout the course of consultation.

6.2.4 Participatory Livelihoods Assessment

The PIU in collaboration with co-implementing ministries will facilitate an open dialogue with participating communities about options for access restrictions and collect their feedback on anticipated livelihood impacts. The dialogue may take the form of a large community meeting, focus group discussions or series of targeted sessions to discuss with PAPs a range of options and alternatives for access restrictions in a transparent manner. Each stakeholder engagement session should be comprehensively documented, specifying agreements reached, and should be included in progress reports throughout the course of consultation.

The aim of this assessment is to ascertain, with the participation of PAPs, the extent of economic displacement that may be attributed to Project activities, how particular segments of the community may be affected differently and how adverse livelihood impacts can be avoided or restored. The assessment should provide an indication of the economic value related to proposed access restrictions and, therefore, an estimate of costs worn by PAPs, so the value of specific livelihood activities is captured.

Through this exercise, it is important that the advantages and disadvantages of each option are presented in a format accessible to the target audience and discussed with various groups (e.g., women's groups, village leaders, etc.). For instance, special outreach efforts to include specific segments of the community (e.g., youth, women, disabled, elderly, etc.) are critical and for this reason methods should be detailed in the Consultation Plan for proposed activities. It is imperative that the process allows for the most directly affected and disadvantaged groups to be heard as inequitable participation is a key project risk and safeguard compliance issue. This will enable communities to make well-informed choices about the nature of restrictions and subsequent livelihood impacts before any decisions are made.

The findings of this assessment will inform agreements put in place with communities and PAPs regarding mitigation procedures.

6.2.6 Mitigation Measures and Livelihood Restoration

During the consultation and stakeholder engagement process, specific livelihood mitigation measures will be developed with the full participation of PAPs and communities. As already indicated, this activity may be undertaken through a subcontractor such as an NGO, CBO, university or consulting firm.

The objective of the LRP is to improve or restore the livelihoods of PAPs to pre-displacement levels while maintaining the sustainability of the protected area. The LRP will be based upon

decisions made by PAPs and formal agreements with the PIU. Co-implementing ministries will assist in the set up and management of the LRP.

It is important to consider a comprehensive range of issues that may cause adverse social impacts once specific Project activities are further defined. For example:

- Who will benefit directly from the activities and whether this will be controlled by dominant persons in the community.
- The location of important sites with significant resource and cultural values, such as sacred sites, key water sources and fish stocks.
- Sensitivity of a community belief system and the linkages between the local environment and natural resources and cultural identity.
- Loss of assets or access to assets.
- Elements of the Project that may infringe upon customary rights.
- Elements of the Project that may disrupt social cohesion.
- Elements of the Project that may cause gender inequity issues.
- Time commitments required to participate in activities which may take away from important subsistence tasks.
- Heightened risk of conflict arising in adjacent communities resulting from exclusion from Project activities.
- Perceptions of favoritism between communities leading to conflict.

The above list is not exhaustive and may be further refined in the consultation process.

6.2.7 Participatory Monitoring Arrangements

Monitoring is the systematic gathering and analysis of data to gauge if something is changing and inform decision making. Participatory monitoring is a mechanism that drives learning, adaptation and improvement that typically involves collaboration between scientists, government and local communities in an iterative process. Specifically, communities and PAPs will be involved in the monitoring of the implementation of the LRP once formal agreements are in place.

Monitoring requires the establishment of baseline indicators, done as part of the social assessment exercise mentioned above, with periodic assessment of conditions to assess change. The PIU will be responsible for regular follow-up with PAPs regarding effectiveness of the LRP once activities are underway.

6.3 Grievance Redress Mechanism

The Grievance Redress Mechanism (GRM) outlines a process for resolving community-level grievances raised by PAPs or community members regarding specific activities, the engagement processes, and/or unanticipated social impacts resulting from Project implementation. The PIU will develop a formal and detailed GRM prior to actual execution of the Project, in order to ensure the protection of the rights of PAPs and beneficiaries during Project implementation.

Requirements for the GRM are as follows: (i) the grievance process must not impose any cost to those raising the grievances (i.e., the complainants); (ii) concerns arising from Project implementation must be adequately addressed in a timely manner; and (iii) participation in the grievance process must not preclude pursuit of legal remedies under the laws of Seychelles.

6.3.1 Procedures for Resolving Community-Level Grievances

The GRM process will be managed by a Grievance Committee. The recommended make up of the Committee is as follows: a staff member of the PIU, such as the Project Coordinator or the Environmental and Social Specialist, and the Focal Points that the other ministries responsible for implementing the Project (i.e., MOFA and MEECC) must designate, as established in the institutional and implementation arrangements for Project execution (see Section 2.5, Chapter 2.0). As indicated in Section 2.5, the PIU will be embedded within the MFTEP. None of the members of the Committee should have a conflict of interest involving any complaint lodged. The Committee should have female representation.

PAPs will be informed of the existence of the GRM as soon as it is in place, as well as of the following:

- Who are the members of the GRM Committee.
- How to access the GRM.
- How lodge a formal complaint.
- The timeframes for each stage of the process.
- The following characteristics of the GRM: confidentiality, responsiveness and transparency.
- Alternative avenues of grievance resolution in case of conflicts of interest.

The formal, detailed GRM to be developed by the PIU will contain specific grievance procedures, including both informal (i.e., customary) and formal grievance mechanisms. In general, complaints and disputes should be resolved at the lowest possible level. For example, grievances may be referred first to customary conflict mediation arrangements where appropriate and, if the issue cannot be resolved at this level, it will be raised to the next, and so on. Each grievance should be treated in a confidential manner.

The grievance resolution process comprises four stages: (i) reception; (ii) investigation and inquiry; (iii) response; and (iv) follow up and close out.

The access to the GRM should be easy and quick, in particular to PAPs, who are the people most likely to need it. The formal grievance should be: (i) documented in a written Grievance Form and recorded in a logbook; (ii) assessed on its level of urgency/severity; and (iii) assigned to the appropriate responsible party (i.e., Grievance Committee), which then acknowledges to the complainant the receipt of the grievance and informs that it is under review within seven days. Annex II provides a Grievance Resolution Template.

If the issue is easily resolvable, the responsible party takes action to address the issue directly and record the details for filing onto the Grievance database. If the grievance is a more complex Project-related issue, it will be investigated further, and then formally responded within a two to

three week timeframe or a timeframe that has been agreed with the complainant. If additional time is needed, the complainant will be advised of this.

In general, grievances should be resolved within 30 days. The formal response should communicate the findings of the investigation and resolution, and seek approval from the complainant, who will either accept or appeal the outcome. If the complainant is satisfied with the outcome, then the grievance is closed out and they provide their signature (or fingerprint) on the Grievance Form as confirmation. If an agreement is unable to be reached between the complainant and the PIU, the grievance will be submitted to the lead Project implementation ministry (MFTEP) for review and a final decision. If necessary, further action will be taken to resolve the issue. The national courts are the last avenue for addressing grievances. In case the complaint reaches the judicial system, there should be no cost to the claimant.

A grievance is closed out when no further action can be or needs to be taken. Closure status will be entered into the Grievance database as follows:

- Resolved: resolution of complaint was reached and implemented, and signed documentary evidence exists.
- Unresolved: agreed resolution of complaint was not reached and the case has been authorized for close out by the Grievance Committee.
- Abandoned: complaints in which efforts to contact a given complainant were unsuccessful for two months after receipt of the formal grievance.

6.4 Institutional Arrangements for PF Implementation

The Project Implementation Unit (PIU) will coordinate the execution of the PF. In relation to the PF process, the PIU will be responsible for, among other tasks: (i) preparing formal agreements with Project co-implementing ministries (i.e., Ministry of Agriculture and Fisheries – MAF, and Ministry of Environment, Energy and Climate Change - MEECC) and other relevant parties (e.g., non-governmental organizations, fishers’ associations, etc.), such as memoranda of understanding, for the implementation of specific PF activities; (ii) compiling and maintaining a register of stakeholders; (iii) planning and delivering stakeholder and PAPs consultation sessions; (iv) planning and delivering stakeholder and PAPs information and awareness sessions; (v) managing the Grievance Redress Mechanism; (vi) managing the mitigation and livelihood restoration process; and (vii) managing procurement and contracting processes to subcontract particular PF activities as necessary, such as studies, capacity building and consultation processes, as well as managing the implementation of subcontracts.

An important principle and requirement of any Process Framework is to establish an enabling environment in which PAPs can participate in developing mitigation measures against negative impacts caused by the Project. This includes providing these people with input into:

- Proposed access restrictions,
- assessment of impacts,
- determination of measures to reduce impacts caused by limiting access to fisheries resources, and
- developing monitoring and management plans for new activities funded by the project under the Process Framework.

The PIU may decide to modify the proposed restrictions and/or mitigation measures as a result of community input on how to lessen negative impacts while still achieving resource protection and conservation goals. While this PF will build on the participatory mechanisms of co-management units, additional measures will need to be put in place to ensure that the special concerns of PAPs are addressed.

Table 6.4 details the roles and responsibilities of the different organizations with participation in the implementation of the PF.

Table 6.4
Process Framework Roles and Responsibilities

Level/Type	Organization	Role(s) in Process Framework
National	Ministry of Finance, Trade and Economic Planning; Department of the Blue Economy; Marine Spatial Planning (MSP) Executive Committee	Lead Agencies, overall policy planning, coordination and decision-making for the project through National Steering Committee (NSC).
National	Ministry of Environment, Energy and Climate Change; Ministry of Agriculture and Fisheries; Seychelles Fishing Authority (SFA); Fisheries co-management committees	Overall project implementation responsibilities with support from PIU. Determines where/when access controls will be implemented Supports communications and awareness raising of stakeholders on PF. Engages/manages consultants or NGOs to carry out socioeconomic surveys, participate in consultation process, develop alternative livelihoods programs.
District/marine area/or fishery Local co-management	Area-specific MSP implementation institutions; SFA; coastguard; fisher associations; NGOs	Involved in implementing access controls, MCS, other local fisheries management. Participate in communications and consultations with affected persons and other stakeholders on PF.
Other	NGOs, Fisher Associations, other CSO or CBOs, tertiary educational institutes, consultants	Conduct socioeconomic surveys, facilitate stakeholder communications and consultations, helps identify impacts and mitigation solutions, support implementation of alternative livelihood programs through training and technical assistance.

6.5 Process Framework Timeline and Budget Components

6.5.1 Timeline

- This PF assumes that project-imposed access controls may not occur for initial year(s) of project, pending ramping up of other preparatory activities, such as:
 - Research on fish stocks and coastal and marine ecosystems.
 - Strengthening of governance tools and capacity-building of co-management units and supporting national & local government agencies will be underway.

- General socioeconomic data-gathering may be carried out in some coastal regions likely to be targeted for access controls as part of broader data-gathering effort.
- By year 2 or 3, areas or species targeted for access controls identified, initial local PF processes initiated in target communities.
- PF process will be refined based on experience in initial communities for rollout in other communities as needed due to later rollout of access controls in other locations.

6.5.2 Tentative Budget

This PF emphasizes the importance of successful community engagement and participation to achieve Project objectives. The overall Project budget reflects this priority by including funding to support the ongoing and future participatory processes related to the formulation of the marine spatial planning exercise and the fisheries co-management plans.

Regarding the PF, the PIU will develop the details of the budget for its implementation. Table 6.5.2 includes indicative categories and items for the preparation of this budget, and tentative budget estimates.

Table 6.5.2
Indicative Categories and Items for PF Budget, and Tentative Estimates

Category	Item	Tentative Budget Estimate (US\$)
Project Management and Administration	<ul style="list-style-type: none"> ● Project inception, planning and development ● Induction and training of project team ● Capacity building ● Program monitoring ● Report compilation and project evaluation ● Administering grievance procedures ● Logistics, planning and resourcing ● Stakeholder engagement materials 	20,000
Social Assessment	<ul style="list-style-type: none"> ● Census and socioeconomic survey of PAPs ● Training, transport and logistics ● Information dissemination ● Technical assistance 	30,000
Income/Livelihood Program (PAPs)	<ul style="list-style-type: none"> ● Valuation and inventory of assets and resources ● Cost estimate for income restoration ● Cost estimate for communication development programs ● Cost for relocation of assets, etc. 	100,000

Category	Item	Tentative Budget Estimate (US\$)
	<ul style="list-style-type: none"> • Subsistence replacement (transition) 	
Ongoing Consultation and Engagement	<ul style="list-style-type: none"> • Communication costs (phone, internet) • Community Liaison Officers wages (if applicable) • Capacity building • Reporting, monitoring and evaluation • Administering grievance procedures • Logistics, planning and resourcing • Stakeholder engagement materials 	20,000
Monitoring	<ul style="list-style-type: none"> • Monitoring training • Recording forms and database • Follow up socioeconomic surveys on baseline data (3 and 6 year intervals) 	30,000
Sub-Total		200,000
Contingency	10%	2,000
Total		202,000

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LIST OF ANNEXES

- I Procedure for Developing a Consultation Plan
- II Illustrative Grievance Resolution Template

ANNEX I

Procedure for Developing a Consultation Plan

MINISTRY OF FINANCE, TRADE AND ECONOMIC PLANNING (MFTEP)

**Third South West Indian Ocean Fisheries Governance and Shared Growth Project
(SWIOFish3)
Project Implementation Unit (PIU)**

Template for Consultation Plan

Title or Topic	Subproject / matter being consulted on
Consultation Lead	Name of person managing the consultation
Organization	Name of organization the Consultation Lead represents
Partners / Team	Detail of partnership arrangements and team members assisting with consultation
Project Overview	Overview of the subproject for which the consultation is taking place
Location	Location for consultation activities (for each stakeholder group).
Purpose/objectives/ scope	<p>Why is the consultation being undertaken? What is the policy, plan or strategy you are consulting on/about? What matters need to be decided? Is there an expected / preferred outcome of this consultation?</p> <p>Decide on the level of engagement required: Inform (provide stakeholders with objective information that informs their feedback) Consult (obtain public feedback, alternatives etc.) Engage (work directly with stakeholders to ensure public and private concerns are understood) Participation (involve stakeholders in each aspect of the issue, including developing alternatives, decision-making etc.)</p>
Background	<p>Does information already exist on the matter? Are there any background issues that need to be monitored? Is it part of a larger project or process? What is the current situation? What sensitive or cultural issues should be considered?</p>
Relevant Statutory provision	<p>Describe the specific issue that is governed by the Fisheries Act or Regulations. Are there any non-statutory needs or requirements that also apply to this consultation?</p>
Budget Allocation	Outline budget allocation across key tasks or components
Stakeholder groups	<p>Identification of stakeholders</p> <ul style="list-style-type: none"> <input type="checkbox"/> Commercial <input type="checkbox"/> Tourism interests (recreational fishing) <input type="checkbox"/> Aquaculture <input type="checkbox"/> Fisher Associations <input type="checkbox"/> Women's Association <input type="checkbox"/> Artisanal fishers <input type="checkbox"/> Fishmongers / processors

	<input type="checkbox"/> Indigenous communities <input type="checkbox"/> Conservation interests <input type="checkbox"/> Other group/s (please specify):
Methods	<p>What kind of consultation is most suited to the issue?</p> <ul style="list-style-type: none"> Introductory letter Information sessions Awareness campaign Radio program Social media and websites Public forums and meetings Workshops Advisory committees Surveys Discussion groups <p>Will the engagement technique suit the capacity and language needs of the stakeholders involved?</p>
Information dissemination	<p>What information is being provided to stakeholders to inform their input/feedback? Does the information articulate clearly the purposes, objectives and methods of the consultation process? Is the information written/published in a way that is easily understood? (Layman's terms?) How will you communication with communities? (e.g., nominated Liaison Officer?) How will you ensure the stakeholders have enough time to absorb the information and understand it before providing comment/input/feedback?</p>
Resources and technical assistance	<p>Consider sources of expertise. Resources may be available internally, or from other agencies/partners, or available for purchase. Have you investigated experts from other government agencies? Are there provisions for the purchase of advice/support/research if required? Resource considerations: <ul style="list-style-type: none"> Translation of materials into local vernacular Posters, flyers, radio script, etc Transport requirements, lodging and logistics. </p>
Grievance Management	<p>Consider the grievance procedures for the subproject. Have the consultation team been familiarized with the grievance procedures? Who will record and report grievances? Ensure the consultation team has access to Grievance resolution template and database and/or person in charge of these.</p>
Monitoring, Output and Reporting	<p>How will the consultation process outcomes be documented and do you know if it has been successful? How will the information gained from such consultation be used? How will decisions reached from completed consultation be implemented? How will you inform the stakeholder/public of the outcomes? Who should the consultation report be submitted too?</p>

Stakeholder Mapping Exercise

Representative group/s being consulted	Identification of stakeholders at local, district, state/provincial, national levels includes consideration of: who is affected; who is interested, their level of influence and the appropriate level/method of engagement; how representation across all target groups will be ensured; whether there are any other government agencies that hold an interest in the matter on which consultation is required; whether there are there any stakeholders/groups that are difficult to access (and, if so, how will the consultation process allow for their input/feedback?).
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Source: Adapted from Pacific Islands Regional Oceanscape Program, 2015.

Consultation Plan prepared by:

Signature:

Date: / /

Name:

Position held:

Approved / Not approved

Signature:

Date: / /

Name:

Position held:

ANNEX II

Illustrative Grievance Resolution Template

MINISTRY OF FINANCE, TRADE AND ECONOMIC PLANNING (MFTEP)

**Third South West Indian Ocean Fisheries Governance and Shared Growth Project
(SWIOFish3)
Project Implementation Unit (PIU)**

Illustrative Grievance Resolution Template

Recorded by: _____ **Date:** _____

ID Number: _____

Location: _____

	Name	Representing	Contact Details
Complainant 1			
Complainant 2			
Complainant 3			
Complainant 4			

Nature of Complaint: _____

Resolution Action Plan:

Date	Persons Involved	Activity	Details

Satisfactory outcome? Yes No Why not? _____

Print Name (Complainant): _____

Signed (Complainant): _____ Date: _____

Signed (Officer): _____ Date: _____

Submitted to Manager? No Yes Who? _____

Recorded in database as: ID#__

Source: Pacific Islands Regional Oceanscape Program, 2015.