

United Nations Development Programme
Government of Mauritius
Global Environment Facility

PROJECT DOCUMENT

Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius

Link to UNDP Strategic Plan (2014-2017)

Primary Output: (2.5) Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation.

Secondary Output: Integrating biodiversity and ecosystem management into development planning and production sector activities to safeguard biodiversity and maintain ecosystem services that sustain human wellbeing.

Expected 2013-2016 UNDAF / Country Programme Outcome(s):

(Pillar 3) Achieving environmental sustainability while addressing climate change and ensuring more effective environmental protection and conservation of natural resources

[Project Objective]: To mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into the operations and policies of the tourism and physical development sectors in the Republic of Mauritius through a 'land- and seascape wide' integrated management approach based on the Environmental Sensitive Areas' (ESAs) inventory and assessment.

[Project Outcomes]: (1) Threats to biodiversity and ecosystem function are addressed by ensuring that 27,000 ha marine and coastal Environmentally Sensitive Areas (ESAs) are an integral part of planning and implementation mechanisms relating to coastal development and the tourism sector; (2) Threats to marine and coastal biodiversity are mitigated and fishery resources protected in at least 20,000 ha of seascapes, through the improved management of MPAs and no-take zones; and (3) Erosion control and ecosystem services restoration: erosion and soil loss are reduced in 200 ha of erosion-prone water sheds; and ecosystem services are restored in 100 ha¹ of coastal wetlands.

Implementing Partner: Mauritius Oceanography Institute (MOI) in collaboration with Rodrigues Regional Assembly and national entities in charge of environment, fisheries, tourism, agriculture and physical development.

¹ 100 ha = area of two coastal wetland Ramsar sites (i.e. 48 ha) plus an additional area that might be managed with private owners

Brief Description

Mauritius forms part of the Western Indian Ocean Islands, one of the 25 internationally recognized biodiversity 'hotspots'. The tropical climate, topography and history of isolation, has resulted in the evolution of a diverse biota with a high degree of endemism. Terrestrial biodiversity is forest-dependent. However, much of the extant forest has been lost: land clearance and forest degradation has already impacted more than 90% of Mauritius Island's land surface. Marine biodiversity is in a better condition, but is also threatened. Extensive reef systems surround all of the islands of the archipelago. Rodrigues, in particular, harbours a large reef expanse, three times the size of the island.

Most of the useable land on the island of Mauritius has been put to production use. In spite of the extensive degradation and transformation that has occurred in many areas, coastal ecosystems and adjacent landscapes still maintain their basic ecological functions. The coastal strip provides prime land for habitation, recreation and tourism, while seascapes provide the basis of food provision through fisheries and also the country's main touristic attraction—beaches, nautical sports and related activities. Lagoon habitats are especially important in this regard. They contribute to the overall productivity of coastal waters by supporting a variety of habitats, including salt marshes, seagrasses, and mangroves.

The objective of the project is to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management (CZM) and into the operations and policies of the tourism and physical development sectors in the Republic of Mauritius through a 'land- and seascape wide' integrated management approach based on the Environmental Sensitive Areas' (ESAs) inventory and assessment. More specifically, the project will achieve this through a three-pronged approach: (1) support the incorporation of ESA recommendations into policies and enforceable regulations pertaining to integrated coastal zone management (ICZM), thereby mitigating threats to biodiversity and ecosystem functions and resilience with a special focus on tourism and physical development in the coastal zone; (2) support the effective management of marine protected areas (MPAs) across the RM, given that they contain an important proportion of critically sensitive ESAs; and (3) demonstrate mechanisms to arrest land degradation in sensitive locations, focusing on reducing coastal erosion and sedimentation and helping to restore ecosystem functions in key wetland areas.

Programme Period:	2015 – 2020
Atlas Business Unit:	MUS10
Atlas Award #:	00090446
Atlas Output Project #:	00096201
PIMS # (UNDP-GEF):	4843
Start date:	Upon Signature
End Date:	+ 5 years
Mgt Arrangements:	NIM
LPAC date:	17.08.2015

Total resources required (total project funds) [A + B + C + D]	\$21,803,698
[A] Total resources allocated to this award (UNDP managed funds)	\$4,664,521
- GEF	\$4,664,521
[B] Resources allocated by Gov. in the State's budget, including RRA:	\$9,392,208
[C] UNDP managed funds allocated to other awards:	\$70,000
[D] Other (partner managed resources):	\$7,676,969
- Private Sector	\$420,000
- NGOs	\$7,256,969

Agreed by (Government): Mr. D. D. Manraj, GOSK, Financial Secretary, Ministry of Finance and Economic Development, GEF Operational Focal Point

Date

Agreed by (Implementing Partner): Mr. R. H. Prayag, Chairman, Mauritius Oceanography Institute

Date

8/6/2016

Agreed by (UNDP): Mr. S. E. Springett, UNDP Resident Representative

Date

22/6/2016

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Acronyms

AFB	Adaptation Fund Board
AFRC	Albion Fisheries Research Centre
AHC	Association des Hôtels de Charme
AHRIM	Association des Hôteliers et Restaurateurs de l'île Maurice / Hotels and Restaurants Association
APR	Annual Project Report
ARR	Annual Review Report
ASCLME	Agulhas and Somali Current Large Marine Ecosystems
AWP	Annual Work Plan
BMP	Balaclava Marine Park
BBMP	Blue Bay Marine Park
BRGNP	Black River Gorges National Park
CBD	Convention on Biological Diversity
CBO	Community-Based Organization
CCIC	Climate Change Information Centre
CDR	Combined Delivery Report
CITES	Convention on International Trade on Endangered Species
COI	Commission de L'Océan Indien (Indian Ocean Commission)
CSR	Corporate Social Responsibility
CTA	Chief Technical Adviser
CZM	Coastal Zone Management
EBSA	Ecologically or Biologically Significant Marine Area
EIA	Environmental Impact Assessment
EIS	Environmental Information System
EPA	Environment Protection Act
EPMU	Economic Planning & Monitoring Unit
ESA	Environmentally Sensitive Area
FAD	Fish Aggregating Devices
FFEM	Fonds Français pour l'Environnement Mondial
FLIS	Forest Land Information System
FPS	Fisheries Protection Service
FS	Forestry Service
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GPS	Global Positioning System
HDI	Human Development Index
HRBA	Human Rights Based Approach
ICZM	Integrated Coastal Zone Management
IFS	Investment Framework Strategy
IP	Implementing Partner
IR	(Project) Inception Report
IRS	Integrated Resort Scheme
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
LAVIMS	Land Administration Valuation Information Management Study
M&E	Monitoring and evaluation
MCD	Marine Conservation Division
METT	Management Effectiveness Tracking Tool

MID	Maurice Ile Durable
MMCS	Mauritius Marine Conservation Society
MOAFS	Ministry of Agro-Industry & Food Security
MOEMRFSOI	Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Island
MOESDDBM	Ministry of Environment, Sustainable Development, Disaster & Beach Management
MOFED	Ministry of Finance & Economic Development
MGECDFW	Ministry of Gender Equality, Child Development and Family Welfare
MOHL	Ministry of Housing and Lands
MOLG	Ministry of Local Government
MOI	Mauritius Oceanography Institute
MOTEC	Ministry of Tourism and External Communications
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MQA	Mauritius Qualifications Authority
MSB	Mauritius Standards Bureau
MTPA	Mauritius Tourism Promotion Authority
MUR	Mauritian Rupees
MWF	Mauritian Wildlife Foundation
NBSAP	National Biodiversity Strategy and Action Plan
NCG	National Coast Guard
NDS	National Development Strategy
NEF	National Empowerment Fund
NEP	National Environment Policy
NES	National Environment Strategy
NEX	National Execution
NGO	Non-Government Organization
NGPF	National Gender Policy Framework
NPCS	National Parks and Conservation Services
NPD	National Project Director
NSDI	National Spatial Data Infrastructure
OPS	Outline Planning Scheme
PA	Protected Area
PAN	Protected Area Network
PBB	Performance-Based Budgeting
PIF	Project Identification Form
PIR	Project Implementation Review
PM	Project Manager
PMO	Prime Minister's Office
PMU	Project Management Unit
PPG	Project Preparation Grant
PPR	Project Progress Report
PSC	Project Steering Committee
QPR	Quarterly Progress Report
RCU	(UNDP-GEF) Regional Coordinating Unit
R & D	Research & Development
RDI	Relative Development Index
ReCoMap	Regional Programme for the Sustainable Management of the Coastal Zones of the Countries of the Indian Ocean
RES	Real Estate Schemes
RM	Republic of Mauritius
RRA	Rodrigues Regional Assembly
SBAA	Standard Basic Assistance Agreement

SEMPA	South East Marine Protected Area
SIDS	Small Island Developing State
SGP	(UNDP-GEF) Small Grants Programme
SLM	Sustainable Land Management
SMEDA	Small and Medium Enterprise Development Authority
TA	Tourism Authority
TCPA	Town and Country Planning Act
TDP	Tourism Development Plan
TOR	Terms of Reference
UOM	University of Mauritius
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNDP-CO	UNDP Country Office
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
VCA	Village Council Area
VMCA	Voluntary Marine Conservation Area
WHS	World Heritage Site
WIO	Western Indian Ocean

1 Situation Analysis

1.1 Introduction

1. The Republic of Mauritius (RM) is a small island state with a total land surface of 2,040 km², encompassing the main island of Mauritius (1,865 km²), and Rodrigues (109 km²), both of which are covered by the project, and the outer islands which are not addressed by the project.

2. Cumulative economic growth over recent decades has seen the RM graduate from a Low Income to an Upper Middle Income country with a gross national income per capita of USD9,500.¹ It is currently aiming to achieve High-Income status by 2020.

3. In 2013, the RM ranked 18th globally in terms of population density², with 644 inhabitants per km². Some 97% of its 1.3 million inhabitants live on Mauritius Island³ and a large proportion of the population is based on the comparatively short coastline of 300 km. The high population density is increased by the tourism industry, with over 1 million visitors now visiting each year. The population of Rodrigues is just under 41,504⁴ with a much lower density of 399/km², although this is still high in global terms.

4. The coastal zone and inshore waters of the RM are of vital importance for socio-economic development, protecting the island from the natural forces of the ocean, providing income through tourism and fisheries, and as the focus of many leisure and other activities. Intense pressure from sea and land based activities threatens to prevent the full socio-economic potential of the country from being realised, and the government's long term goal of creating a sustainable ocean economy from being achieved.⁵

5. The project aims to conserve and sustainably manage coastal and marine biodiversity in the RM, using the proxy of Environmentally Sensitive Areas (ESAs) identified through the study commissioned by the government of Mauritius in 2008 and completed in 2009. ESAs are defined as areas that are rich in biodiversity and that provide essential ecosystem services, but that suffer from growing anthropogenic pressures. The 2009 ESA Study classified ESAs according to 14 different 'Types' grouped under five 'ESA Systems': 1) Wetlands; 2) Shore; 3) Offshore; 4) Forests; and 5) Stable Supply (of Water). Over 1,300 ESA locations in total have been identified, mapped and assessed in Mauritius and Rodrigues.

6. The six main coastal and marine ESA types that are the focus of the project are: coastal wetlands, sand beaches and dunes, coral reefs, seagrass and algal beds, mangroves, and intertidal mud flats. They cover 39,395 ha and include sites that are high in biodiversity values and important for the generation of ecosystem services (e.g. shoreline maintenance, storm protection, fishery production, tourism and leisure, soil formation and retention, water provision and flood control). In spite of the time elapsed since the conclusion of the ESA Study, most of its recommendations with respect to coastal and marine ESA types are yet to be implemented. Key habitats along the coast and in near shore waters of the RM face high anthropogenic pressures, but remain largely unprotected and are not being sustainably managed.

7. The protection of forest and other important terrestrial ESAs is being addressed through the project on the expansion of Mauritius' terrestrial Protected Area Network (the "PAN" project), co-

¹ http://data.worldbank.org/about/country-and-lending-groups#Sub_Saharan_Africa, accessed 2 May 2015

² <http://statsmauritius.gov.mu/English/StatsbySubj/Pages/Populationjanjun13.aspx>

³ Ibid.

⁴ Statistics Mauritius (2014). Digest of Statistics on Rodrigues 2013

⁵ 2013. The Ocean Economy – Road Map for Mauritius. Government of Mauritius

supported by a UNDP-GEF Project. This marine and coastal biodiversity project will address the threats to biodiversity in Coastal Wetlands, Shore and Offshore ESAs through a three-pronged approach:

- It will support the incorporation of ESA recommendations into policies and enforceable regulations pertaining to integrated coastal zone management (ICZM). With a special focus on tourism and physical development in the coastal zone, threats to biodiversity and ecosystem functions and resilience will thereby be mitigated.
- It will support the effective management of marine protected areas (MPAs) across the RM, given that they contain an important proportion of critically sensitive ESAs.
- It will demonstrate mechanisms to arrest land degradation in sensitive locations, focusing on reducing coastal erosion and sedimentation and helping to restore ecosystem functions in key wetland areas.

8. As a result of the project, throughout the RM, biodiversity within coral reefs, seagrass beds, mangroves, inter-tidal mudflats, sand beaches and dunes, and coastal wetlands will be better protected and managed in a more sustainable manner. In addition, biodiversity within adjacent and closely related ESAs will indirectly receive greater protection.

1.2 Context and problem being addressed

1.2.1 Biodiversity and ecosystem context

9. The Republic of Mauritius (RM) forms part of the Mascarene Archipelago, along with Reunion Island (France). These islands share a common geological origin in the volcanism of the Réunion hotspot beneath the Mascarene Plateau and form a distinct ecoregion with a unique flora and fauna, sharing many similarities in terms of their biodiversity; the tropical climate, topography and several millions of years of isolation.

10. Marine diversity is very high with about 1700 species in 290 families having been recorded with some 290 marine families and over 1650 species known from inshore waters. The database at the Mauritius Oceanography Institute (MOI) lists all known marine species (including synonyms and invalid names) for the different groups per island/atoll. In many cases records are old and do not specify the locality of collection. There have been a number of overviews of the coastal and marine biodiversity of RM including those for the NBSAP⁶, the Agulhas and Somali Current Large Marine Ecosystems (ASCLME) project⁷ and other reviews⁸. The information given in these may not be entirely consistent, but [Study #1 in Annex 5](#) provides an overview of diversity in the main taxonomic groups and ecosystems, using these and other references. An indication of the importance of coastal and marine biodiversity in the RM is the fact that Blue Bay on Mauritius has been designated as an Ecologically or Biologically Significant Marine Area (EBSA) as required by the CBD⁹ since it meets six of the seven criteria that have been defined for EBSAs. Furthermore, part of the marine area around the northern islets is considered an Important Bird Area on account of its role in providing a foraging area for significant populations of seabirds.¹⁰

⁶ Ministry of Agro-Industry and Food Security (2015). Fifth National Report on the Convention on Biological Diversity – Republic of Mauritius

⁷ Marine Environment Diagnostic Analysis 2012. Report for the ASCLME project

⁸ Florens, V. (2014). Republic of Mauritius Synthesis Report. Ecosystem Profile. Hotspot of Madagascar and Indian Ocean Islands. Critical Ecosystem Partnership Fund. Preliminary Version.

⁹ See <https://www.cbd.int/ebsa/about> and http://www.unep.org/NairobiConvention/docs/Summary_Report_for_EBSAs.pdf

¹⁰ Birdlife International 2015. Status of birds in the Marine and Coastal Environment of the Nairobi Convention area: Regional Synthesis Report

11. Addressing the conservation and management of marine and coastal biodiversity at species level in the RM would be very complex given the high diversity and so this project will use ecosystems as a proxy. Environmentally Sensitive Areas (ESAs) are ecosystems that were defined in the RM through the spatially-based study commissioned by the then Ministry of Environment and Sustainable Development and National Development Unit in 2008¹¹. Used in a number of countries (e.g. Europe, Canada) as a planning tool for environmental management, ESAs are sites that have, or that with remedial action could potentially have, special environmental attributes worthy of retention or maintenance. They may thus be habitats for rare and endangered species, remnant vegetation with diverse or unique biological communities, and sensitive terrestrial and aquatic ecosystems.

12. In the case of the RM, an ESA was defined as an area that is rich in biodiversity and that provides essential ecosystem services, but that suffers from growing anthropogenic pressures. The ESA project resulted in a geo-referenced database including over 1,300 ESA locations that have been identified, mapped and assessed, as well as a draft policy, legal and management framework to support their protection and management (see [Section 1.2.5](#)). The ESAs are classified according to 14 different 'ESA Types' grouped under five 'ESA Systems':

- 1) Wetlands;
- 2) Shore;
- 3) Offshore;
- 4) Forests; and
- 5) Stable Supply (of Water).

13. This new project addresses primarily six coastal and marine ESA types (Table 1): seagrass and algal beds, coral reefs, sand beaches and dunes, intertidal mud flats, coastal wetlands, and mangroves. The total area of these ecosystems is just under 40,000 ha, of which about two-thirds are in Rodrigues and one third in Mauritius.

Table 1: Ecosystems to be addressed by the project – area in hectares

ESA Type	ESA system	Mauritius	Rodrigues	TOTAL
Seagrass and Algal Beds (ESA type 3.a)	Offshore	3,279	17,765	21,044
Coral Reefs (ESA type 3.b)	Offshore	6,306	7,005	13,311
Sand Beach and Dunes (ESA type 2.a)	Shore	2,885	80 ¹²	2,965
Inter-tidal Mudflats (ESA type 1.f)	Wetlands	919	656	1,575
Coastal wetlands ¹³ (ESA type 1.a)	Wetlands	406	0	406
Mangroves (ESA type 1.e)	Wetlands	145	24	169
TOTAL Ecosystem area to be addressed by the project		13,940	25,530	39,470

N.B. The figures for total area are approximate and vary in accuracy between ESA types depending on the extent to which there has been ground-truthing and updating of the database.

14. The project will indirectly address four of the remaining eight ESA types as follows:

- Islets (ESA type 1.f, Offshore System) – total area 1,450 ha. This ESA will be addressed through interventions relating to improving integrated coastal zone management (ICZM) and through improved management of the surrounding water. The indirect impact on Islets ESA type is proposed because this project addresses issues of coastal and marine biodiversity, while the PAN project is addressing issues of terrestrial biodiversity and, strictly speaking, islets designated as protected are considered part of the terrestrial protected area sub-system.

¹¹ NWFS Consultancy 2009. Environmentally Sensitive Areas: Classification Report

¹² In the ESA study, area of sand beach and dune is given as 8 ha, but this is thought to be an error as the actual area is closer to 80 ha.

¹³ This ESA type is also often referred to by the term "coastal marshland"

- Rivers and streams (ESA type 1.d, Wetlands System) – this ESA type will be addressed where activities in the coastal zone impact on estuaries (i.e. through interventions relating to improving ICZM), as the estuaries of many rivers are critically important conservation areas and sites of key marine and coastal biodiversity; the ICZM planning that is undertaken will also positively impact on this ESA type further inland, as threats such as pollution and sedimentation will need to be addressed.
- Forests (ESA types 4a and 4b, Forest System) – coastal forest will be addressed in ICZM interventions, but Forest ESAs are being directly addressed through the PAN project.
- Steep slopes (ESA type 5b, Stable Supply System) – a large area of the RM is covered by steep slopes ESAs. Activities on steep slopes are responsible for many negative impacts on marine and coastal biodiversity (notably sedimentation and pollution); the project does not have the resources to address all steep slopes directly in the RM but interventions relating to improving ICZM will address this ESA. Furthermore, the demonstration project on Rodrigues under Component 3 will have direct relevance to this ESA type.

15. Seagrass and algal beds make up just over 50% of the total ESAs to be addressed; coral reefs account for just over 30%, and the other ESA types cover much smaller areas, notably coastal wetlands (total of 406 ha only) and mangroves (169 ha only). In Mauritius, coral reefs are of greatest importance (about 42% of total coastal and marine ecosystem coverage), followed by seagrass and algal beds (22%) and sand beach and dunes (19%). In Rodrigues, seagrass and algal beds are the principle ESA as a result of the large lagoon (almost 70%), followed by coral reefs (27%); here there is very little sand beach/dune ecosystem type and no coastal wetland.

16. Three management categories have been defined for the ESAs and provide the basis for developing appropriate management approaches. The proposed generic policy approach for Category 1 ESAs (for which the primary management objective is conservation, and rehabilitation if required¹⁴) is that they should be protected intact; all development *in or on* the ESA should be prohibited, as well as development *outside* the ESA that will adversely affect the ESA, unless mitigation measures that will prevent such adverse effects on the ESA can be implemented. In the case of coral reefs, mud flat and sea grass beds this policy also applies to category 2 ESAs, and for mangroves to all three categories. The presence of a coral reef, seagrass bed, mangrove area and intertidal mud flat within a Marine Park means that they are by definition Category 1. Thus protected areas will be a key mechanism for protection and management of the biodiversity that makes up these ecosystems.

17. [Study #1 in Annex 5](#) provides a more detailed description of the marine and coastal ESA types. The Maps ([Annex 4](#)) show the distribution of each ESA type by District on Mauritius and for Rodrigues.

1.2.2 Economic and Sectoral Context

18. The RM is a stable democracy and, since its independence in 1968, successive governments have pursued a liberal and open economic policy, focusing on economic growth and employment, while maintaining a broad-based social welfare system. This has led to a resilient economy with high growth and a somewhat diversified economic structure.

19. The economy of the RM has diversified considerably since independence. By the 1990s, an export-oriented policy was being pursued with sugar cane production and textiles constituting the main sectors of the economy. Following accession to the World Trade Organisation in 1995 and the anticipated ending of trade preferences for sugar and textiles, economic reform strategies were developed based on gains in

¹⁴ ESA Policy paper

agricultural efficiency, tourism, industrial production and development of financial and value-added services. As a result, the sugar and textile sectors were restructured, an offshore financial sector was established, the telecommunications system was strengthened and liberalized, new incentive schemes were offered to develop an information, communication and technology (ICT) industry, a Cyber Park was established, port facilities were modernized, a Freeport was set up and the exploitation of the maritime area and Exclusive Economic Zone (EEZ) encouraged.

20. As outlined in the Mauritius Government Programme 2015-2019¹⁵, there is now a commitment to making the “ocean economy”¹⁶ a key industry to sustain economic diversification, job creation and wealth generation. This reflects the identification by the Small Islands Development States (SIDS) of the “blue economy” as a tool for sustainable development, and the adoption of this concept by the African Union¹⁷ as a major component of the African continent’s development blue-print for the next 50 years. Along with other countries in the region such as Seychelles and South Africa, the RM considers that marine-based economic activities such as fisheries, marine transport and potentially offshore mineral exploration are crucial to growth.

21. At present, the principal sectors in the RM are: manufacturing (16.5%), wholesale & retail trade (12.5%), financial and insurance activities (10.3%), public administration and defence/compulsory social security (6.6%), accommodation and food service activities, including tourism (6.3%), transportation and storage (5.8%) and real estate activities (5.5%). Descriptions of the sectors of particular relevance to marine and coastal biodiversity are given below in relation to the RM as a whole. A description of the economy of Rodrigues, which is very different from that of the main island, is given separately.

Tourism

22. The emphasis on tourism started as early as the 1970s as part of efforts to reduce dependence on sugar exports. Fiscal incentives were introduced which led to a rapid growth in hotel numbers and capacity and increased tourist arrivals, which have doubled since 1996 and reached over one million in 2014 (see Figure 1). Repeatedly recognised as a “top island destination”, the country has a very high rate of returning visitors. Key attractions are beaches and water sports, including activities such as kite surfing, diving and snorkelling, and dolphin and whale watching, but equally the scenic environment, the climate and the high quality of service. Sport fishing is a major attraction with a total annual catch of around 400 tonnes, consisting of bill fish, tuna and shark.¹⁸

23. Tourism now contributes around 11% of total GDP (total revenue from the sector represents more than 30% of foreign earnings¹⁹), and tourism gross earnings have increased over the last decade to reach USD 1,595 million in 2013²⁰.

The industry is concentrated along the coastline in both Mauritius and Rodrigues. In Mauritius, of the total 115 hotels in 2015, over 90% are on the coast with the greatest concentration in the coastal Districts of Pamplemousses, Flacq, Black River and Riviere du Rempart (see Table 2).

24. Most tourism expenditure is captured by large hotels, rather than smaller business. Thus, although tourism may bring short-term economic benefits to poor parts of society, whether it makes a long-term, sustainable contribution to poverty reduction can be questioned.²¹

¹⁵ <http://www.lexpress.mu/sites/lexpress/files/attachments/article/2015/2015-01/2015-01-27/govprog2015.pdf>

¹⁶ Prime Minister’s Office 2013. The Ocean Economy – A Road map for Mauritius. Government of Mauritius

¹⁷ 22nd Ordinary Session of the African Union, Addis Ababa, 2014. <http://www.afdb.org/en/annual-meetings-2014/programme/maximizing-africa%E2%80%99s-blue-economies/>

¹⁸ Landell and Mills 2010. Development of an Integrated Coastal Zone Management Framework (ICZM) for the Republic of Mauritius

¹⁹ WB Data.

²⁰ I.e. almost \$1.6 billion. WB Indicators. <http://data.worldbank.org/indicator/ST.INT.RCPT.CD>

²¹ One advocate of why it does not is: Sharpley, Richard and Naidoo, Perunjodi (2010) *Tourism and Poverty Reduction: The Case of Mauritius*. Tourism and Hospitality Planning & Development, 7(2), pp. 145-162

Figure 1. Tourist arrivals (1996-2014) (Statistics Mauritius)

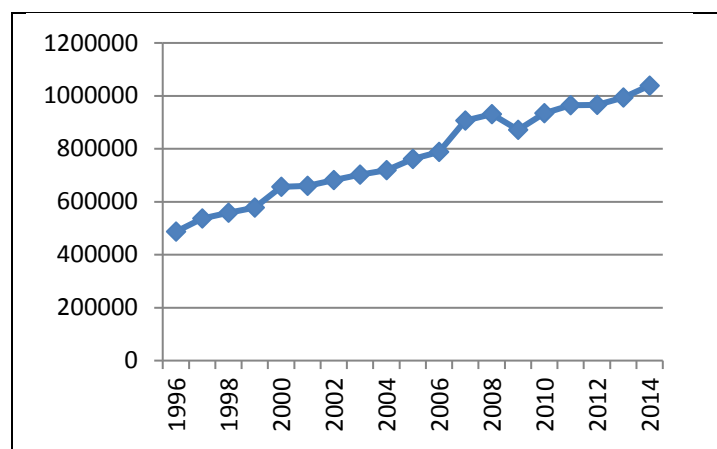


Table 2: Number of hotels in Mauritius by District, 2015²²

Districts	Number
Pamplemousses	27
Flacq	23
Black River	22
Riviere du Rempart	20
Savanne	6
Plaine Wilhems – not coastal	6
Grand Port	5
Port Louis	5
Moka – not coastal	1
Total	115

25. In addition to earnings generated, the tourism industry contributes to the Government Treasury through various taxes and levies, including passenger fees on air tickets, tourist enterprise licences, the Environment Protection Fee, VAT and a corporate fee paid by the accommodation sector. The total amount raised in 2014 reached MURs 1.245 billion, the bulk being VAT paid by hotels and restaurants. Fiscal incentives to encourage the growth of the tourism industry include payment of the Environmental Protection Fee by operations that are profitable only; the establishment of a Hotel Reconstruction Scheme to relieve hotels from paying high leasing fees; and the possibility for hotels to sell back or lease their rooms and villas to foreigners.

Fisheries and Mariculture

26. The fisheries sector, while contributing only MURs 423.3 million (an estimated 0.12% of the RM's GDP in 2013), is an important sector for the RM from both a trade and social viewpoint, and through its interaction with the tourist industry in terms of sport fishing and food. While total local production is small, the RM's fish processing and export sector dominates seafood activities as a result of the Seafood

²² Ministry of Tourism and External Communications

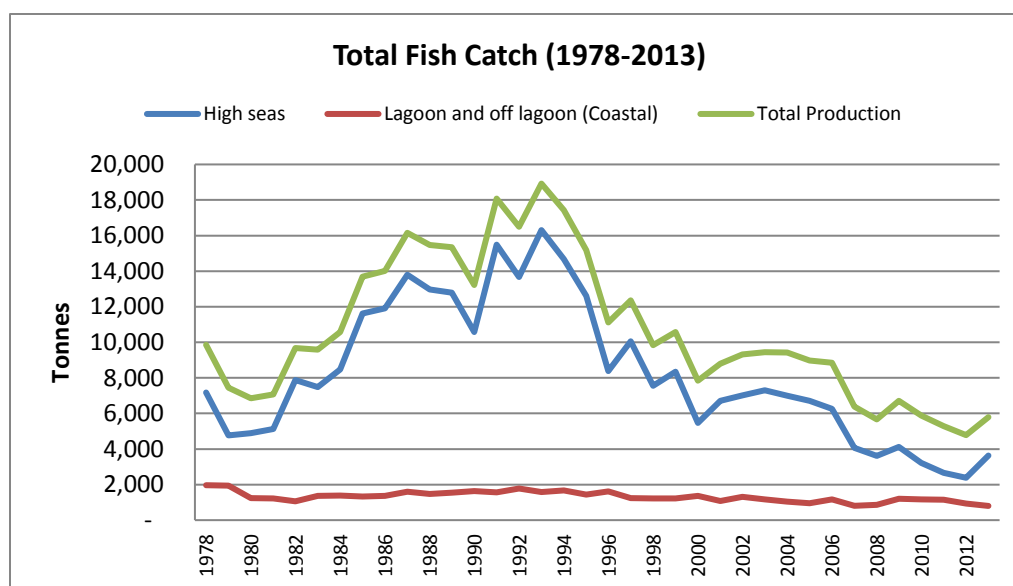
Hub in Port Louis. In 2009, the businesses that comprise the Seafood Hub had a turnover of approximately USD283 million.²³ In Rodrigues, the sector contributes an even greater share to the economy and is the largest employer (see figure below).

27. Net fisheries exports (exports minus imports) were worth MURs 2,741.5 million in 2013. Annual fish consumption in Mauritius is high at 23 kg per capita (and is higher in Rodrigues) and this results in an annual domestic market requirement of approximately 29,400 tonnes. This market demand significantly exceeds the RM's average domestic production, resulting in the RM being a net importer of fish for the domestic market; in order to supply this with reasonably priced fish, a variety of price controls are in place.²⁴

28. Over 60% of total fisheries production is from the high seas and is oriented towards the export market, including processed/canned tuna (95%), frozen fish and salted/dried/smoked fish. High seas fisheries production rose to a peak of 16,307 tonnes in 1993, and has declined since (production was 2,383 tonnes in 2013) (Figure 2). Inshore or coastal fishing comprises “lagoon and off lagoon fishing” (which is essentially the commercial artisanal sector), sport fishing and amateur fishing. Since 1978, lagoon and off lagoon fishery production has fluctuated between 800-1900 tonnes a year.

29. The inshore fishery resources of the RM are not abundant. Many species are considered to be heavily exploited and there are some indications of decline in production in Figure 2. Lagoon fisheries produce about USD4 million Gross Value of Product (GVP) annually with near zero net contribution to GDP because of the open access nature of this modality of fishery. Off-lagoon fisheries, which are based mainly on Fish Aggregating Devices (FADs) and which the RM has been attempting to develop to take pressure off the lagoon fisheries, produce about USD0.75 million GVP per annum²⁵. Non-commercial sport and amateur fishing lack precise statistics by the Fisheries Department but there are estimations: sport fishing has been estimated at 650 tonnes annually since 1989 (400 tonnes annually 1978-1988) and amateur fishing at 300 tonnes annually since 1978.

Figure 2: Fisheries production 1978-2013



Source: Statistics from Fisheries Department

²³ Fisheries Master Plan 2011

²⁴ Fisheries Master Plan 2011

²⁵ Fisheries Master Plan 2011

30. The fishing sector employs some 700 people in large establishments (600 men and 100 women), while smaller operations employ some 4,300 people (2900 men and 1400 women). Despite its small size, the artisanal fishery is considered to provide a substantial proportion of the income to communities in coastal areas. In addition, the organization of fishing at the community level provides an important focus for promoting social cohesion, particularly in Rodrigues. However, artisanal fishers, who mainly fish in the lagoon are among the poorest sector of the economy of the RM with average earnings from fishing being around MUR 2,760 per month.²⁶ This is significantly less than the average income for the RM as a whole (which was USD 7,804 per annum in 2010 or USDUS 650 per month). Average earnings from artisanal fisheries is also below the minimum monthly income threshold for absolute poverty of MURs 6,200 per month per household for Mauritius Island and MURs 5,500 for Rodrigues. Not surprisingly, the number of active fishers is declining (from 2,256 in 2004 to 1,983 in 2013; those engaged in basket traps declined from 445 in 2004 to 292 in 2013²⁷). Few in this sector are full-time fishermen.

31. Fish production from ponds and *barachois* has ranged between 238-563 tonnes over the last 10 years. The 2007 Aquaculture Master Plan set annual production targets of 29,000 tonnes in the medium term and 39,000 tonnes in the long term²⁸ and under the Business Facilitation Act investors are encouraged to set-up high-value farmed fish with an eco-organic branding. However, there are as yet a very limited number of fish farming operations, mainly on the east coast of Mauritius, such as the *barachois* specialising in oyster farming (e.g. Bambou Virieux) and the Ferme Marine de Mahebourg which produces goldlined sea bream, red drum and cobia in floating cages.

32. Several problems relate to marine and coastal biodiversity in the fisheries sector²⁹ notably over-exploitation of resources in the lagoon fishery, use of destructive fishing techniques (e.g. fish poisons), coastal development and environmental degradation. This leads to limited catch rates and may undermine stocks. User conflicts with recreational/amateur fishers and the marine aquaculture sector have also been observed. Mariculture faces similar constraints with the addition of theft and vandalism, damage from cyclones and poor access to the coast.

Ports

33. Port Louis, the second largest container-handling facility in the Indian Ocean, is the main commercial port for the RM, with Port Mathurin on Rodrigues handling services between Rodrigues and Mauritius. Port Louis plays a significant role in the economy, handling 99% of the imports and exports, and with some 3,650 vessels using the port in 2013. Imports through the port in 2013³⁰ totalled 5.68 million tonnes and exports totalled 1.08 million tonnes. Cruise vessels also use the port. The harbour is managed by the Mauritius Ports Authority which registered total revenue of MURs 1.27 billion in 2013.

34. Port Louis harbour and its neighbourhood are being modernised to increase the capacity of vessels, processing facilities and storage, and distribution and export of value added seafood products, as cargoes can be unpacked, stored and re-exported without passing through customs. In the 2015 National Budget, Government announced a plan to transform Port Louis Harbour into a Regional Hub with expansion of activities related to the container terminal, bunkering, seafood, transshipment, cruise, petroleum, and a marina under a new Master Plan to cover the area from Grand River North West to Baie du Tombeau.

²⁶ Fisheries Master Plan 2011

²⁷ Statistics from fisheries department

²⁸ www.gov.mu/portal/site/fisheries

²⁹ Marine Environment Diagnostic Analysis 2012. Report for the ASCLME project

³⁰ Annual Report 2013, Mauritius Ports Authority www.mauport.com/downloads/annualreport/annualreport2013.pdf

Other sectors

35. Although playing a predominant role in the economy of the RM until the 1980s, agriculture now contributes to only about 3% of GDP, of which sugar cane accounts for about a third³¹, all of which is on Mauritius. As a result of the end of the European protocol that guaranteed sugar export quotas, sugar prices have dropped by 40% and the focus of the industry has moved to electricity generation (from cane), and production of special sugars for export. Areas released from sugar cane plantations are being used for other crops or changed to use as built-up areas and for property development. Cultivation of fresh vegetables has expanded and has been modernized to some extent with hydroponics and organic farming.

36. The textile and clothing industry at its peak in the 1990s generated 12% of GDP, 65% of export earnings (USD 1.1 billion) and employed nearly 80,000 people.³² However, the sector was hit by the end of the Multi-Fibre Agreement (MFA) in 2005, which guaranteed preferential markets and resulted in large-scale job losses, particularly affecting poorer women.³³ This sector is located in the industrial zones in Mauritius, many of which are inland, and thus has limited impact on coastal areas, apart from possible pollution although the industry is required to comply with water effluent guidelines.

37. In recent years, real estate and information and communication technology, particularly business process outsourcing have emerged as important business sectors, and in 2011 were responsible for around 10% of the GDP³⁴. Urban and residential developments are expanding rapidly throughout the coastal zone. Many of the IRS (Integrated Resort Scheme) and RES (Real Estate Scheme) programmes, introduced in 2002 and 2008 respectively, as part of diversification and to attract foreign direct investment, are on or adjacent to the coast. The wider impact of these two schemes is yet to be assessed in terms of employment, property, multiplier effect on local services but also the ecological impact on Mauritius biodiversity. Unless safeguards and mitigation measures have been introduced, it is considered that both the IRS and the RES programmes can potentially impact negatively on coastline, as several of these new coastal developments included facilities for sea-based activities.

38. Similarly, a number of the eight proposed Smart Cities, announced in the 2015 Government Budget, would be located in coastal areas. These are to be designed to be environment friendly. They are expected to generate their own energy and fresh water resources and would involve the development of “smart” modern transportation to reduce traffic congestion across the island. Many are to be steered by private operators who have to prepare a masterplan for the 'new township'. These would need to be approved by the district council and included/reflected in the Outline Planning Scheme (OPS). All projects have to undergo a thorough environmental impact assessment.

1.2.3 Social and development context

Human Development

39. The RM has secured remarkable welfare achievements in terms of increased life expectancy, lowered infant mortality and infrastructural development. The country has achieved high human development, with a Human Development Index (HDI) of 0.771 in 2013 (ranked 63rd out of 187 countries and #1 in Sub-Saharan Africa)³⁵, but the average annual growth in HDI has declined from 1.07% during 1980-90 to 0.90% during 2000-2013. Significant progress has been made with respect to the Millennium Development Goals relating to education, gender equality in education, adult literacy, infant mortality, safe

³¹ Statistics Mauritius. <http://statsmauritius.govmu.org/English/StatsbySubj/Pages/NAE-March-2015-issue.aspx>

³² Baissac, 2011

³³ Nowbuthsing Baboo M and Ancharaz Vinaye (2011) Trade, employment and gender: Case Study of Mauritius (work in progress) <http://www.oecd.org/site/tadicite/48735530.pdf>

³⁴ Baissac, 2011

³⁵ <http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components>

drinking water and improved sanitation. Yet, the country faces several major challenges. Growth has been accompanied by inequalities and social exclusion patterns that pose challenges for attaining inclusive and sustainable growth, as envisioned in the proposed global Sustainable Development Goals and targets 2015-2030.

40. The share of total income going to the 20% of households at the lower end of the income range decreased from 6.1% in 2006/07 to 5.4% in 2012³⁶. Nearly a third of the unemployed live in households in the bottom quintile of income distribution (15% live in households with no other sources of income), and in 2005, young people (under 25 years old) were most unemployed³⁷. On Mauritius, high income inequality was initially largely a result of the dominance of the sugar plantation economy. By 1991, the Gini coefficient³⁸ had fallen to 37% but it is now once again increasing, and reached 41.3% in 2012³⁹ indicating growing inequality.

Disparities, including Gender

41. Geographical disparities are evident, with Rodrigues, as the second poorest area of the RM, lagging behind Mauritius (see [next section](#) for more information on development conditions in Rodrigues). The Relative Development Index (RDI), constructed using human development indicators (except for health) shows an improvement in the level of development from 2000 to 2011 for both Mauritius and Rodrigues. This is largely a result of a combination of infrastructure provision for utilities, electricity, running water as well as rising income, but RDI for Mauritius was much higher than that for Rodrigues (in 2011, 0.77 compared to 0.56).⁴⁰ Virtually 95% of households in Mauritius have piped water in the house, a bathroom with running water, flush toilet, but only about 50% of Rodriguan households have these amenities. Significantly, 10 of the 16 Municipalities and village council areas with the lowest RDIs are in coastal areas in the South east and South West of Mauritius.

42. On Mauritius, historically vast swathes of the coast were sparsely populated because of the prevalence of deadly malaria. The coastal strip was populated by ex-slaves and apprentices, living on mainly marine resources; fishing villages were proclaimed on State lands. Following the eradication of malaria, wealthy individuals and families, mainly from the land owning elite on the central plateau, built second homes and *campements* on the coast. Access was facilitated by leases of public land around sand dunes and desirable coastal features on the Pas Géométriques. The result was the development of a local service economy, with domestic workers and trades people on the coast working for wealthy second home residents.

43. With the economic and social mobility of a rising still youthful population, the improvement in living standards, and the growth in hotels, restaurants, water sports and other leisure activities on the coast, there has been a rapid expansion of an urban middle class with higher disposable income and an interest in and aspiration for a lifestyle next to the sea. This has contributed to rapid unplanned urbanisation in certain coastal areas and an increase in the number of second homes on Pas Géométriques that have become main residences. There has been and continues to be strong pressure to create more public beaches and to increase public access to the coast, with consequently a degree of conflict between recreational and artisanal users of coastal resources and seaside property owners.⁴¹

³⁶ Statistics Mauritius. 2013. Household Budget Survey 2012.

³⁷ Central Statistics Office. 2008. Household Budget Survey 2006/07.

³⁸ Measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution. A Gini coefficient of 0 represents perfect equality, while an index of 100 implies perfect inequality.

³⁹ Economic inequality in Mauritius. <http://www.chartbookofeconomicinequality.com/inequality-by-country/Mauritius/>, accessed 30 April 2015.

⁴⁰ Presentation on Poverty HBS 2012, Statistics Mauritius, November 2013. The RDI is adapted from the UN HDI, and is a composite non-monetary index for small areas showing housing and living conditions, literacy and education as well as employment.

⁴¹ Salverda, T. and Hay, I (2013) 'Change, Anxiety and exclusion in the post-colonial reconfiguration of Franco-Mauritian elite geographies' *The Geographic Journal*, 2013, doi:10.1111/GEOJ.12041, accessed 31 May 2015

44. The incidence of absolute poverty in the RM is relatively low but, according to the Budget Speech of 2015, 38 localities with 5,478 households are pockets of poverty growth. These are mainly in the suburbs of towns and Port Louis City, and 11 of them are on the coast, clustered in the North East (Poudre d'Or, Plaine des Roches) and South East (Le Bouchon, Grand Port, Mahébourg of Mauritius Island). These communities are particularly vulnerable as government investment tends to focus on higher education to promote economic growth. Children of poor families are less likely to reach secondary school stage because of the costs of completing their lower education⁴².

45. Gender inequality is also an issue. In 2013, the female HDI (0.750) was lower than the male HDI (0.784), and Mauritius ranked 73rd on the Gender Inequality Index (0.375), lower than its HDI rank. Gross national income per capita for females is less than half that of males⁴³. Women are poorly represented in private corporate decision-making and governance and in the political realm (12% of the elected representatives to Parliament and 12.5% of the present Cabinet after December 2014 elections) which contributes to their lack of participation in shaping policy and sharing political power. However, the Local Government Act of 2011 stipulates that at least one third of candidates for the municipal council and village council elections have to be of either gender. As a result, the share of women on municipal councils rose from 13.5% in 2001 to 36.7% in 2012, and on Village Council elections, from 2.8% in 1998 to 25.4%.

46. There are also gender disparities across many social and economic issues including gender-based violence (88% of all domestic violence cases in 2010) and high levels of female unemployment (in 2014, 10.9% for women and 5.3% for men). Furthermore, maternal mortality has been increasing since 2007. On Rodrigues teenage pregnancy and single parenthood is on the increase, generating more female poverty⁴⁴.

47. There is however, growing experience in developing livelihood programmes for the poorer coastal communities, such as diversification and improvement of the sustainability of fisheries and related supply chains, tourism, sustainable small-scale agricultural activities and participation in conservation and environmental management activities⁴⁵. Most experience of these relates to Rodrigues, where the recognition of the high levels of poverty has led to several programmes summarized below. The UNDP Small Grants Programme (SGP) has been particularly active in supporting many of these initiatives. However, there continues to be a need for support and long-term mentoring of such Small-Medium Enterprises (SME's) (many involve people with literacy problems⁰ and further training. Savings and loan/credit schemes also needed (examples from India and Tanzania)

48. Initiatives to improve fishery catches in a sustainable way (i.e. removing pressure on lagoon stocks) for artisanal fishers have included the installation of Fish Aggregating Devices (FADs) beyond the lagoon, and artificial reefs. FADs were first used in 1983 and have been relatively successful (these form the basis of the off-lagoon fisheries)⁴⁶ and it is expected that more will be put in place. About 12 artificial reefs have been installed around Mauritius in the form of old boats and ships that have been sunk, but these have proved of greater value to the diving industry than for fishers⁴⁷. Other fisheries related activities include the development of seaweed farming through women's groups, and improved management (through seasonal closures) of the octopus fisheries.

49. Small scale ecotourism activities are also being considered as opportunities for coastal communities with many already involved in the tourism trade, either through employment in hotels and

⁴² Sobhee, S K., (2004), "Economic Development, Income Inequality and Environmental Degradation of Fisheries Resources in Mauritius", *Environmental Management*, 34, pp 150-157.

⁴³ <http://hdr.undp.org/en/content/human-development-report-2014>

⁴⁴ KPMG/RRA/UNDP 2009. Sustainable Integrated Development Plan for Rodrigues. Final Report

⁴⁵ Pubellier, C. 2014. Addressing Poverty-Environment Issues in Rodrigues through the Blueprint to Achieve a Higher Income Economy Vision in Mauritius. UNDP-UNEP Poverty-Environment Initiative, 2014.

⁴⁶ Fisheries Master Plan 2011

⁴⁷ MMCS 2010. No. 3. Usages, perceptions et propositions des principaux utilisateurs des ressources marines. Volet socio-économique. Etude de faisabilité pour la mise en place d'une ou plusieurs AMP sur la côte sud-ouest de Maurice. MMCS/ProGeCo

restaurants, or by running tours by boat, vehicle or walking tours for visitors. There is however an urgent need for training to ensure that such activities are sustainable and environmentally sound, and such initiatives need to be co-ordinated with the sustainable tourism and ecolabelling initiatives underway through the Ministry of Tourism and External Communications (MOTEC) (see [Section 1.2.7](#) further down on policy matters). The Ecole Hoteliere provides some training for those wishing to enter the tourism industry but there is a need for a nationally based certification programme with mentoring and refresher courses. Several NGOs have developed training course for eco-guides: Eco-Sud has developed an MQA approved Marine Guide training course of 20 modules in partnership with the Field Guides Association of Southern Africa (FGASA); MMCS and Reef Conservation have both also undertaken training of eco-guides.

50. Coastal communities can also benefit from participation in environmental management activities, if an appropriate remuneration scheme is developed. The UNDP SGP has supported such activities in Mauritius, including projects with the NGOs Reef Conservation to establish Voluntary Marine Conservation Areas (VMCAs) and Eco-Sud to support management of Blue Bay Marine Park (See [Section 1.2.5, under MPAs](#)), and mangrove planting by women's groups at Grand Sable.

1.2.4 Rodrigues – sectoral, social and development context

51. The economic and social structure of Rodrigues is very different from that of Mauritius. The State owns 90% of the land on Rodrigues, whereas on Mauritius state ownership is less than 50%, private ownership here being a legacy of settlement concessions given in colonial times. On Rodrigues, there is only about 1,000 ha of private land, with private owners usually having small plots of 2-3 ha⁴⁸, and the leases of state land having created a dispersed pattern of settlement.

52. Most Rodriguans (34% in 2012) work in the primary sector (traditional agriculture, livestock rearing, fisheries, and some forestry) with about 16% working in the public sector. Women's share of employment in agriculture is 43% compared to their share in total employment of 38%.⁴⁹ In 2012 the average monthly earnings (MUR 17,700) were lower than in Mauritius⁵⁰.

53. Additional activities are handicrafts and tourism, the latter growing rapidly so that tourism and associated services now make up nearly 50% of employment. There are no statistics that relate directly to tourism (figures given in [Section 1.2.2](#) further up relate to foreign tourists entering the RM as a whole, as most international flights go via Mauritius). However, some idea of the increase on Rodrigues can be obtained from the air and sea passenger arrivals statistics which record arrivals according to nationality. Most non-Rodriguans are from Mauritius, and these include domestic tourists for the most, but also those visiting for business or family reasons. International visitors are predominantly from France/Réunion. Numbers of both Mauritian and foreign visitors have been increasing: foreign visitors have trebled since 1996 to over 19,000 in 2013, and Mauritian arrivals have more than doubled to just under 35,000 in 2013 (Figure 3).

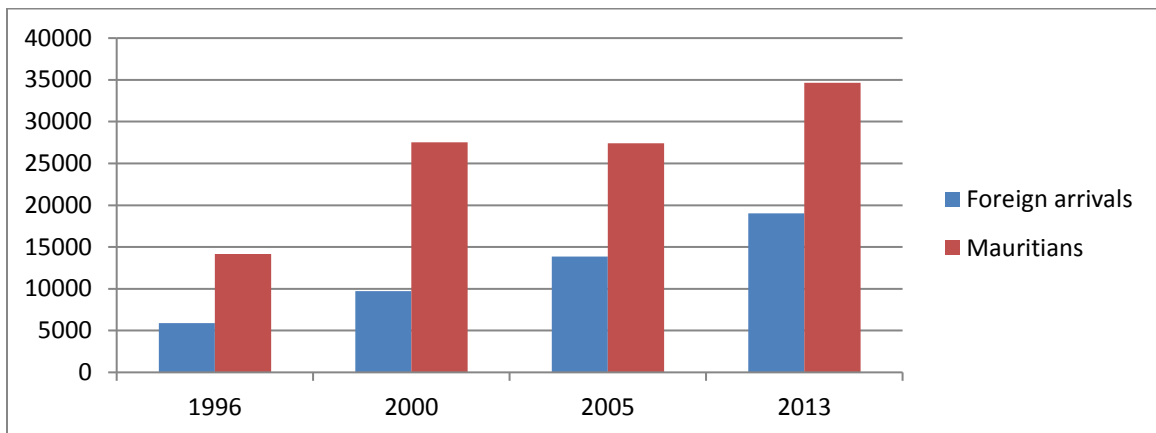
Figure 3: Mauritian and foreign passenger arrivals by sea and air to Rodrigues (excluding

⁴⁸ MEO, 2011

⁴⁹ Statistics Mauritius, Housing and Population Census Data, 2011

⁵⁰ Statistics Mauritius. 2013. Digest on statistics on Rodrigues 2012. 64 p.

Rodriguans)



Sources:

KPMG/RRA/UNDP 2009. Sustainable Integrated Development Plan for Rodrigues. Final Report
Statistics Mauritius 2014. Digest on statistics on Rodrigues 2013.

54. The fishing sector is still important on Rodrigues, with 1,873 licensed fishing boats in 2013 and 1,227 registered fishers, including 190 women (a significant decrease from the 730 women fishers recorded in 2007). Fisheries production, unlike Mauritius, has increased since 2007, possibly due to improved fisheries management such as the octopus closed season. The total fish catch in 2013 was 2,605 tonnes, up from 1,524 tonnes in 2007.⁵¹ The artisanal fish catch is eaten locally, but does not meet the actual demand for fish from the island, so 60% of all fish consumed is imported. The lagoon areas could potentially be harnessed for the farming of seaweed and sea cucumber, while there is also a significant potential for developing value added fish products targeted for exports and better exploitation of the off-lagoon fishing⁵².

55. Agricultural production is declining due to low market prices, high costs of production, lack of credit and water for irrigation, often complicated by the impact of cyclones and droughts. Livestock is an important part of the culture (with wealth often still measured in terms of ownership of cattle). Other valued products are lemons, chillies, poultry and honey.⁵³ To reverse the downward trends in this sector, agricultural practices are to be modernised, organic agriculture encouraged and new markets sought through improved competitiveness and added value products⁵⁴. Through the 'Rodrigues Naturellement' initiative (see [Section 1.2.7](#)), products such as pickled octopus, organic lemon juice, jams, *achar*, etc. are being given a "Rodrigues label" and sales are proving popular.

56. The UNDP SGP has supported a range of activities in collaboration with the NGO Shoals Rodrigues Association, the South-East Marine Protected Area (SEMPA) and other organisations including promoting organic agriculture (chickens, chillis), taking part in environmental activities and development of sustainable fisheries. The Alternative Livelihoods and Support for Sustainable Marine Resource Management programme 2013-2014; undertaken by Shoals resulted in the training of local community representatives in the co-management of marine resources, demarcations marine reserves by buoys and implementation of community-based monitoring, control and surveillance measures (see [Section 1.2.7](#)).

⁵¹ Statistics Mauritius 2014. Digest on statistics on Rodrigues 2013.

⁵² KPMG/RRA/UNDP 2009. Sustainable Integrated Development Plan for Rodrigues. Final Report

⁵³ UNDP-UNEP 2014. Addressing Poverty-Environment Issues in Rodrigues through the Blue Print to achieve a high income Economy Vision in Mauritius. Final report.

⁵⁴ KPMG/RRA/UNDP 2009. Sustainable Integrated Development Plan for Rodrigues. Final Report

57. With the support of the UNDP-GEF Partnerships for MPAs project (as well as the SGP), several SME's were set up with the communities surrounding SEMPA oriented to relieving pressure on the lagoon, focused on livestock, agro-based products, processed fish and octopus, and ecotourism (e.g. training of ecoguides, kayaking). A Livelihoods Assessment⁵⁵ was undertaken which was used to develop an Alternative Livelihoods Action Plan⁵⁶, and this provides a framework for further action⁵⁷. MWF has trained communities around Anse Quito in tourism guiding and designed an 8 km eco-trail.

1.2.5 Ecosystem services and the role of the ESAs in the economy and social development

58. In spite of the extensive degradation and transformation that has occurred in many areas (see Section 1.2.4), coastal and marine ecosystems and their adjacent terrestrial landscapes still maintain their basic ecological functions and provide, or have the potential to provide, key ecosystem services. Many of the economic sectors described in [Section 1.2.2](#) are dependent on these ESAs and services. With international tourism a central part of the RM's economy, the maintenance of the natural beauty and services provided by its marine and terrestrial ecosystems is critically important. Similarly, the coastal fisheries sector depends on the health of marine ecosystems. This is particularly important in the case of Rodrigues, given the island's remoteness and the local population's direct dependence on fish for food security and livelihoods.

59. Techniques for valuing ecosystem services are still being developed and calculating monetary values for the ESAs is very difficult. Several global studies have been undertaken, which give an idea of 'monetary' importance. For example, ecosystem services provided by seagrass meadows and submerged algal beds were rated the third most valuable globally on a per hectare basis in a seminal global study from the late 1990s on the value of nature.⁵⁸ Mauritius' ESAs include over 21,000 ha of seagrass and algal beds, 84% of which are in Rodrigues. The CBD has emphasised the importance of realising not just valuation studies, but of also realising the economic value of ecosystems and their services. The CBD's COP10 set a target for ecosystem and biodiversity values to be incorporated in national accounts by 2020, namely through Aichi Target 2.

60. Studies are underway in the RM on accounting of natural capital and experimental valuation of ecosystem services, including the coastal and marine environment (see e.g. ASCLME (2012), Sultan (2012), and Sookun & Weber (2013)⁵⁹). The conceptual framework "SEEA-EEA" (System of Environmental-Economic Accounting- Experimental Ecosystem Accounts) is being tested globally, and has been studied through a project undertaken jointly by the COI/ISLANDS project and Statistics Mauritius, using existing data for Mauritius (not Rodrigues). The pilot work for the coastal zone involved identifying statistical units for which accounts would be calculated. This resulted in the identification of Marine Ecosystem Coastal Units (MECUs), for which coral reef data, fish catch, hotel distribution and use of beaches by local people were used to demonstrate the potential for valuing ecosystem services⁶⁰.

61. Four categories of ecosystem services are broadly recognized⁶¹ and coastal and marine ESAs provide benefits in all four in the RM:

⁵⁵ 2011. Livelihood Assessment of SEMPA – South East Marine Protected Area – Rodrigues Island, Republic of Mauritius. Draft Report

⁵⁶ 2011. Alternative Livelihoods Action Plan. South East Marine Protected Area – Rodrigues Island, Republic of Mauritius. Draft Report

⁵⁷ Ibid.

⁵⁸ Costanza, R., d'Arge, R. deGroot, R., and others, 1997, The value of the world's ecosystem services and natural capital: Nature, v. 387, p. 253–260

⁵⁹ The three references mentioned: (i) ASCLME (2012). National Marine Ecosystem Diagnostic Analysis. Mauritius. Contribution to the Agulhas and Somali Current Large Marine Ecosystems Project (supported by UNDP with GEF grant financing); (ii) R. Sultan (2012) An economic valuation of the marine and coastal ecosystem in Mauritius. Western Indian Ocean Marine Highway Development and Coastal Contamination Prevention Project, Indian Ocean Commission and Ministry of Environment and Sustainable Development, Mauritius; (iii) Sookun A. and Weber J.L. (2013). Experimental ecosystems natural capital accounts. Mauritius case study. Methodology and preliminary results 2000-2010. Second Expert Group Meeting on Biodiversity for Poverty Eradication and Development, Convention on Biological Diversity, 4 – 6 December 2013, Chennai, India.

⁶⁰ Weber, J.-L. 2014. Experimental ecosystems natural capital accounts. Mauritius Case Study. Methodology and preliminary results 2000-2010. Indian Ocean Commission/ISLANDS project.

⁶¹ Millennium Ecosystem Assessment

- Provisioning: e.g. food, medicines, construction materials: Around 50 marine species in the RM are of known economic importance for fisheries including fish, molluscs, lobsters and shrimp, and the MOI has identified a total of 186 potentially commercially important species using a DNA-based approach. Lagoon habitats are especially important, the shallow waters and varied habitats including salt marshes, seagrasses, and mangroves contributing to their immense productivity.
- Regulating: e.g. protection of shorelines, water quality maintenance, climate regulation: Fringing coral reefs, coastal marshlands, intertidal mud flats, sandy beaches and mangroves all play critical roles in protecting the shoreline from erosion, providing a natural buffer against waves, storm surges and sea level rise. Coastal marshlands have a vital hydrological function and flood mitigation role, and the value of these ESAs adjacent to built-up areas is particularly high since the spread of impermeable surfaces prevents storm-water runoff in areas with low stream densities. Coastal marshlands and mangroves play important environmental and economic functions by filtering runoff before it enters the sea.
- Cultural: tourism, leisure, spiritual beliefs: the white sandy beaches, and the coral reefs which are attractions for snorkelling and diving, but of rapidly growing importance are the ecosystems on which whales and dolphins depend as sea mammal watching now generates a substantial income for many tour operators around Mauritius. Local people also benefit from coastal ecosystems, with a strong cultural attachment to visiting the coast at weekend and passing time on the public beaches.
- Supporting: maintenance of basic life support systems: coastal marshlands, sea grasses and mangroves all provide spawning and nursery areas and sheltered habitats for juvenile fish and invertebrates, and thus the basis of the food chain for the main commercial prawn and fish species.

62. Further details of marine and coastal ecosystem services in the RM are given in both PPG Studies contained in [Annex 5](#).

1.2.6 Threats to biodiversity and ecosystem services, and drivers behind them

63. The primary driver of loss of and damage to marine and coastal diversity in the RM is growth and economic development where this is not accompanied by measures to ensure environmental sustainability and maintenance of ecosystem services. The promotion of the ocean economy and greater exploitation of marine natural resources could potentially result in further ecological damage unless the concept of a “blue economy” or “sustainable ocean economy”⁶² is fully adopted and implemented. At present, EIAs have been unable to divert development away from ESAs.

64. Of key concern is the fact that many of the coastal and marine ESAs most at risk are currently unprotected as described in greater detail in Section 6 of [Study #1 in Annex 5](#). For example, information from the ESA study⁶³ indicates that in 2009:

- Only 14% of coral reefs fell within Fishery Reserves and 2% within Marine Parks, leaving over 83% with no designation, although all Category I and II coral reef ESAs are considered in need of protection;
- 20% of sea grass beds lie within Fishery Reserves, and none in Marine Parks; nearly 80% have no designation status; and
- 65% of tidal mudflats fall within Fishery Reserves but none within Marine Parks – 34% have no designation status.

65. **Coastal wetlands** are the most threatened marshland ESA Type, the primary impact being backfilling for construction which is affecting 90% of these areas. About half of the current coastal

⁶² The Blue Economy: growth, opportunity and a sustainable ocean economy. An Economist Intelligence Unit briefing paper for the World Economic Summit, 2015. 18 pp. <http://www.economistinsights.com/sustainability-resources/analysis/blue-economy>

⁶³ NWFS Consultancy 2009. Environmentally Sensitive Areas Classification Report, Republic of Mauritius. Final Report.

wetlands were once parts of contiguous, larger marshlands that have been fragmented into smaller areas by roads, golf courses, agriculture and housing developments. The Government has publicly recognized that backfilling was among the causes of flooding in the Grand Baie area in March 2015, and the threat posed by the announcement of a proposed smart city at Roches Noires, has caused concern.⁶⁴ About 75% of remaining coastal wetlands are under private ownership⁶⁵ and the complex ownership patterns represent an added obstacle to sustainable management.

66. **Mangrove forests.** Mangrove cover in the RM decreased dramatically from 2000 ha in 1987 to 169 ha in 2015, due to harvesting for firewood, clearing to provide for boat passage, and coastal development which was probably the main pressure. Loss of mangrove forest has however slowed since 2005 and mangrove cutting has been banned since 2008. The current mangroves are largely a result of replanting programmes run by the government and supported through a number of community initiatives. These restored mangrove forests are generally thriving⁶⁶ but their small area means that they need protection and careful monitoring.

67. **Seagrass beds.** In Mauritius one of the main pressures on seagrass beds is their removal by tourist developers to make the lagoon more attractive to tourists. Overfishing and other human disturbances are additional threats. Seagrasses in Rodrigues are being impacted directly by both cutting/removal, but also and in particular by overfishing of fish and other organisms living in the meadows. These practices are having an indirect impact on the health of these ecosystems across the Republic.

68. **Sandy beaches and dunes.** The most immediate threat to the ecology of sandy beaches and dunes is shore erosion, some of it likely attributable to climate change related phenomena, but most importantly decades of ecosystem disruption, given the history of settlements and land use on the coastal strip of Mauritius. A clear indication of the level of disturbance is e.g. the observation that the last appreciable marine turtle nesting events on mainland Mauritius occurred during the 1970s⁶⁷. Also, as it is, remaining natural dune areas are still being used for hotel facilities, golf courses and IRSs. In the past many remnant dunes had been planted with *Casuarina* (she-oak) to act as wind-breaks. The impacts of these species on the beach and sand-dune ecology remain to be fully assessed against potential erosion control benefits, because of the extent and duration of disturbances. Beach nourishment requires reliable stocks of sand for its maintenance, to the extent that off-shore sand mining is being considered for replenishment of beaches. The Mauritius Oceanography Institute (MOI) has been studying the volume of off-shore sand that could be extracted, recognising that very careful management will be required for such an approach to be sustainable.

69. **Coral Reefs.** Live coral cover on the reefs of Mauritius underwent a major decline (up to 70%) between 1997 and 2007, with Mauritius showing the steepest decline of all the Indian Ocean Commission countries (see Section 5.4 of [Study #1 in Annex 5](#)). Coral cover at monitoring sites on Rodrigues in 2008 averaged just under 40%, and on Mauritius in 2009, between 10-20%⁶⁸. The main threats to reefs on both islands are over-fishing, land-based sources of sediments from erosion of agricultural land and deforested slopes, nutrients from sewage and fertilisers, and lagoon tourism based activities and anchor damage. In addition, recurrent episodes of bleaching, due to sea water warming, have contributed to the decline in live coral cover⁶⁹. Natural threats include cyclones and tropical storm, which damage the delicate branching corals and overturn table corals. Coral bleaching and damage to its structure due to extreme weather are phenomena that will be likely exacerbated or even driven by climate change in the coming decades.

⁶⁴ “Non à l’*Integrated Resort Scheme* de Roches-Noires and l’Association Roches-Noires Eco Marine”. L’Express 15.04.2015

⁶⁵ NWFS Consultancy 2009. Technical Report on Freshwater Wetlands, Republic of Mauritius.

⁶⁶ NWFS Consultancy 2009. Environmentally Sensitive Areas Classification Report, Republic of Mauritius. Final Report.

⁶⁷ Webster, 2013. Observations of Green and Hawksbill Turtles on the Southwest Coast of Mauritius. Marine Turtle Newsletter 138:15-17.

⁶⁸ Cauvin et al, 2010. Synthèse régionale 2010. Suivi de l’état de santé des récifs coralliens des Îles du Sud Ouest de l’Océan Indien. COI/ReCoMap.

⁶⁹ Moothien-Pillay, S., Bacha Gian, S., Bhoyroo, V. and Curpen, S. 2012. Adapting coral culture to climate change: The Mauritian experience. *Western Indian Ocean J. Mar. Sci.* 10(2): 155-167

70. **Overall.** The ESA types mentioned all contribute to the importance of the lagoons of Mauritius and Rodrigues⁷⁰ in terms of provision of livelihoods to coastal communities and other stakeholders, who thus suffer impoverishment as lagoon ecosystems become degraded. Coastal and marine ecosystems are also particularly vulnerable to environmental variations associated with changes in sea level, increased sea temperature and ocean acidification, all of which can be traced to known climate change impacts.

71. These are additional stressors that affect ecosystem resilience, on top of other stressors, and that may push ecosystems and species beyond resilience thresholds. Because not all of the disturbances can be directly managed on site (e.g. climate change, ocean acidification), it is very important to reduce stressors to lagoon environments. The case of lagoons is instructive. Much of the poor state of lagoon ecosystems is due to land use practices that result in sedimentation, nutrification and pollution. Lagoon sedimentation is directly linked to loss of top-soil and erosion, a phenomenon broadly linked to land degradation. In Mauritius, land degradation has been caused by three main factors: deforestation, unsustainable agriculture, recurring wildfires on grass-covered mountain slopes as well as a paucity of monitoring and enforcement. In Rodrigues, land degradation is largely a result of overgrazing and unsustainable agriculture. Overgrazing is in greatest evidence at the end of the dry season in December.

72. A summary of threats, drivers and the impact of loss of ESAs on ecosystem services is presented in Table 3 below (for more details refer to [Study #1 in Annex 5](#)).

Table 3: Summary of threats to biodiversity and ecosystem services

ESA type	Threats and threat drivers	Impact of loss of ESA type on ecosystem services
Mangroves	Although mangrove loss has declined, habitat fragmentation and land use conversion still threaten this ESA type, due to growing demand for land for development in prime coastal areas.	Loss of mangroves results in reduction in coastal storm protection, leading to increased coastal erosion, and loss of fish nursery services that negatively impacts the fishing sector. Where mangroves have been cleared, sediments are not properly filtered leading to high rates of soil runoff into lagoon areas, increasing turbidity which reduces sunlight which affects overall lagoon productivity.
Sandy beaches and dunes	Threatened by erosion, due to inappropriate seashore construction altering currents and flow, combined with sea level rise; inappropriate construction (in many places the setbacks for construction is not being respected).	Loss of species dependent on dunes and loss of recreational services as both tourists and local people value sandy beaches for this purpose; In addition, beach erosion results in remedial measures to protect tourism and residential developments which further exacerbates the problem. Native coastal forest has been lost and replaced by <i>Casuarina</i> , which is a major contributor to coastal erosion.
Coral reefs	Reef trampling and careless anchoring practices damage coral. Land-use change upstream results in increased sedimentation, affecting turbidity and water chemistry and oxygen levels in the lagoon, which all affect corals and other reef life. More frequent and extensive incidents of coral bleaching as a result of sea warming due to climate change. Increase in the frequency and strength of tropical storms and sea level rise. Increased CO ₂ concentration in the	The loss of the recreational value of reefs has a direct bearing on tourism; sports fishing and diving depend on the health of marine life within lagoons and another incident of coral bleaching could have a pervasive impact on tourism. Overfishing will reduce fish stocks/populations, and the diversity of useful fish species, negatively affecting livelihoods that depend on fishing. Damage to coral reefs reduces their ability to protect shorelines, and results in increased coastal erosion (reef damage is already thought to be contributing to coastal erosion at Albion and Flic en Flac)

⁷⁰ The lagoons of both Mauritius and Rodrigues thus include a number of ESA types. Also, the term lagoon in Mauritius is not limited to ponds behind sand dunes etc. as in some places.

ESA type	Threats and threat drivers	Impact of loss of ESA type on ecosystem services
	ocean causes acidification of the water, affects calcareous marine species. Reef resources, including fish, octopus and crustaceans, are overexploited in many areas	
Coastal wetlands	Backfilling linked to the expansion of the built environment; pollution and sedimentation; conversion to other land uses	Loss of coastal wetlands in the north of Mauritius is known to be contributing to increased incidences and intensity of flooding as their water storage capacity is being reduced; their capacity to filter sediment and waste waters is also significantly reduced. Loss of wetlands also threatens a number of endemic plants found along the margins of marshlands
Intertidal mud flats and sea grass beds	Land-based pollution from increased economic activities causes eutrophication and hypoxia of both mud flats and sea grass beds; erosion of steep slopes and lack of imposition of soil retention measures causes sedimentation. Eutrophication and hypoxia, affects all key functions of marine life, adding a very strong stressor to the lagoon environment, which directly depend on sunlight and oxygen for life cycle functions. If excessive, as seen, it breaks down resilience and creates 'dead zones' - e.g. in the area around Port Luis, where the marine ecosystems entered into total collapsed and became too simplified and too poor in biomass. Excess sediment in lagoons is most severe around river mouths and can be seasonally critical (e.g. during the rainy season). Anchoring also damages sea grass beds. Coastal development and infilling, and the development of water front residential and tourism infrastructure and marinas is also damaging or removing many areas of mud flat and sea grass bed	Pollution disrupts natural ecological relationships and resilience, with considerable costs to the economy: fishing may be suspended due to fish die-off or toxic algae invasion, and beaches may have to be closed. Seagrass beds will cease to capture carbon and will no longer play their part in the marine food chain. The sediment deposition function which is essential is also immediately lost.

1.2.7 Policy, Legislative and Regulatory context

Broad environment policy and regulatory framework

73. The 2003 National Development Strategy (NDS) set out the strategic vision for development until 2020, and under policy ENV1, proposed the designation of a network of ESAs as the fundamental basis for environmental management, within which there would be a 'general presumption against development'—that is, that new developments in ESAs would likely be harmful to the ecological values that these ESAs contain, and that new developments in ESAs should not be approved, except in very special circumstances, and that it would be for the applicant for new development to show why permission

should be granted and that circumstances would actually justify it. This is the general thinking behind the presumption against development.

74. The ESA study of 2008 (see highlights in [Study #1 in Annex 5](#)) led to the development of the draft ESA policy and draft *Environmentally Sensitive Areas Conservation and Management Bill* (2009) to provide the necessary legal framework. The Bill, which was sent for information to Cabinet in 2010 but has not yet been enacted, makes provision for *inter alia*: conservation easements; financial reparation (reduction in property tax, income tax and/or tax on production of goods) for loss of property value; conservation payments (in form of government subsidies or benefits); direct financial payments for provision of ecosystem services; land acquisition by the state; land exchange; and filing of performance bonds with development permit approval.

75. The 2003 NDS paid particular attention to the coastal and marine environment through policies ENV1 (environmental management and the ESAs), ENV2 and 3 (marshlands and lagoons), ENV4 (coastal management), and ENV5 (landward coastal area). Policy ENV4 states that there will be a presumption against major development in the marine area unless for 'educational, environmental management purposes or which is in the national interest', and that the approach of ICZM is to be used.

76. The 2007 National Environment Policy (NEP), which provides for the implementation of the National Biodiversity Strategy and Action Plan (NBSAP), and is implemented through the National Environment Strategy and Action Plan (2008), also pays significant attention to the coastal zone and marine biodiversity and defined a series of priority activities and policy instruments, some of which have been acted on.

77. The *Environment Protection Act* (EPA) of 2002 (as amended in 2008) is the overarching environmental law covering pollution prevention measures, environmental impact assessment (EIA), development of environmental standards and guidelines, and its enforcement is extremely important for management of coastal and marine biodiversity. Regulations under the Act include: Plastic Bag Regulations 2004; Environmental Protection Fee in EPA 2002; Disposal of Waste Oil Regulations / Environment Protection (Standards for Effluent Discharge) (Amendment) Regulations 2004, and Environment Protection (Standards for effluent discharge into the ocean) Regulations 2003, GN No. 45 of 2003. Although it does not specifically refer to ESAs, the EPA and its provisions for EIAs, combined with the EIA guidelines and other specific legal frameworks on land- and seascape use, could play an important role in protecting ESAs, if fully implemented.

78. The Government Programme 2015 lays out the overall approach for environmental management and focus. With the dissolution of the MID project following the 2014 election, new initiatives are being developed with a plans for a National Environment Commission to be set up under the Prime Minister's Office (PMO) to co-ordinate all decisions on major environmental issues and to create a better synergy among stakeholders.

Rodrigues

79. The legislation of the RM applies to Rodrigues, but the Rodrigues Regional Assembly (RRA), established under the *Rodrigues Regional Assembly Act* 2001 (amended 2004 and 2006) has certain powers delegated to it, which are implemented via specific sectoral or thematic Commissions, each of which has 10-year targets⁷¹. The RRA, now under the PMO, is constituted with 21 members and an Executive Council headed by a Chief Commissioner. The Council meets every week to make decisions, draw up laws and manage the regional budget. Each year a budget is allocated by the Government of Mauritius to the RRA on the basis of a ceiling which is marginally increased according to priorities at the time; current guidance is provided by the Rodrigues Regional Government Programme 2012-2017

⁷¹ The Commission for Environment, Tourism, Forestry, Fisheries and Marine Parks is responsible for environment protection and conservation and other linked areas falling under sustainable development, such as tourism, fisheries and reforestation.

80. The main responsibilities of the RRA are setting and administering policy, although it can develop and approve Bills that the Parliament of RM can enact as RRA Acts. The RRA itself can pass RRA Regulations⁷² in relation to the matters for which it is responsible, such as land management, land use and fishery resource management - it has autonomy over the administration of social, economic and environmental issues. Key policy documents are the Sustainable Integrated Development Plan for Rodrigues (SIDPR) of 2009⁷³ and the Physical Development Strategy 2010. A draft 2012 Economic and Social Plan has yet to be validated.

81. Responsibility for land use is delegated to the Rodrigues Commission for Land. The regulatory framework and policy on land use are weak and enforcement is poor, compounded by the fact that most of the land is State owned, and there is no complete and updated land cadastre (including agriculture plots). Over the decades, common land tenure has translated into unregulated access to and use of land resources, resulting in land degradation. A Sustainable Land Use Plan was being prepared in 2011, and Land Use Regulations were drafted in 2010. Altogether, there is much yet to be achieved in the RM with respect to progress towards sustainable land management.

82. Information on the coastal and marine protected areas in Rodrigues is provided in more detail in [Study #2 in Annex 5](#). A draft ICZM Plan for Rodrigues was produced with funding from ReCoMaP. The ICZM Committee is a subcommittee of the Rodrigues Environmental Committee. The following regulations are also relevant to marine and coastal biodiversity conservation:

- The RRA Tourism Regulations 2007 provide for, *inter alia*, the establishment of a Tourism Advisory Committee, licensing of tourist enterprises, and the formulation of policies for the sustainable development of tourism in Rodrigues (and see below for further information on tourism)
- The RRA (Octopus Closed Season) Regulations 2012 provide for island wide seasonal closure of the octopus fishery to enhance productivity

Land Use and Physical Development Planning

83. The *Planning and Development Act* 2004, the *Building Act* and the *Town and Country Planning Act* (TCPA) of 1954 (as amended in 2002 and 2006) prescribe policies and procedures for granting development rights. Every application for a building and land-use permit must be in accordance with provisions of these acts, the authority for execution and enforcement of this being the Local Authority of the town or district where the development is to be placed. A single permit, the building and land-use permit, is required which means that threats to biodiversity and ecosystem services run the risk of being overlooked, especially since provision is made for only random inspection by the Local Authority.

84. The Planning Policy Guidance (Design Guidance Hotels & Integrated Resorts, 2005) of the MOHL (PPG/MOHL) provides performance criteria against which development proposals are designed, assessed and permits issued. It lays out key policy objectives for the coastal zone, and addresses issues of public access to public beaches and the sea, appropriate construction of jetties, construction of sea defence measures, setbacks, and the need to maintain natural rocky outcrops that contribute to the distinctive character of lagoon areas and help maintain the stability of the beach system against breaking waves and currents.

85. The TCPA regulates the preparation and administration of Outline Planning Schemes (OPSs) and the granting of permits for land development by each local authority. OPSs were prepared in 2006 and revised in 2011 for the District Council Areas of Pamplemousses-Rivière du Rempart, Moka-Flacq, Black River and Grand Port Savanne. The OPSs specifically refer to ESAs and require that developments avoid

⁷² RoM (2009). *2010 Manual for Programme-Based Budgeting (PBB)*. Republic of Mauritius / Budget Strategy and Management Directorate, Mauritius, 22 August 2009. / RRA (2009). Programme Based Budget: Estimates 2011 and Indicative Estimates

⁷³ KPMG/RRA/UNDP 2009. Sustainable Integrated Development Plan for Rodrigues. Final Report

ESA types or that appropriate mitigation is undertaken. The Ministry of Environment, Sustainable Development, Disaster & Beach Management (MOESDDBM) is coordinating a ground-truthing exercise to confirm the locations of some ESAs (including mangroves, forests and marshlands) in order to fully incorporate them in the OPSs.

86. The policy and regulatory framework for sustainable land management (SLM), which is critical to have in place if the marine environment is also to be managed sustainably, is however still weak. A draft Investment Framework Strategy (IFS) for SLM was produced through the UNDP-GEF Project Capacity Building for Sustainable Land Management in Mauritius Including Rodrigues. The mentioned project also undertook training of and awareness-raising among key stakeholders. It also prepared a number of policy and planning materials. The National Action Programme for the UN Convention to Combat Desertification (UNCCD) is though yet to be completed.

87. The project also set up the Forest Land Information System (FLIS) which is designed to be compatible with the Land Administration Valuation Information Management Study (LAVIMS) which produces cadastre data for the island of Mauritius. However, this is just a start since all SLM related data (e.g. on topography, soil and water quality, land degradation) are needed by all land users and planners for decision making. The next step of LAVIMS is the proposed National Spatial Data Infrastructure (NSDI) which would allow the free incorporation of spatial information into any SLM related activities. An NSDI would also improve the quality of policy making, citizen's participation and market development through better use of spatial information and provide a new means of acquiring knowledge, and making informed decision on SLM related issues⁷⁴.

Integrated Coastal zone management

88. Under the second National Environmental Action Plan (NEAP2) 1999, an ICZM Division was established within the MOESDDBM, aimed at identifying research priorities and co-ordinating the activities of the various stakeholders affecting the coastal zone. Subsequently, the Ministry commissioned an ICZM Study, to make recommendations and identify actions for the preparation of an ICZM Framework. The study concluded that existing legislation for the coastal zone was adequate, although scattered across many laws, and the ICZM Framework developed is thus not, in itself, binding.

89. The Framework was finalized and approved in 2010, with MOESDDBM being responsible for coordination through the ICZM Division and the ICZM Committee which it hosts. The study identified six pressure zones (Grand Baie, Ile D'Ambre, Le Morne, Belle Mare, South Coast and the East Coast of Rodrigues) and recommended management approaches for these locations, including monitoring of erosion prone sites, water quality monitoring etc. Action and Area Plans have been produced for these sites but there is no legal requirement for implementation. The study did however propose financing options for implementation such as developing Special Funds, Green Taxation, deterrent/compliance financing, Corporate Sponsorship, Voluntary Programmes and Public Private Partnership.

90. The ICZM Committee, hosted by MOESDDBM, has been focusing most recently on coastal erosion issues, and implementation of the JICA project, with a particular emphasis on coral reefs.

Tourism

91. The tourism sector in Mauritius is governed by the Ministry of Tourism and External Communications (MOTEC). The vision of the Ministry is to make Mauritius a leading and sustainable island destination, as laid out in the National Tourism Policy 2005/2006. The functions of the Ministry are shared by the two parastatals, the Mauritius Tourism Promotion Authority (MTPA), established under

⁷⁴ Pubellier, C. Integrated Financing Strategy for Sustainable Land management in Mauritius, including Rodrigues. Draft.

the *Mauritius Tourism Promotion Authority Act* of 1996 and the Tourism Authority (TA) established under the *Tourism Authority Act*, 2006 amended in 2008.

92. As the operational arm of MOTEC, the TA is responsible for issuing operating licenses for hotels, restaurants and other tourism enterprises, including pleasure boating, dolphin and whale watching, kite surfing and nautical activities as well as mooring areas and embarkation points, the development of safety and security strategies for tourists and other stakeholders, the management of tourism industry statistical data, and tourism research and development activities. The TA has an established procedure for the issuance of a Tourist Enterprise License by the Licensing Committee for tourist guides. The *Tourism Authority Act* also specifies that “The Minister may designate, by regulations, any location which is predominantly visited by tourists, or having a touristic potential, as a tourist site”. These sites can be privately owned and/or under the authority of other Ministries and/or under the Tourism Authority. The implication is that at least some tourist sites are owned by the State and that it is possible to charge for, and therefore, to restrict access, and the Act provides an opportunity to help promote and manage ESAs.

93. The MTPA is administered by a Board of Directors with the objective of promoting Mauritius abroad as a tourist destination, providing information to tourists on facilities, infrastructures and services, promoting cooperation with other tourism agencies, researching market trends and opportunities and disseminating such information and other relevant statistical data, and advising the Minister on all matters relating to the promotion of tourism.

94. The 2002 *Tourism Development Plan* (TDP), covering 20 years, proposes that the RM should be a high value added destination, but with a wider product portfolio that will support the current informal sector, and an overall ‘Mauritian’ identity that will contribute to diversification. The Plan identifies six tourism zones on Mauritius itself, with the aim that these should develop with a different focus in each e.g. on luxury hotels in the east, mixed development in the northwest. The plan also addresses the IRS, Pas Géométriques, heritage and conservation, and access to the coast and sea. Progress made in implementing these policies includes the expansion of the tourist zones, and up grading and up marketing of the destination of Mauritius. An action plan for beaches and recreational waters and environmental guidelines for boating facilities are included in the Plan. MOTEC is responsible for implementing the TDP. A Tourism Sector Strategy Plan 2009-2015 has been prepared and the Government Programme 2015 indicates that a new Tourism Strategic Plan will be prepared, with a review of institutional arrangements for tourism.

95. The Master Plan for Management and Zoning of Lagoon for the Tourism Sector (2014) addresses four aspects of management of activities within the lagoon around Mauritius (the Master Plan does not apply to Rodrigues): legal and policy review, an assessment of facilities, the nautical activities and the mapping of resources and facilities. Following an assessment of the facilities at the embarkation points, recommendations were made for each nautical activity undertaken in the lagoon, along with their safety aspects. The Master Plan has been submitted to cabinet, and the TA and MOTEC are using it when required; the zones are currently being demarcated.

96. A number of initiatives are underway to promote a sustainable and green approach to tourism, including the establishment of an overall Standard, as well as specific initiatives with some of the small independent hotels.

97. With financial support from the MID project, the Tourism Authority and Mauritian Standards Bureau has developed a voluntary standard (EMSC/N057 © MSB 2013 MAURITIAN MS 165:2013 STANDARD) for the tourism sector. This was based on the Global Sustainable Tourism Council (GSTC) criteria from South Africa. Some of the larger hotels are certified with the international Green Globe Certification, but smaller enterprises may not have the resources to participate in such global initiatives. The Standard is applicable to accommodation, restaurants, tour operators, pleasure craft, scuba-diving and other leisure activities. The Standard was approved in 2014 and a sub-committee has been set up. About

15 hotels have applied for it to date⁷⁵. Hotels must already comply with the Hotel Development Strategy (2010) and the PPG.

98. In 2009, with funding from ReCoMaP, a project to promote implementation of environmentally friendly best practices in small and medium sized hotels was undertaken, through a collaborative initiative between the Association des Hotels de Charme (AHC) and Empretec Mauritius⁷⁶. This involved the development of guidelines on Environmental Management Services (EMS) principles and practices, and training and awareness raising about this approach, including a visit to Madagascar. Environmental audits were undertaken on 10 hotels which resulted in a range of recommendations and for six hotels more detailed implementation activities took place. A similar activity has been undertaken with AHRM through the SGP, which involved the development of 15 criteria for environmental sustainability; lack of funding prevented this initiative from continuing. The Tourism Authority (Dolphin and Whale Watching) Regulations 2012 GN No. 154 of 2012 Government Gazette of Mauritius No. 87 of 1 September 2012 (MTEC)⁷⁷ are not fully enforced and MMCS is working with the Tourism Authority on a feasibility study for a dolphin watching eco-labelling scheme

99. In Rodrigues, the 'Rodrigues Naturellement' initiative⁷⁸ was launched in 2015, by the RRA, with support from La Fondation Ressources et Nature (FORENA). This involves the certification of both products (these must be organically grown, locally sourced and environmentally sound) and enterprises and operators (who must follow Green Globe of the MS 165 Standard). Fifteen enterprises are currently involved covering fisheries, agriculture, tourism and handicrafts.

100. These initiatives, while being at the infancy stage, are nevertheless an important starting point for promoting the environmental aspects in the development of the tourist industry. Nature-based tourism is also being addressed through the PAN project, which has established a tourism working group and is looking at options for training eco-guides, establishing an association, and identifying the role of protected areas more broadly in sustainable tourism development, though with focus on terrestrial sites.

Beaches

101. The *Beach Authority Act* (2002) provides for regulating, maintaining and enforcing access to, and use of, public beaches between the high tide mark and offshore for 100m. The Act established the Beach Authority (now under the MOESDDBM) which is responsible for the "conservation and protection of the environment of public beaches", i.e. the 112 beaches on Mauritius and 12 on Rodrigues. All the public beaches are ESAs (sand and sand dunes ESA type), but the *Beach Authority Act* does not have specific provision to prohibit activities that might adversely impact biodiversity or require restoration, even though many beaches would benefit much from replanting native vegetation. There has recently been a push to introduce "beach reprofiling" projects with the aim of expanding recreational development areas. The impacts and benefits of these undertakings on biodiversity and ecosystem services remain to be assessed. Under the Government Programme 2015, the *Beach Authority Act* is to be reviewed and management plans prepared for each public beach.

102. At the initiative of the TDP, the international Blue Flag programme is being introduced to the RM with the aim of increasing the confidence of European visitors in the environmental quality of the beaches and bathing waters. This is a voluntary eco-label given to beaches, boats and marinas that meet required criteria in terms of water quality, environmental management, environmental education and safety. Based in Denmark, the Blue Flag programme is run by the non-governmental and non-profit organization

⁷⁵ Meeting of PPG team and MoTEC, April 2015.

⁷⁶ Association des Hotels de Charme 2010. Implementing Environmentally Friendly Best Practices in Small and Medium Hotels. Final Report to ReCoMaP. 27 pp.

⁷⁷ 5th CBD National Report.

⁷⁸ <http://www.lemauricien.com/article/fondation-ressources-et-nature-rodriques-naturellement-label-vert>

“Foundation for Environment Education” (FEE). A pre-feasibility study was undertaken in Mauritius involving a review of existing legislation, strategies and policies along with a brief site visit to the proposed beaches⁷⁹. Recommendations have been made for the 33 criteria to be used, giving due consideration to the local characteristics and context. Two pilot sites have been selected for a feasibility study (Albion and Wolmar), based on the presence of adjacent hotels willing to participate and contribute, good water quality, and easy access. Marine parks and particularly critical ESAs were excluded as by definition the Blue Flag Programme is designed for areas with a certain level of visitation which might in some cases be incompatible with management of an ESA. The programme is being managed by MOTEC but will ultimately be delegated to an NGO. An action plan for the implementation of the programme was been developed, which includes the establishing of a National Committee and monitoring of water quality.

103. Beach erosion is an area with overlapping regulatory authority making it difficult to implement measures. The Removal of Sand Act 1982 regulates removal of sand from beaches and the sea, and this was reportedly banned in 2001. However, the main problem now is coastal erosion due to sea level rise and increased frequency and intensity of storms, and the ICZM Division is addressing this through a range of initiatives.

Fisheries

104. The *Fisheries and Marine Resources Act* 2007 (amended 2008) provides for: the management, conservation, protection of fisheries and marine resources and protection of marine ecosystems. Its role in relation to MPAs is described in section 1.2.6. The Act specifically focuses on “fish” and “fishing”. The Act allows for the designation of Fish Farming zones which are specified in the amendment under the *Finance (Miscellaneous Provisions) Act* 2008. The Fishery Master Plan 2011 provides overall guidance.

105. The Act has a number of shortcomings in relation to ESAs: it does not establish a threshold for fish catch or an environmental threshold for fishing or use of fishing gear; and does not prohibit fish farming in sensitive areas or establish an environmental threshold for regulating fish farming. The Act establishes a threshold for suspending or cancelling a fish farm concession, but the power to do so is left with the Prime Minister, rather than the Fisheries Division. In the application for fish farms the Act does not specify the need for information that demonstrates that the proposed fish farm will not or is not likely to cause adverse impacts to an ESA. It does not specify the need to implement measures to restore or develop ESA resources that are the same as and contiguous to the ESA resource to be adversely affected.

106. For the control of Fishing Activities, the Act does not ensure that quotas are based on the maximum sustainable yield for the fishery, as reduced by any relevant economic, social, or ecological factors. It does not specify that a fishery is “overfished” when the rate of fishing mortality jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis. Nor does it provide, in the case of an overfished fishery, the rebuilding the fishery to a level consistent with producing the maximum sustainable yield in such fishery.

107. According to the Government Programme 2015, a new Fisheries and Marine Resources Bill is to be prepared, incorporating international norms and practices for the modernising the fisheries sector.

108. Relevant regulations relating to fisheries management and the protection of marine and coastal biodiversity include:

- Fisheries and Marine Resources (Removal of Corals and Shells) Regulations (2006).
- Seine net closed season regulations

⁷⁹ CLAMS Ltd 2013. Pre-Feasibility Study for Blue Flag Programme in Mauritius. Prepared for the Ministry of Tourism and Leisure.

- Regulations for the collection of sea cucumbers, proclaimed in September 2008 but now superseded by a moratorium (1 March 2012 to 29 February 2016) to allow populations to recover.⁸⁰
- Regulations for seasonal closure of the octopus fishery; closures were implemented in 2012, 2013 and 2014 in the Le Morne as a result of the decline in landings in 2010. Catches have now increased and the stocks have increased in size and abundance. The approach was modelled on similar successes in Madagascar and is seen by local communities to be beneficial.

109. The Action plan for stranded mammals addresses the protection of marine mammals.

Wetlands

110. The 2003 NDS includes two policies relating to wetlands: first, that wetlands need priority protection (Policy Env2), and second, that many wetlands require ecological restoration (Policy Env3). However, at present there is little legislation that directly protects wetlands. The *Rivers and Canals Act* of 1863 and the *Central Water Authority Act* of 1971 regulate water use rights and provide control mechanisms for building development within the vicinity of rivers and streams. The *Central Water Authority Act*, in governing the management and supply of water, is also responsible, *inter alia*, for controlling water pollution, but is not specific in terms of how wetlands would be protected and sustainably managed.

111. The recommendations of the NDS are however embodied in the text of the Draft Wetland Bill (2013) which provides for “The protection, conservation and sustainable management of wetlands and wetlands resources in the Republic of Mauritius.” Once enacted, this legislation would require that a management plan be produced for each Ramsar site (see section 1.2.5.6) and also for each Category 1 wetland (i.e. those defined as Category 1 wetlands and within which no development should be permitted). Currently any activities on wetlands that are not Ramsar sites are regulated solely through the EIA provisions, after consultation with Ramsar Committee. The draft bill prohibits draining or filling of, ecological interference with, and a range of other activities in wetlands and their buffer zones.

Marine and Coastal Protected Areas

112. There are a range of types of protected areas that have been established to protect marine and coastal biodiversity (Table 4). Currently an estimated 15,913 ha of the marine environment are legally protected: 9,150 ha on Mauritius (two Marine Parks, six Fishing Reserves), with an additional area of 1960 ha within the buffer zone of the Le Morne Cultural World Heritage Site, and 6,763 ha on Rodrigues (one Marine Protected Area and four Marine Reserves). This section provides a summary of information about marine and coastal protected areas, and further details are provided in [Study #2 in Annex 5](#).

Table 4: Protected Areas in Mauritius and Rodrigues with marine and coastal components⁸¹

Protected Area	Year designated	Area ha	IUCN Category
Marine - Mauritius			
Blue Bay Marine Park	1997/2000	353	II
Balaclava Marine Park	1997/2000	485	II
Poste Lafayette Fishing Reserve	1983/2000	280	IV
Poudre d’Or Fishing Reserve	1983/2000	2,542	IV
Trou d’Eau Douce Fishing Reserve	1983/2000	574	IV

⁸⁰ 5th CBD National Report

⁸¹ The proposed turtle reserves, Pearl and Fregate Islands, referred to in the PIF, have been omitted as these are in the Outer Islands and there is uncertainty about their MPA status

Protected Area	Year designated	Area ha	IUCN Category
Port Louis Fishing Reserve	1983/2000	331	IV
Grand Port Mahebourg Fishing Reserve	1983/2000	1,828	IV
Riviere Noire Fishing Reserve	1983/2000	797	IV
Le Morne Cultural WHS marine buffer zone (marine area only)	2006	1,960	
Total MPA Mauritius (excl. WHS)		7190	
Marine - Rodrigues			
South East Marine Protected Area SEMPA	2009	4,343	VI
Riviere Banane Marine Reserve	2007	153	
Anse aux Anglais Marine Reserve	2007	152	
Grand Basin Marine Reserve	2007	1,396	
Passe Demi Marine Reserve	2007	719	
Total MPA Rodrigues		6,763	
Coastal Wetlands – Mauritius only			
Rivulet du Terre Rouge Bird Sanctuary & Ramsar Site	1999/2001	26	
Blue Bay Ramsar Site (as for Marine Park)	2008	353	
Pte d'Esny Wetland Ramsar Site	2011	22	
Islets - Mauritius			
Round Island Nature Reserve		169	
Serpent Island Nature Reserve		32	
Gabriel I. Nature Reserve		42	
Flat I Nature Reserve		253	
Gunner's Coin Nature Reserve		76	
Pigeon Island National Park		0.6	
Ile d'Ambre/Ile Bernache National Park		128	
Ile aux Aigrettes Nature Reserve		25	
Ilot Flamants National Park		0.8	
Ile aux Oiseaux National Park		0.7	
Ile Mariannes Nature Reserve		2	
Ile aux Fous National Park		0.3	
Rocher des Oiseaux National Park		0.1	
Ile aux Fouquets National Park		2.5	
Ilot Vacoas National Park		1.4	
Ile de la Passe Ancient Monument		2	
Islets - Rodrigues			
Ile aux Sables Nature Reserve		8	
Ile aux Cocos Nature Reserve		15	

a. Marine Protected Areas

113. The *Fisheries and Marine Resources Act* 1998, revised in 2007, allows the Minister to make regulations to declare as MPAs any area of the maritime zones including the seabed underlying such zones, any land associated with the maritime zones or any marshland, for the designation of three types of MPAs:

- Marine Parks: multiple use MPAs with zoning plans that allow for strict conservation zones in which fishing is prohibited, as well as zones for swimming and other regulated permissible

activities; the objectives are primarily conservation through regulation of activities, public appreciation and enjoyment, and research.

- Fishing Reserves: areas where net fishing is prohibited; there is no zoning; these are primarily aimed at protection of fish breeding and nursery areas
- Marine Reserves: MPAs in which all extraction is prohibited (i.e. no-take zones), including fishing and searching, extracting or drilling for oils or minerals.

114. On Mauritius, MPAs are the responsibility of the MOEMRFSOI, and management is delegated to the Marine Conservation Division at AFRC. There are 6 Fishing Reserves and 2 Marine Parks (Table 5); there are no Marine Reserves, but in Blue Bay Marine Park (BBMP) there is a designated zone within which fishing is prohibited, as allowed for under the regulations. The Fishing Reserves are primarily important as fish nursery and spawning areas and were initially designated as fishery management areas and in 2000, re-designated as MPAs. Fishing Reserves cover a much larger area (6,352 ha) of inshore waters than the Marine Parks (838ha) and could potentially protect a significant proportion of important ESAs, notably seagrass and algal beds, and intertidal mud flats.

115. Management plans have been prepared for both Marine Parks but have not been formally approved and are thus not being directly implemented. There are no management plans for the Fishing Reserves and there is minimal enforcement of the fishery regulations that apply to them. The Act specifies that the Minister may form consultative committees, which are advisory and do not need to include public officers. A Management Committee for MPAs has been set up and meets occasionally; this body is an evolution of the participatory working groups set up for each Marine Park during the development of their management plans in the course of the UNDP-GEF Partnerships for MPAs project.

116. On Mauritius, consideration is now being given to the concept of Voluntary Marine Conservation Areas (VMCAs) which are not formally gazetted but which nevertheless can lead to effective biodiversity conservation through the agreement and efforts of local stakeholders. Reef Conservation has set up three VMCAs on the north coast (at Anse la Raie and Roches Noires) and MMCS is working with local communities on similar ideas for the south west. The Marine Conservation Divisions (MCD) under MOESDDBM is interested in this approach (see [Study #2 in Annex 5](#) for further information).

117. On Rodrigues, there are 5 Fisheries Reserved Areas, 4 Marine Reserves and a multiple-use Marine Protected Area (SEMPA), described in more detail in [Study #2 in Annex 5](#). A draft Management Plan has been prepared for the Northern Marine Reserves (as a group), and the Management Plan for SEMPA has been formally approved and is being implemented. Five Fishery Reserved Areas (not listed in the table above) established under old colonial legislation are no longer managed. Responsibility for marine, as well as coastal and terrestrial, protected areas lies with the RRA.

118. Total no-take area on Rodrigues is 3,684 ha (4 Marine Reserves covering 2,421 ha; 11 conservation zones within SEMPA covering 1,263 ha or 30% of the entire MPA). This approach has proved much more difficult to implement in Mauritius and the only designated no-take area is the Strict Conservation Zone in BBMP covering 9 ha, which is frequently violated; the VMCAs being launched in the north will also be no-take areas but cover a very small area. Fishers have been unwilling to consider no-take zones in the marine buffer zone of Le Morne Cultural WHS and wanted compensation.

b. Coastal Protected Areas

119. Under the PAN project, an assessment is being made of all protected areas as part of an initiative to expand and consolidate the national protected area system for the RM. Few MPAs at present are linked to adjacent terrestrial protected areas and vice versa, although there are a number of opportunities for this, such as ensuring the waters surrounding protected islets are protected, and integrating management of

terrestrial protected areas on the coast with conservation initiatives in adjacent marine habitats. For example, Bras d'Eau National Park (designated in 2011 and previously a Forest Reserve) covers 497 ha of coastal lowland dry forest on the east coast and includes the Mare Sarcelles Nature Reserve designated in 2012, borders on to the Poste la Fayette Fishing Reserve and presents a good opportunity for integrated marine/terrestrial protected area management. The Black River Gorge National Park in the southwest has similar potential given its ecological linkages with the adjacent marine environment.

120. On Rodrigues, Anse Quito Nature Reserve (10.34 ha) lies on the coast within a larger protected area. It was declared in 1983 and is characterized by a coastal dry ecosystem, with a limestone substrate. The endemic tree *Zanthoxylum paniculatum*, the rare *Foetidia rodriguesiana*, *Terminalia benzoe*, *Antirhea bifurcata* and *Gastonia rodriguesiana* trees, two endemic birds (Rodrigues Fody and Warbler) and the endangered Rodrigues Fruit Bat are found there. Restoration by the RRA Forestry Services and the MWF has been ongoing since the mid-90s, currently with the participation of local communities.

121. A summary of other coastal protected areas relating specifically to marine and coastal ESA types is given below and further information can be found in [Study #2 in Annex 5](#).

World Heritage Site

122. The Le Morne Cultural WHS was designated as a UNESCO World Heritage Site in 2008, and includes a Core Zone and Buffer Zone. Some 60% of the Buffer Zone covers the lagoon, and this is an important component of the WHS as the maroon slaves used marine resources; traditional fishing practices are thus considered part of the cultural heritage of the area. This has necessitated production of a Lagoon Management Plan, developed in consultation with local communities and fishers, and which proposes a zoning plan for the area. However, this has yet to be implemented.

Protected Islets

123. A total of 16 islets (one of the ESA types) are protected, in 9 separate designations, either as individual Nature Reserves and an Ancient Monument or as components of the Islets National Park (each of the islets listed as National Park in the table above is part of the overall National Park). MOAFS is responsible for the management of biodiversity on islets, and three forms of protected areas have been gazetted:

- Nature Reserve: designated under the Forest and Reserve Act of 1983 and managed collaboratively by the Forestry Service (FS), with in some cases NPCS and in other cases delegated to organizations such as MWF
- National Park: designated under the Wildlife and National Parks Act of 1993, and managed by the National Parks and Conservation Service (NPCS)
- Ancient Monument: managed by NPCS

124. Islet-specific biodiversity and conservation management schemes were drawn up for nine of these islets in 2004 under Phase 1 of the Islets National Park Strategic Plan project⁸², including a proposed zoning scheme, and were submitted in 2010 but are still awaiting approval. Under Phase II of the mentioned project⁸³, management plans were developed for five islets and associated lagoons of the Islets National Park, and two islets in the south west which had been recommended for recreation and tourism development (Ilot Fourneau and Ile aux Benitiers). A draft marine management plan was prepared for the combined Flat-Gabriel Island marine System, recommending that this should be designated as a Marine Reserve, to include the lagoon out to 20 m depth. The zone extending from the north of Ile aux Benitiers

⁸² <http://agriculture.govmu.org/English/Pages/Development-of-Management-Plan.aspx>

<http://agriculture.govmu.org/English/Pages/Home/Development%20management%20plan/chap4.pdf>

⁸³ University of Mauritius/NPCS (2008). Development of Management Plans for the Conservation and Management of the Offshore Islands for the Republic of Mauritius. Phase II.

around Le Morne to the east of Ilot Fourneau and out to the 20 m isobath was also recommended for designation as a Marine Protected Area. Further details on proposals for islets are given in [Study #2 in Annex 5](#).

Protected Coastal Wetlands

125. The only nationally designated protected area for coastal wetlands is the Mare Sarcelle Nature Reserves, within Bras d'Eau National Park.

126. There are also three Ramsar sites (designated under the Conventions on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR Convention) of which Mauritius is a signatory). Two of these are important habitats for more than a dozen regularly visiting migratory bird species and one of which (BBMP) is designated for its coral reef biodiversity. NPCS is responsible for management of the two marshland Ramsar Sites:

- Rivulet Terre Rouge Bird Sanctuary, located just north of the Port Louis Harbour, is a tidal mudflat that is used as a wintering area by some 100 – 1000 migratory birds each year representing 14 species; there are also 3 species of endemic plants including *Sesuvium ayresii*. The site was proclaimed as a reserve in 1999 and as a Ramsar site in 2001.
- Pointe d'Esny Wetland Ramsar site lies to the north of BBMP and abuts the Grand Port Mahebourg Fishing Reserve. It covers 22 ha and was designated in 2011 and is managed by the FS. It is a rare example of a wetland characterized by a subtropical mangrove forest containing both *Rhizophora mucronata* and, reportedly, the rarer *Bruguiera gymnorhiza*, as well as mud flats, and a sub-mangrove belt of pan-tropical coastal plants.
- BBMP was designated as a Ramsar site in 2008; see description above.

Pas Géométriques

127. The *Pas Géométriques Act* 1982 defines the Pas Géométriques which make up a narrow coastal belt of state-owned land around both Mauritius and Rodrigues. The Pas Géométriques are managed by MOHL and the majority of the land involved has, in accordance with the Act, been leased on a renewable basis and given over to residential and tourism development. The conservation value of the remaining 635ha of undeveloped land, which is managed by the FS primarily for recreational use (all the public beaches are within this coastal strip), is limited to acting as a physical buffer to coastal developments. Under the PAN project, consideration is being given as to how this coastal strip may be included within the protected area network. The majority of the ESA type "sand beaches and dunes" lies within the Pas Géométriques.

Effectiveness of MPA management

128. Ensuring effectively managed MPAs in the RM that fulfil national conservation goals has proven difficult. The GEF Management Effective Tracking Tool (METT) was used in the course of the previous UNDP-GEF Partnerships for MPAs project. For the Marine Parks in the island of Mauritius, the scores showed slight progress as a result of that initial project, rising from 35-40% at the beginning of the project in 2006 to 44-45% at the end by 2012.

129. METT assessments were carried out in connection with this project during the PPG phase for six METT sites: the three main MPAs (BBMP, BMP and SEMP) plus the Fishing Reserves around Mauritius and the Marine Reserves in Rodrigues (see [Annex 3](#)). For the three main MPAs, the current METT scores are probably not directly comparable to those of 2012—or at least not without due contextual considerations. Yet, if they were comparable, we would observe a slight increase in management effectiveness for BalACLava Marine Park (BMP, score is 48% now against 44% in 2012) and a tangible increase for BBMP (current score is 58% against 45% in 2012, that is a 23% increase). In interpreting the evolution in METT scores over the years for BBMP and BMP, it is important to point out that the

Management Plan for BBMP was only finalised in end 2012, and hence not captured in the METT score for that year. The management of BBMP has indeed improved, but the scores for several specific questions indicate that the management plan is not yet being fully implemented. As for BMP, a draft management plan exists but has not been approved, even though some management activities included in the plan are underway. The Fishing Reserves, as mentioned above, are not well enforced and the clustered METT score for these was 28%.

130. On Rodrigues, there has been greater success with management, presumed to be an illustration of the effectiveness of the co-management approach. For SEMPA, the METT score increased from 8% at the beginning of the previous project to 71% at the end. With the end of funding from the previous project however, the capacity for management has noticeably declined, and the METT score for SEMPA during the PPG phase had dropped to 63%. The METT was completed for the Northern Marine Reserves during preparation of the Management Plan for these sites, when the score was 25%.⁸⁴ The current METT score, as undertaken during this project's PPG is 43%.

131. Much of the progress made to date by MPAs in the RM is due to the previous project: MSP UNDP-GEF Project PIMS 864 "Partnerships for Marine Protected Areas in Mauritius", which had a GEF grant of USD1.0M and co-financing of USD3.365M. The two main objectives were to develop:

- An enabling policy and institutional framework for the sustainable co-management of MPAs throughout the RM, using the model to be developed for Rodrigues, largely conceptualized as 'co-management', between government, local communities and the private sector.
- Innovative co-management arrangements to be adapted and implemented at a representative demonstration site in Rodrigues.

132. Positive results of the project included the establishment and implementation of SEMP, purchase of a range of equipment for managing MPAs and creating public awareness (e.g. underwater trail) for Mauritius and Rodrigues, training and exchange visit between Rodrigues and Mauritius, development of management plans using a participatory approach (during which MPA Working Groups were established in 2011 for SEMPA, BBMP and BMP), undertaking carrying capacity assessments for the marine parks in Mauritius and commissioning a review of policy and legal frameworks for MPAs. Similar progress was made for the Northern Marine Reserves in Rodrigues through a series of projects undertaken by Shoals Rodrigues and the RRA, with funding from the GEF's SGP, ReCoMap and other sources.

133. Nevertheless, for all the designated MPAs there is a need for further investment to fully implement the draft Management Plans and ensure effective management. Particular attention is needed to mechanisms for managing the watersheds to reduce negative impacts on the MPAs. There does not seem to be any connection between the management of land activities and that of the MPA itself, with uncontrolled activities very clearly taking place both on the shore and on the adjacent land, with a lack of proper trash collection facilities and other visible shortcomings. In addition to the operational requirements laid out in the management plans, further consideration is needed, in the case of the Marine Parks, of their design: their size seems to be an order of magnitude below the minimum needed for a functioning MPA that incorporates ecological processes at the proper scale.

134. Fundamental to the lack of effective management is the fact that there is no sustainable financing mechanism. For the Mauritian MPAs, the MOEMRFSOI budget allocation covers staff salaries and running expenditures, including enforcement, and the RRA funds basic operations of SEMPA and the Northern Marine Reserves. On Mauritius, for certain activities, permits are issued which vary in price from USD3.00 to USD1600. This income however is returned to the Government and is not retained by the MOEMRFSOI for MPA management. Section 8 of the Fisheries and Marine Resources Act allows for the establishment of a Marine Protected Area Fund which would consist of funds raised through donations,

⁸⁴ This is referred to in Appendix 11.8 of Vol 11 of the Draft Management Plan.

user fees or other revenue from the MPAs, with the intention that this money would be used for MPA management, but this has yet to be put in place.

135. The draft Management Plans for BBMP, BMP, SEMPA and the Northern Marine Reserves provide budgets and good information on the anticipated costs of running each MPA. For example, for SEMPA the annual budget has been estimated between about USD340,000 (for core costs) and USD420,000 (for optimal costs). On Mauritius, the current annual budget allocation for *all* MPAs is just over USD300,000, of which only about 60% is available for operational costs (the rest being for construction of the BBMP visitor centre) (see Financial Scorecard in [Annex 3](#)).

136. A range of potential mechanisms for financing the MPA system have been suggested (see management plans and documentation produced through the previous project). In addition, the PAN project is developing a financing approach and strategy for the network as a whole that can be built on. There are many potential options:

- Entrance and user fees, with different tariffs depending on type of user (daily users, holiday periods, tourists, researchers, annual passes, etc), admission to facilities (e.g. visitor centres) and activities undertaken (diving, snorkeling, sport fishing, boat trips, research etc.); this approach is already well established in Mauritius in parks such as Casela.
- Rental fees for use of equipment such as boats and bicycles and from concessionaires; concessions encourage private investment in the MPA, can help to attract visitors and, if managed appropriately, can provide employment for local people; potential for a tourism concessions process is being investigated for terrestrial protected areas through the PAN).
- Sales revenue from operation of retail shops/souvenirs shops etc.
- Donations from Private Sectors (through CSR), NGOs and Academic and Research Institutions involved in R & D.
- Licenses and permits fees for tourism operators running activities such as fishing, boats, etc. Boat operators and fishers currently pay for permits to operate within BBMP, generating some USD27,000 annually although this is not returned directly to the MPA.
- Special service fees such as shuttle service in the area, etc.
- Open days, competitions, and other public events can be used to generate funds and also for awareness-raising.

1.3 Long term solution and barriers to achieving the solution

137. As described in Sections [1.2.5](#), [1.2.6](#) and related sections, key habitats along the coast and in nearshore waters of the RM face high anthropogenic pressures, are largely unprotected and are being unsustainably managed.

138. This project seeks to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into the operations and policies of the tourism and physical development sectors in the RM through an integrated management approach based on the ESAs inventory and assessment.

1.3.1 The preferred long-term solution

139. The preferred solution proposed by the project is to effectively mainstream marine and coastal biodiversity concerns into the ICZM framework and to ensure that MPAs are fully implemented and effectively managed as part of this framework.

140. This requires that the agencies and organisations involved have adequate institutional and operational capacity to: (i) identify, prioritize and plan activities that will ensure appropriate conservation and management of marine and coastal ESAs; (ii) develop incentives and a financial strategy to support long-term implementation of the measures proposed; (iii) develop an approach that has conservation stewardship and broad gender and socially inclusive stakeholder participation at its base; (iv) effectively plan, resource and manage the MPA network; (v) improve understanding of the socio economic and behavioural root causes of and mitigate the threats to, and pressures on, the essential marine and coastal biodiversity and associated ecosystems contained within the MPAs and the coastal planning areas (landscape-seascapes); (vi) ensure better integration of MPAs and coastal and marine ecosystems into the country's socio-economic development priorities, in particular development of the tourism industry, to ensure its long-term social, economic and financial sustainability; and (vi) respond effectively to the aspirations and needs of, and meaningfully involve, different stakeholder groups in the ongoing planning and operational management of the coastal and marine biodiversity and ecosystem services.

141. In the long-term, the expectation is that:

- The RM has a sound, well managed information base and knowledge management system, allowing: decision-makers access to the key data and resources required for effective policy responses and management; and the public and other stakeholders access to the knowledge needed for them to support, understand and contribute to the review, monitoring and the effectiveness of regulations and management initiatives introduced
- The ICZM framework is fully implemented, takes into account the policy requirements laid out for management of marine and coastal ESAs, and planning is undertaken at appropriate local levels (e.g. coastal areas of Districts) and addresses upstream impacts and integrates catchment management
- The tourism industry contributes to conservation and management of marine and coastal biodiversity and the protection of vital ecosystems by following appropriate standards (through an eco-labelling scheme)
- MPAs cover all critically threatened marine and coastal biodiversity (including Category 1 ESAs and Category 2 ESAs where appropriate) and meet national targets inspired by the CBD in Aichi Target 11 for an ecologically representative network, which will, in the long-term, be integrated with the terrestrial protected area network.
- The national MPA network is effectively managed and achieving its conservation objectives.
- Soil erosion is reduced and sustainable land use management is introduced in catchment areas to reduce and eliminate pressures on marine and coastal biodiversity from inland activities.
- Coastal wetlands are protected and managed and deliver their full range of ecosystem services.

142. The current 'baseline scenario' points to an interest from various national institutions, donors and civil society organisations in supporting mainstreaming action in different ways. However, there are notable gaps in the baseline investments and overall responses:

- Failure to implement measures on the ground to safeguard biodiversity and ecosystem services in marine and coastal ESAs;
- The management of the MPA sub-system will remain sub-optimal; and
- Ecosystem service values will continue to be lost in coastal and marine areas if upstream impacts causing erosion and unsustainable land management are not addressed.

1.3.2 Barriers to achieving the solution

143. The project adopts a barrier-removal approach to the problems outlined in the previous section. A number of barriers to the mainstreaming of coastal and marine biodiversity were identified at the Inception Workshop during the PPG phase as follows:

- Despite recognition of the importance of coastal and marine biodiversity to the sustainable development of the RM, a number of bills and policy documents are still pending, and lack the implementation mechanisms needed to take forward effective protection and management. These include the ESA Bill and associated policies and reports, the Wetlands Bill, and several plans and policies for Rodrigues such as the SLM plan and the Local Development Plan.
- Although the ESA study was sent for information to Cabinet in April 2010, it has not been formally recognized and at present the ESAs are not fully integrated in the development planning process. The ESA maps have not been distributed to all local authorities, and it is not always easy for a planning authority or developer to identify whether a proposed development site will impact on an ESA.
- There has been little public education and awareness on the importance, function, services and ecological value of ESAs and there are numerous proposals from developers who want to use sites on or adjacent to ESAs.
- It remains to District and Municipal Councils to flag up the proximity of developments to the ESAs. It is not clear whether an EIA is required for all land clearing and development in or adjacent to ESAs, and ESAs may often be overlooked in EIAs.
- There is a need for a deeper understanding of how coastal and marine ecosystems are fundamental to sustainable livelihoods, benefit the national economy, and support a cohesive society enjoying an improved quality of life and wellbeing. This is a result of: insufficient evaluation of the wider impact of policies and measures (especially economic ones) at both design and implementation; insufficient education and awareness raising on this issue, lack of ecosystem valuation and monitoring studies with few or no case studies to demonstrate the values of coastal and marine biodiversity; and poor understanding of the benefits of MPAs to local people. This makes it difficult to generate a sense of stewardship/community ownership of coastal and marine resources and the lack of incentives inhibit compliance with regulations. Where benefits are seen (e.g. octopus fishing closures on Rodrigues and Mauritius) and adequate alternative livelihood provision is made, communities are more likely to participate and comply.
- There are significant capacity deficits at many levels e.g. research, enforcement, effective planning and management.
- The approach of participatory management and stakeholder involvement, although well understood in Rodrigues, is difficult to implement, because appropriate mechanisms for enforcement and maintenance of this approach are poorly understood and, at some levels of government, the approach is not yet accepted as a suitable way to go forward.
- Despite the existence of co-ordinating committees such as the ICZM Committee and the Ramsar Committee there is a lack of collaboration, communication and co-ordination between ministries and other organisations, with overlapping mandates of ministries and agencies (e.g. Forestry Service and NPC), and much bureaucracy.
- There continues to be a poor understanding of the value of marine and coastal biodiversity and the role it plays in the local economy at all levels.
- The carrying capacity of the lagoon, in terms of numbers of users and type and intensity of activity is insufficiently understood to ensure that appropriate licensing of lagoon and beach activities is undertaken.

- Baseline data is outdated and sources other than Statistics Mauritius should be used for updating, e.g. use published data from NGOs.

144. Based on these and subsequent analyses by the PPG team, three sets of barriers have been identified that apply to this project:

Barrier #1. On coastal zone management

Weak implementation of the ICZM framework and inadequate incorporation of biodiversity and sustainable land management concerns into planning and decision-making processes.

145. The RM has put in place an ICZM framework and a core set of individuals in several Mauritian institutions have been trained and exposed to international best practices and are thus able to understand and address key ICZM issues. However, the inter-institutional collaborative management framework that ICZM requires is only slowly developing. Responsibility for the various aspects of ICZM remains diffuse, mirroring the situation for biodiversity and ecosystem service management, and the ICZM plans that have been produced are not fully understood. There are visible weaknesses with respect to the integration of biodiversity and ecosystem services management into decision-making processes governing land use, and insufficient attention paid to land-based sources of pollution and sedimentation.

146. First, ESAs are only partially being considered in planning for development and land use and only a small proportion of coastal and marine ESAs fall within protected areas. The protection and sustainable management of these ESAs are seriously handicapped due to inadequate legal protection (requirements to plan, monitor and enforce measures to avoid and reduce impacts on biodiversity and ecosystem services in sensitive areas). There are also issues with enforcement of regulations (e.g. the construction setback on the coast is often not being respected and many coastal wetlands are being backfilled – it is also not clear if and when penalties apply). Some of the regulations could also benefit from strengthening (e.g. the biodiversity aspects of tourism regulations are restricted to undersea walks and a few more provisions; also water abstraction levels are at some points along the coast beyond the aquifers' refill capacity).

147. Second, while there is considerable information and data on biological resources, protected areas and ecosystem services in RM, this information is not being systematically used by key institutions involved and is often not easily available. Mechanisms for knowledge management of coastal and marine biodiversity are lacking and information, particularly the ESA documentation on location and status, is not available for decision makers or the general public.

148. Third, the trade-offs inherent in land-use allocation in areas that are both rich in biodiversity but are also a tourism attraction, need to be negotiated on an informed and consultative basis. In spite of the importance of the tourism sector for the economy and, equally, of coastal and marine ecosystems for the tourism industry, there are few joint efforts to promote the sustainable management of biodiversity rich areas. The initiative by MOTEC and the tourism industry to adopt national standards does not fully address biodiversity and ecosystem services and lacks resources and incentives for effective implementation.

Barrier #2. On MPAs

MPAs in the RM have insufficient resources, coverage is insufficient and the concept of no-take zones is not widely accepted

149. Both Mauritius and Rodrigues have obstacles and constraints to implementation of their MPAs, the introduction of no-take areas and completion of the national MPA network. Particularly critical in both islands is the lack of sustainable financing and of effective community and fisher participation in management, aggravated by a widespread perception that MPAs do not deliver the benefits that have been promised. More work and a cohesive strategy is needed to sensitise the general public to the value of MPAs.

150. In Mauritius, BBMP is the only fully operational MPA but lacks resources for effective management; BMP has yet to be demarcated. Although management plans were prepared for both Marine Parks through a stakeholder involvement process, it has not yet been approved for BMP and implementation remains incipient for BBMP. Furthermore, links with local communities and other stakeholders have waned at both locations in the intervening years which is contributing to poor compliance particularly on the part of local fishers. Both Marine Parks are zoned, but until mechanisms are in place for improved consultation and participation by local communities in management and enforcement of the zonation scheme will be difficult. For example, the tourist boat operators are major users of the BBMP but are not organized in such a way that would facilitate their involvement in management and allow them to develop sustainable practices. A further barrier is the perception by the public of the Fisheries Protection Service (FPS) and the National Coast Guard (NCG) as enforcement agencies; experience in other countries suggests that creating a friendly image for such agencies can greatly increase compliance.

151. In Rodrigues, there has been stronger engagement of the fisher community, with extensive local participation in both the development of SEMPA and the Northern Marine Reserves. However, in recent years, this has weakened as the communities are not seeing the benefits of these MPAs that were expected. This is attributed to ineffective management, resulting in illegal use of resources by some segments of the community which breaks down trust, and insufficient support for alternative livelihoods. Part of the difficulty is the transition from a project level of operation to its mainstreaming in planning and budgeting processes in administration and the allocation of adequate institutional and financial resources. SEMPA has insufficient funding to maintain posts such as Education, Scientific and Finance officers, and can only fund basic enforcement and running of the MPA. Lack of business skills and training in marketing is preventing the successful adoption of alternative livelihoods

152. Although some 15% of the lagoon around Rodrigues has legal designation and potential for effective protection, in Mauritius, there are still many areas of critical marine and coastal biodiversity that are either not designated or that receive little management. There is potential for expanding the MPA network through effective management of the Fishing Reserves and the development of VMCA's but this is currently constrained by lack of capacity.

Barrier #3. On management of land areas

Limited planning and management of coastal land and catchments that would ensure an integrated approach to protection of coastal and marine biodiversity.

153. The impact of sedimentation in lagoon areas is widely visible in both Mauritius and Rodrigues and the source can be traced to unsustainable land use practices that result in erosion and soil loss (soil runs off into streams and rivers, eventually concentrating in river mouth areas, where excess and unfiltered sediment is directly discharged into the sea with significant impacts on lagoon ecosystems). Equally, in Mauritius, impacts on critically threatened coastal wetlands due to unsustainable land management practices in adjacent areas are widely ignored.

154. In Rodrigues, the soil erosion problem derives from overgrazing, which has already denuded soils in some drainage basins, and from unsustainable construction practices (houses, roads and other infrastructure). The exceptions are very steep slopes that are unsuitable for agro-pastoral practices and where some forest cover has been maintained. Most of the land in Rodrigues is State owned but is often treated as communal. Over the decades, common land tenure has translated into unregulated access to and use of land resources, resulting in land degradation. In Mauritius, erosion is largely related to commercial agricultural practices, as well as rapid growth in residential and tourism infrastructure development. Much of the land is private and was traditionally dedicated to sugar cane farming, which has been losing

productivity and profitability in the past few years. Owners have been gradually abandoning soil conservation measures as a consequence.

155. A key challenge is poor access to information on the status of land resources and ecosystem functions, which constrains both national level planning and the design and execution of appropriate watershed management interventions. Another challenge is the absence of examples of sustainable land use practices. In the case of wetlands, despite some recognition of the important environmental services they deliver, the absence of an integrated knowledge base has impeded efforts to develop effective policy. Without well-crafted policy in place, it remains difficult to understand the implications of wetlands use and protection on private-sector growth and public good, and to formulate cost-effective management of these areas in a manner consistent with national and international best practice.

1.4 Baseline Analysis

156. The baseline is the “**business-as-usual**” scenario that would take place during the next 5 years in the absence of the interventions planned under the project. Under this baseline scenario, it is expected that a range of activities relating to the mainstreaming of coastal and marine biodiversity in coastal management would be undertaken anyway, and that these would have positive impacts on coastal and marine biodiversity. Baseline activities⁸⁵ are described further down, broken into three parts reflecting the three components of the project: (1) mainstreaming of biodiversity into physical planning and the tourism sectors; (2) strengthening MPAs; and (2) sustainable land use management in selected sites. For all components, some activities are currently underway and are likely to continue that will go some way towards achieving the objectives of the project. In the design of the project strategy, these activities have been taken into consideration. The GEF intervention builds on them.

1.4.1 Baseline activities

Baseline for Component 1: Sectoral Mainstreaming

157. **Knowledge management, data updating, communications and awareness raising.** The MOHL is planning to set up the NSDI which will potentially include spatial data on the marine and coastal ESAs and other related aspects of biodiversity. The MOESDDBM maintains the CCIC which houses information on marine and coastal biodiversity and currently holds data and information on ESAs. MOAFS gathers information on biodiversity in general in its role as focal point for the CBD, and on wetlands (through the NPCS). The MOEMRFSOI, through MOI and the AFRC, holds and manages information on mangroves and subtidal habitats; in particular MOI maintains a database of the marine organisms of the RM and is compiling an inventory, using DNA-based identification, of commercial marine organisms (the Marine Diversity and Genetic Data Bank)⁸⁶. AFRC and MOI have programmes to monitor coral reefs which will contribute to updating of the ESA maps. The RRA and MWF manage terrestrial biodiversity information for Rodrigues. NPCS is updating the ESA data for coastal wetlands. The NGOs Reef Conservation and MMCS gather data on reefs in Mauritius and Shoals Rodrigues is gathering information on reefs in Rodrigues.

158. A range of education and awareness raising activities relating to marine and coastal biodiversity are underway through the MOESDDBM (Information and Education division; CICC), MOAFS (NPCS on wetlands) and MOEMRFSOI (BBMP Visitor Centre), and RRA (SEMPA Interpretation Centre). The

⁸⁵ The cost estimates for the baseline scenario are total baseline costs projected over the five years of the GEF project

⁸⁶ <http://www.mdgdb.com/>

NGOs also undertake marine and coastal biodiversity communication work, including Reef Conservation (Reef Mobile Bus visits public beaches schools; training courses; marine eco-guide programme), MMCS, Shoals Rodrigues and MWF (restoration and management of islets, with a particular focus on seabirds, ecotourism and education programmes that relate to marine and coastal biodiversity). However, there is no assured mechanism for presenting co-ordinated messages and keeping the existing information centres updated. The University of Mauritius supports the Ocean Knowledge Cluster for the Ocean Economy by providing capacity building in areas related to marine science, fisheries, biodiversity and maritime law. Its newly set-up Faculty of Ocean Studies along with other faculties (Science, Engineering, Law and Management) support teaching and research on environmental protection, coastal resilience, ecosystem monitoring, conservation, mapping of resources, coastal protection, coastal zone management, economic valuation, tourism and socio-economic issues. The University of Technology runs courses related to Sustainable Tourism and Environmental Management within its School of Sustainable Development and Tourism (SSDT)⁸⁷.

159. **ICZM planning and implementation.** MOHL undertakes physical development and land use planning based on the OPSs which require that ESAs are taken into consideration. MOESDDBM has a broad programme on ICZM, through the staff of the ICZM Division, and its role in hosting the ICZM Committee; it undertakes ICZM planning work and ensures implementation of priority activities. The Beach Management Authority undertakes activities to protect and manage sand and sand dune ESAs; the Climate Change division undertakes activities relating to ESAs and their resilience to climate change; and under the Government Programme 2015-2019 is charged with producing beach management plans. The MOLG provides an annual grant to the District Councils to support their role in assessing planning applications and development proposals. The MOTEC, with the NCG, is responsible for implementation of the Lagoon Management Plan. The RRA is developing an ICZM plan, and convenes the Rodrigues ICZM Committee. MMCS is undertaking community-engagement work related to ICZM in Black River District.

160. **Sustainable tourism and eco-labelling.** MOTEC and the Tourism Authority undertake a number of activities that contribute to improving the sustainability of the tourism sector while reducing its impact on ESAs, including implementing the Blue Flag programme for beaches, implementing a standard for sustainable tourism and undertaking other initiatives to promote “Green Tourism”. MMCS is supporting MOTEC in preparing a feasibility study for certification of dolphin watching operations.

Baseline for Component 2: MPA Management

161. **Improving the management effectiveness of the MPA network.** The MOEMRFSOI manages MPAs through the AFRC, provides enforcement through the FPS, and conducts marine research and conservation through the MOI; the total annual budget allocated to MPA management within Mauritius is just over Rs 10.5 million⁸⁸ (c. USD300,000), and in 2015/2016 includes the construction of a visitor centre at BBMP and potentially a second visitor centre for BMP. It is also responsible for implementation of the Fisheries Management Master Plan which addresses lagoon and inshore fisheries. RRA provides an annual budget for implementation of basic MPA activities. The NCG (part of the Mauritian Police Force under the PMO) provides enforcement support for MPAs on Mauritius and Rodrigues. The NPCS has contributed to development of a management plan for the marine area surrounding Flat and Gabriel islets. The Le Morne Heritage Fund (Ministry of Arts and Culture) undertakes activities that contribute to management of the marine buffer zone of the Cultural Heritage site.

162. MMCS and Reef Conservation provide support to the Marine Parks in Mauritius in terms of community engagement, support for enforcement and ecological monitoring; Shoals Rodrigues provides equivalent support on Rodrigues. Reef Conservation and MMCS are working with the MCD to assess the

⁸⁷ <http://www.utm.ac.mu/index.php/en/template-styles/ssdt>

⁸⁸ 2015 Financial Sustainability Scorecard

feasibility of establishing VMCAAs. MWF carries out conservation activities to protect threatened terrestrial species and seabirds on the islets.

163. **Investment framework and financing strategy for MPAs.** The MOEMRFSOI, with the Ministry of Finance, allocates and manages the budget for MPAs on Mauritius. The RRA undertakes this role in Rodrigues.

Baseline for Component 3: Relevant land-based ecosystem management in targeted sites

164. **Erosion control on Rodrigues.** RRA is taking steps to complete and implement the SLM plan for Rodrigues which will contribute information and experiences for the demonstration site at Riviere Coco. MWF has projects on Rodrigues to help reduce soil erosion, including the establishment of community managed forests, within which communities help with removal of alien species and reforestation with natives.

165. **Coastal wetlands restoration on Mauritius.** The NPCS and the Ramsar Committee are undertaking activities to manage (through the assessment of developments relating to wetlands) and create awareness about (e.g. World Wetlands Day) publically owned wetlands, with priority given to Ramsar sites.

1.4.2 Summary of the financial baseline

166. The baseline scenario has many encouraging elements. However, the limited resources and capacity available means that these can only make a partial contribution to the efforts required to ensure that marine and coastal biodiversity is effectively mainstreamed, MPAs effectively managed, and ecosystem services restored and effectively protected.

167. The assessment of this project's financial baseline is based on an analysis of the current Budget, consolidated by the Ministry of Finance and Economic Development for the period 2015 to 2018, with inputs from the key Ministries (see Table 5), and extrapolated to cover a period of 5 years (2015-2021). Until 2014, the budget was Programme-Based. In 2015, an input-based Recurrent Budget approach was adopted with the financial year running from July to June, and this was used to calculate the baseline for the period July 2015-June 2018).

Table 5: Baseline financial breakdown

Organisation	Summary Activities (<i>see also fuller text description above</i>)	Baseline over 5 years USDm
MOEMRFSOI	Updating of spatial data on and monitoring of marine ESAs through MOI; enforcement and management of MPAs through AFRC (Marine Conservation Division and FPS); fisheries management of the lagoon	3.00
MOESDDBM	Information management through CCIC; ICZM planning and implementation; beach management; climate change; education and communications	5.70
MoHL	Spatial data management through NSDI, revision of OPSs, Digital Cadastre, other relevant land use planning activities	4.40
MoTEC	Regulation of tourism and activities contributing to implementation of the tourism standard	8.90
MOAFS	Information management on biodiversity, wetlands, forestry; updating spatial data on wetlands and mangroves; management of islets and coastal forests; biodiversity and management of protected areas; education and communication on wetlands	5.40

Organisation	Summary Activities (<i>see also fuller text description above</i>)	Baseline over 5 years USDM
MOLG	Support for activities undertaken by District Councils related to planning and regulation of development projects and approved zonings, and limiting adverse impacts on the natural environment	2.20
PMO/Police Force	Enforcement of lagoon and MPAs by NCG	2.00
Min Arts & Culture	Le Morne Heritage Fund contributes to the implementation of the Lagoon Management Plan for the marine area around the Le Morne Cultural Landscape	0.03
RRA	Information management, ICZM planning and implementation; management of SEMPA and northern Marine Reserves	1.00
MEHRTESR	The University of Mauritius runs several courses related to coastal and marine biodiversity, including those run by the Faculty of Ocean Studies University of Technology runs courses on Sustainable Tourism.	2.60
Extra-budgetary	Activities undertaken by three NGOs (MWF, Reef Conservation, MMCS) and two COI regional projects (see below)	3.22
TOTAL		38.45

168. The overall financial baseline for this project reaches approximately USD38.45 million, with over 90% of the baseline investments coming from State budgetary resources. The break-down of the project's financial baseline per component is the result of a notional analysis, as several of the inputs contribute to more than one component. Of the total \$38.5 million mentioned in Table 5, \$24.9 million contributes to Component 1, \$10.8 million to Component 2 and \$2.8 million to Component 3.

169. Relevant investments under multilateral, bilateral and NGO programmes is assessed at approximately USD900K per year, of which the part that contributes to the project is assessed at USD3.22M over the life span of the project, including:

- MWF: budget related to coastal projects of MURs 23m (USD 657,000) per annum; funded through local Corporate Social Responsibility programmes, government support, multilateral and regional funds, donations and ecotourism.
- Reef Conservation: funding includes VMCA's (not yet secured) USD 200,000; development of a sustainable octopus fishery in the Bel Ombre Region (private sector) USD 80,000.
- MMCS: funding includes marine turtle conservation projects and awareness-raising and community empowerment USD 53,000; seasonal octopus fishery closure on the south of Mauritius (SmartFish IOC) USD 28,000.
- COI-ICZM project (Sustainable Management of the Coastal Zones of the Countries of the Western Indian Ocean): project budget of 8.8M euros (1.2M euros FFEM; 5.7M euros COI; remainder from AFD and earmarked for the Comores). Relevant activities include ICZM plan for Rodrigues, regional exchanges, regional database on ICZM, coral reef monitoring, development of ICZM tools, and communications, with funding of c.1M euros (USD 1.1M).
- The COI Biodiversity project (Management of Marine, Coastal and Island Biodiversity in the Eastern African and Western Indian Ocean region): project budget of 15M euros (EU). Estimated 1M euros (USD 1.1M) is considered baseline financing in relation to components on (1) improving and harmonising policies and institutional framework; (2) education, awareness-raising and communications particularly aimed at decision makers; (3) improving mechanisms for sharing data relating to biodiversity; (4) establishment of regional biodiversity thematic centres.

170. The baseline financing for the three components of the project has been estimated as shown in Table 6.

Table 6: Overview of the baseline project's finance per Component

Components	Break-down per component	Total baseline (USDM)
<i>Component 1</i>	<ul style="list-style-type: none"> Knowledge management, data updating, communications and awareness raising: existing and planned data bases and information gathering activities in relevant Ministries and NGOs; ongoing education and communication programmes ICZM planning and implementation: on-going ICZM work through ICZM Division and Committee, and RRA. MOHL, MOLG and RRA planning activities where these address ESAs; MOTEC implementation of Lagoon Management Plan; Beach Management Authority activities; MMCS coastal awareness and engagement work in Black River District. Sustainable tourism and eco-labelling: preliminary work on the tourism standard through MOTEC; MMCS project on dolphin watching certification 	24.87
<i>Component 2</i>	<ul style="list-style-type: none"> Improving Management Effectiveness of the MPA network: MPA management activities undertaken by MOEMRFSOI, RRA, NCG and MGOs (MMCS, Reef Conservation) Investment Framework and financing strategy for MPAs: MPA financing activities undertaken by MOEMRFSOI and RRA 	10.76
<i>Component 3</i>	<ul style="list-style-type: none"> Erosion control on Rodrigues: activities underway through RRA and MWF Coastal wetlands restoration on Mauritius: activities underway through NCPS 	2.82
TOTAL		38.45

1.5 Stakeholder Analysis

171. The MOI of the MOEMRFSOI will be responsible for overall project supervision, with key responsibilities, particularly for Component 2, lying with other parts of the Ministry notably the Fisheries Department (Marine Conservation Division and Fisheries Protection Service). Other lead agencies include the RRA (activities across all three components) and the MOESDDBM (responsible for Component 1). Given the cross-cutting nature of the project, these partners will work in close co-operation with MOHL and MOTEC. MOAFS (NPCS) will lead activities under the second output of Component 3 (coastal wetlands conservation). Close liaison will be maintained with relevant District Councils through the MOLG. The project will collaborate with NGOs (including *inter alia*: MMCS, MWF, Reef Conservation, Eco-Sud and Shoals Rodrigues) the private sector and academic and research institutions; and the University of Mauritius.

172. The project will focus its stakeholder engagement at two levels of intervention: (i) working with national and local public institutions and agencies to strengthen their capacity to effectively protect and manage coastal and marine ecosystems and their associated biodiversity, and to align project activities with government's strategic priorities; and (ii) working directly with civil society organizations, formal and informal use rights holders, and private individuals to mitigate impacts and optimize benefits of project activities. Table 7 describes the major categories of stakeholders and their anticipated level of involvement in the project. However, a thorough stakeholder analysis will need to be undertaken once the project starts to ensure appropriate and adequate representation of all interested parties in the participatory work planned through the project and to identify the organisations to be represented on the Project Steering Committee (PSC). The PSC will include government agencies, CSOs and NGOs and private sector representatives; membership will be determined during the inception phase of the project and agreed at the inception workshop.

Table 7: Key project stakeholders and relevant roles

Stakeholder	<i>Provisional anticipated roles and responsibilities in project implementation</i>
Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands Mauritius Oceanography Institute (MOI)	MOI being responsible for implementing the project at national level, and chairing the Project Steering Committee (PSC). It will fulfil its operational obligations by formally delegating specific activities to various entities, given that several of the project's outputs go beyond the mandate of MOEMRSOI. The following agencies will play key roles: <ul style="list-style-type: none"> Fisheries Department: both the Marine Conservation Division (MCD) and the Fisheries Protection Service (FPS) will actively participate in and support the implementation of activities under Component 2. At the operational level, the MCD will supervise and/or directly implement the project activities within all MPAs in Mauritius. At the individual level, it will identify staff to participate in project training and skills development interventions. The Fisheries Department will have representation on the PSC and most local working groups. The MOI with expertise on beach erosion and lagoon dynamics, biodiversity and genetic characterisation of marine organisms, and marine pollution, will provide technical support, data and information, and participate in relevant activities as required.
Rodrigues Regional Assembly (RRA)	The RRA, which is under the Prime Minister's Office, will be responsible for all components in the project relevant to Rodrigues and will play a key role in Output 1.2, and in Components 2 and 3 due to its role in permitting systems, ICZM, MPA management etc., according to the subsidiarity principle. The RRA will have representation on the PSC.
Ministry of Environment, Sustainable Development, Disaster and Beach Management	MoESDDBM, with the mandate for overseeing and developing policies for environment, sustainable development, EIA, ICZM, pollution, environmental information management and communication, will be a key responsible partner. Having commissioned the ESA reports, the MoESDDBM will play the lead role in Component 1, ensuring the alignment of project activities with the implementation of the Strategic Management Plan for ESAs, and promoting the mainstreaming of coastal and marine biodiversity. This Ministry will sit on the PSC. The following agencies will play key roles: <ul style="list-style-type: none"> ICZM Division, with the ICZM Committee which is convened by the MoESDDBM; these bodies jointly implement the ICZM Beach Authority which is responsible for the management of designated public beaches in Mauritius and Rodrigues
Ministry of Tourism and External Communications	With its mandate for identification and oversight of tourist development zones, eco-labelling and, through the Tourism Authority, regulation of all activities relating to tourism and implementation of the Lagoon Management Plan and associated Zoning Plan. MOTEC will be a responsible partner for the project in relation to Output 1.3. and will support activities in other components, particularly Component 1. This Ministry will have representation on the PSC
Ministry of Agro Industry and Food Security	MOAFS will provide support for the implementation of Components 1 and 3 and will have representation on the PSC. The key divisions are: <ul style="list-style-type: none"> Forestry Service – management of coastal forests and Nature Reserves National Parks and Conservation Service (NPCS)- management of islets and wetlands; focal point for biodiversity issues and CBD; convenes Ramsar Committee
Ministry of Housing and Lands (MoHL)	This Ministry is responsible for land use planning, Outline Planning Schemes, Pas Geometriques among other matters. It ensures the compatibility, wherever feasible of land use designation with the objectives of the different categories of ESAs and areas of high conservation value in relation to the coastal zone. It will provide technical support and key datasets for the project's work and through the planned NSDI will work with the project to ensure all relevant spatial data are incorporated. This Ministry will have representation on the PSC
Prime Minister's Office (PMO)	The National Coast Guard (NCG), which is part of the national Police Force and is under the PMO, is responsible for enforcement of regulations in the lagoon and also assists with enforcement of MPA regulations, in relation to non-fisheries issues. The NCG will be involved in Component 2 of the project in relation to improving enforcement of MPAs. The RRA also comes under the PMO (see above).

Stakeholder	<i>Provisional anticipated roles and responsibilities in project implementation</i>
Ministry of Finance (MoF)	The MOF is the GEF Focal Point for the project. The MoF will strive to source additional funding to support projects that may be developed to complement GEF-funded activities. It has an important role to play in reviewing fiscal policy in support of greening the economy and in this project the coastal diversity and ecosystem services dimensions. The MoF will have representation on the PSC.
Ministry of Local Government: District Councils	The project will work closely with the relevant District Councils in Mauritius in all relevant components. The planning analysis and activities to be carried out in Component 1 will involve District Council staff, and these should also be involved on any stakeholder committees and/or working groups that are established for MPAs and wetland conservation.
Ministry of Arts and Culture	The Le Morne Heritage Trust Fund is under this Ministry and is responsible for overall management of the Le Morne Cultural WHS. The project will provide support for the management of the marine part of the WHS Buffer Zone, and will build on experiences in community participation generated during the nomination and management of the WHS as a whole.
Ministry of Gender Equality, Child Development and Family Welfare (MGECDFW)	The Gender Unit of the Ministry is responsible for supporting and oversight of the implementation of the National Gender Policy Framework, which binds ministries, departments and agencies to adopt gender mainstreaming throughout their interventions. It also works with the National Women's Council and the National Entrepreneurship Council, under its aegis, and advocates for, coordinates, finds facilitating agencies to support women's economic empowerment
Ministry of Social Security, National Solidarity and Reform Institutions	The Social Welfare Division within this Ministry operates a network of Social Welfare Centres, which act as venues to build collective awareness, facilitate community dialogue, and could be used to gradually establish the capacity for co management, peer to peer learning and participatory monitoring of changes in coastal sites and communities
Mauritius Standards Bureau	The MSB will be involved in Component 2 in the ongoing work to develop a certification programme for the tourism industry
Village Councils	The Village Councils have limited powers, but the two-way transmission of information to and from the local level is an important area to consolidate. They will play a role in the locality, village council area-based activities under each component.
Mauritius Marine Conservation Society (MMCS)	The MMCS has been involved in marine conservation in Mauritius for some 30 years and since 2006 has had a particular focus on the southwest, undertaking ecological monitoring, engagement of communities and tourism operators, support to enforcement officers, and training and capacity building, with a focus on the south west. It will provide scientific input to the project, and participate in stakeholder activities, production of education and community outreach materials, and assist with implementation of the proposed integrated plan for Black River Coastal District, the sustainable tourism aspect of the project, particularly in relation to certification of dolphin-watching operations, and the establishment of VMCA's.
Reef Conservation	Reef Conservation has played a major role in marine conservation along the northern coast of Mauritius. Its activities include: production of education and communications materials, facilitation with local communities and tourism operators in the development of Balaclava Marine Park; training and capacity building of local users; development of the concept of VMCA's; and ecological monitoring. It will be involved in the project through education and communications activities and support activities to strengthen MPAs and establish VMCA's, and training and awareness raising.
Shoals Rodrigues	Shoals Rodrigues, as the main marine NGO in Rodrigues, has actively engaged fishermen in the establishment and operationalisation of the SEMP and the four Northern Marine Reserves, and has undertaken a wide range of awareness raising and education activities. It will support the RRA in the activities to be undertaken on Rodrigues relating to MPAs, communications and capacity building.
Mauritian Wildlife Foundation (MWF)	MWF works on critically threatened species and forest conservation, and undertakes scientific monitoring and research programs, species conservation management and restoration projects, and has good experience working with the private sector. It is actively involved in islet restoration, ecotourism, public education and awareness. It will participate in related activities on Rodrigues (currently undertaking habitat restoration and soil conservation activities on Grande Montagne and Anse Quitor) and in the planning proposed for Black River District in

Stakeholder	<i>Provisional anticipated roles and responsibilities in project implementation</i>
	Mauritius, and will support work on the northern islets (currently working on an erosion project on Round Island).
Eco-Sud Lagon Bleu	Has been involved in survey and monitoring work in and around BBMP, awareness-raising and working with communities. Will be involved in activities relating to strengthening management of BBMP and protection of the surrounding environment.
Association Terre et Mer Rodriguaise	Engages in action, and applied research, has 12 volunteer members, working in public sector, scientific professional based and local communities; gender balanced; does applied research in sustainable development, engaged in setting up cooperatives
Rodrigues Council of Social Service (RCSS)	RCSS co-ordinates the 96 village communities on the island and undertakes community-based development, including supporting fishing, farming and cottage industry cooperatives. It is well structured and is very active, and will take an integrated cross sectoral view across project activities and facilitate dialogue and potentially conflict resolution.
Plateforme Maurice Environnement	This acts as an umbrella for most of the active environment and sustainable development NGOs. Its role as a platform is important for mainstreaming within ICZM and broader environmental and overall policy; it undertakes policy and budget analysis, evaluation and formulates policy and budget proposals.
Association des Hoteliers et Restaurateurs de l'Ile Maurice (AHRIM)	AHRIM represents an estimated 66% of Mauritian hoteliers and very active in terms of developing an environmentally sensitive and sustainable approach to tourism. It will participate actively in the ecolabelling activities under Output 1.3 and support tourism related activities in other components
Association of Hotels de Charme (AHC)	Developed guidelines and activities in relation to environmentally sound tourism through a grant with ReCoMaP; would be able to contribute to the sustainable tourism component
University of Mauritius (UM)	Undertakes research on a wide range of marine and coastal related issues relevant to the project; will provide technical support and information as required throughout the project. Has recently worked on fiscal policies for greening the economy. The newly created Faculty of Ocean Studies undertakes research and consultancy work on ICZM, economic evaluation, socio-economic issues and tourism
Fisher associations and Cooperatives (Mauritius & Rodrigues)	Fisher Associations in Mauritius and Rodrigues are organised along fish landing stations and are co-ordinated both regionally and nationally; there is also a Fisherman's Co-operative on each island. These organisations will be involved in project activities as appropriate and particularly through community participation activities to improve management of the MPAs
Women's Associations	The National Women's Council and the National Women Entrepreneur Council are apex bodies –under the aegis of the Ministry of Gender Equality, Child Development and Family Welfare, who will work to include women's associations and their members in different localities in the activities relating to community awareness and participatory monitoring; peer to peer learning, capacity development in product development and marketing in regard to alternative livelihoods
Senior Citizens' Associations	They are particularly active locally and use the Social Welfare Centres and Community Centres and can play an influential role in piloting community co-management
Association pour la Protection de l'Environnement Marin de l'Ouest	A group of small independent operators formed in 2010 who mainly run dolphin-watching and are concerned about its impact on the dolphins
Tourism operators and hotels	Dive centres on Rodrigues and Mauritius - many have participated in previous marine conservation projects and it is expected that they will take part in this new project, particularly participating in the stakeholder groups proposed under Components 1 and 2
Private Land owners	Many of the northern wetlands are privately owned and these landowners will be involved in Output 3.2, in terms of investigating options for ensuring conservation of these sites

2 Project Strategy

2.1 Project Goals, Outcomes, Outputs and Activities

2.1.1 Project Goal and Objective

173. The Project **Goal** is to contribute to integrating biodiversity and ecosystem management into physical development planning and tourism sector activities in order to safeguard biodiversity and maintain ecosystem services that sustain human wellbeing.

174. The Project **Objective** is to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into the operations and policies of the tourism and physical development sectors in the Republic of Mauritius through a ‘land- and seascape wide’ integrated management approach based on the Environmental Sensitive Areas’ (ESAs) inventory and assessment.

175. The project is designed to assist the RM in meeting many of the Aichi targets laid down by the CBD for achievement in 2020 (see [Section 8 on the Project Fit](#)), in particular Strategic Goal A which is to “Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society”.

176. As used by the GEF, the term ‘biodiversity mainstreaming’ means the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors that impact or rely on biodiversity, so that it is conserved and sustainably and equitably used both locally and globally. Experience from GEF projects shows that successful mainstreaming requires strong governance, strong institutions and strong leadership; building this capacity will therefore be a focus for the project. Mainstreaming is not a passive process, and there must be a focused effort to promote lessons learned beyond each individual project activity to ensure the mainstreaming impact of the project. Some project components are therefore locality specific and these are designed to mainstream the lessons learned into other sectors. The project will liaise with and take lessons from other GEF biodiversity mainstreaming projects in the region including those in the Seychelles (mainstreaming of biodiversity into tourism and fisheries sectors) and Madagascar.

177. The Seychelles UNDP-GEF project Mainstreaming Biodiversity Management into Production Sector Activities⁸⁹ will be a particularly useful model. It focuses on the tourism and fisheries sectors, with interventions that include: the development of a biodiversity information and knowledge management system; the development of coastal plans that integrate biodiversity protection into all sectoral aspects; increased involvement of the private sector, particularly tourism in biodiversity management, and the development of sustainability label; establishment of financing mechanisms; strengthening and expansion of protected areas; and developing community involvement and participatory approaches to biodiversity protection and management.

Landscape/seascape approach

178. The PIF proposed that the project should develop plans for 6 landscapes/seascapes which were broadly defined as areas important for ESAs. During the PPG research, it became evident that this approach might not be so appropriate for the comparatively small islands involved, where there is close

⁸⁹http://www.mu.undp.org/content/mauritius_and_seychelles/en/home/ourwork/povertyreduction/successstories/mainstreaming-biodiversity-.html

connectivity across all ecosystems. It also became apparent that a wide range of coastal planning initiatives are underway or have been initiated, and that there is not so much a need to create new plans, as to harmonise existing plans and develop the capacity to implement them.

179. It is considered that a better approach is to use the coastal areas of each District on Mauritius as the local planning unit, and for Rodrigues to use the entire island. Village-based planning, although effective in some situations, would not be generally be appropriate as fishers' use of the lagoon is not limited to the area adjacent to their village⁹⁰ - a broader seascape approach is needed. District level planning would provide a sound legal and administrative basis for planning, whilst ensuring that the integrated approach laid down in the ICZM framework is addressed, and that threats and drivers associated with catchments that are impacting on marine and coastal biodiversity are fully taken into consideration.

180. In Mauritius, as in many countries, ICZM to date has focused on a narrow strip of coastline (1 km seawards and 1 km landwards). As is now globally recognised, the much broader eco-system based approaches of Marine Spatial Planning (MSP)⁹¹ and reef-to-ridge planning are essential for long-term marine and coastal biodiversity conservation and ecosystem services protection. The inland boundaries for coastal management need to include coastal watersheds or catchment areas, and experience has shown that an integrated approach from ridge to reef (or R2R)⁹² is necessary for poverty reduction, sustainability, and capacity enhancement for small countries.

181. Even more rarely does coastal management extend into the territorial sea and/or beyond to the exclusive economic zone. MSP identifies ecologically meaningful boundaries and ensures integration with coastal and inland areas; it is a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process. Several countries are now using marine spatial management to achieve sustainable use and biodiversity conservation in ocean and coastal areas, and to manage multiple uses of marine space, particularly in areas where use conflicts exist. For example, the Seychelles is drawing up a Marine Spatial Plan that will demarcate areas designated for fishing, tourism and recreation, biodiversity conservation and cultural heritage, and a range of industries, taking into account the need for MPAs⁹³.

182. The project and stakeholders would thus need to determine the inland and seaward boundaries for the planning areas (e.g. possibly the inner boundary of each coastal Village Council Area or the inland limit of the watershed/steep slopes for the former; and 1 km seaward of the reef edge for the latter), using experience from other projects and countries, including the Seychelles MSP initiative.

183. A multi-stakeholder participatory approach will be essential for all project activities. There are a number of conflicts between stakeholders and users of the coastal and marine environment (e.g. fishers vs. tourism operators; users of public beaches vs business, boat operators and hotels; *campement* site lessees and the general public) that will need to be addressed in the course of implementation of ICZM and MPA plans and other related policies, and mechanisms to achieve working levels of consensus will be developed.

ESAs as proxies for marine and coastal biodiversity

184. As explained in [Section 1.2](#), the project will address seven ESA types (seagrass and algal beds, coral reefs, sand beaches and dunes, intertidal mud flats, islets, coastal wetlands, and mangroves) within the three coastal and marine ESA systems (numbers 1 Wetlands, 2 Shore and 3 Offshore), and complement the PAN project which is addressing ESA system number 4, Forest. ESA System 5 Stable Water Supply Systems will be partially addressed since ESA type 5b Steep Slopes will be taken into consideration through

⁹⁰ MMCS South-west coast report

⁹¹ <http://www.unesco-ioc-marinesp.be/>

⁹² <https://www.thegef.org/gef/node/10726>

⁹³ <http://www.seychellesmarinespatialplanning.com/>

the integrated ridge-to-reef planning approach that will be promoted, and through a demonstration project to reduce soil erosion on Rodrigues. ESA type 1d Rivers and Streams will also be partially addressed through the integrated planning approach.

185. As described in [Study #1 in Annex 5](#) (on Biodiversity), the ESAs were categorized as part of the ESA study in order to rank their relative contribution to an ecosystem service. Three categories were identified to assist in management and these will be used in the project as the basis for strengthening protection and sustainable management of marine and coastal biodiversity:

- Category I: – primary objective is conservation, and rehabilitation if required;
- Category II: – primary objective is conservation of an environmental service but some mitigated development may be allowed; and
- Category III – primary objective is to sustainably use the resources of an area.

2.1.2 Project Outcomes

186. In order to achieve the objective, and overcome the barriers identified in [Section 1.3](#), the project's intervention has been organized in three Outcomes, with associated outputs and activities, in line with the components in the concept proposal presented at the PIF stage:

187. **Outcome 1.** *Threats to biodiversity and ecosystem function are addressed by ensuring that 27,000 ha marine and coastal Environmentally Sensitive Areas (ESAs)⁹⁴ are an integral part of planning and implementation mechanisms relating to coastal development and the tourism sector.*

188. **Outcome 2.** *Threats to marine and coastal biodiversity are mitigated and fishery resources protected in at least 20,000 ha of seascapes⁹⁵, through the improved management of MPAs and no-take zones.*

189. **Outcome 3.** *Erosion control and ecosystem services restoration: erosion and soil loss are reduced in 200ha⁹⁶ of erosion-prone water sheds; and ecosystem services are restored in 100 ha of coastal wetlands.*

190. All three components of the project have interventions that will take place in both Mauritius and Rodrigues, and project activities will thus be distributed widely throughout the two islands as follows:

- Outcome 1 addresses both Mauritius and Rodrigues, with Output 1.2. involving specific actions for Rodrigues and at least one area on Mauritius.
- Outcome 2 concerns the two marine parks, fishing reserves and other proposed sites for protection on Mauritius, and the MPAs that lie on both the north and south sides of Rodrigues.
- Outcome 3 concerns specific land degradation issues that are affecting coastal and marine ESAs: soil erosion on Rodrigues, and loss of coastal wetlands on Mauritius.

191. Project outcomes, outputs and activities are summarized in Table 8 and described in more detail in [Section 2.1.3](#).

Table 8: Outcomes, Outputs and Activities

Outcomes	Outputs	Activities
1. Threats to biodiversity and ecosystem function are addressed by	1.1. Information necessary for marine and coastal biodiversity mainstreaming is made	1.1.1. Provision of an online platform and knowledge management system 1.1.2. ESA data, maps, policy and management recommendations in relation to marine and coastal

⁹⁴ i.e. approximately the area of marine and coastal ESAs to be addressed in ICZM plans - Black River District (4602 ha), and Rodrigues (16,290 ha); and the area of proposed and existing MPAs outside these locations (c. 8022 ha) where management will be improved.

⁹⁵ Estimate of 20,000 ha based on area of existing MPAs (15,913 ha) plus estimate of additional areas that will be protected during the project

⁹⁶ Figure proposed in PIF, but actual area over which soil erosion techniques will be applied needs to be determined at the start of the project

Outcomes	Outputs	Activities
ensuring that 27,000 ha marine and coastal Environmentally Sensitive Areas (ESAs) are an integral part of planning and implementation mechanisms relating to coastal development and the tourism sector.	available and capacity for knowledge management is developed by making the ESA study and other relevant information available	biodiversity updated as required and translated into more detailed guidance 1.1.3. Economic evaluations of coastal and marine ecosystems will be undertaken for Rodrigues and one District (Black River) in Mauritius, two MPAs (SEMPA and Blue Bay) and the northern coastal wetlands. 1.1.4. Development and dissemination to the public of information about marine and coastal ESAs, policies and approaches to their management, and related gender and social and economic issues.
	1.2. ESAs are mainstreamed into physical development and ICZM planning processes, through the provision of guidance and support to ongoing activities and by demonstrating appropriate approaches through implementation of ICZM plans for Rodrigues and one District on Mauritius	1.2.1. Production and dissemination of an analytical review of coastal and marine plans and planning processes to identify progress made and gaps to be filled. 1.2.2. Development and implementation of ICZM plans for Rodrigues and one District (Black River) on Mauritius, taking a “ridge-to-reef” approach, the latter to act as a demonstration for replication in other Districts. 1.2.3. Capacity building and training for spatial planning, stakeholder negotiation, and other skills required for effective ICZM planning
	1.3 Standards and a certification system developed for the tourism sector that facilitates the mainstreaming of the management of marine and coastal biodiversity into their operations.	1.3.1. Development of guidelines for ensuring that marine and coastal biodiversity is addressed through the Standard for Sustainable Tourism. 1.3.2. Training and capacity building of Tourism Authority staff, private operators and consultants and auditors who will both use and operate the standard and other eco-labelling schemes 1.3.3. Provide support for development of annual audits of certified operators. 1.3.4. Documentation of process and dissemination of information, case studies, and other materials.
2. Threats to marine and coastal biodiversity are mitigated and fishery resources protected in at least 20,000 ha of seascapes, through the improved management of MPAs and no-take zones	2.1 Management effectiveness of the MPA network is improved through management planning where required, and through the introduction of operations and business planning, and improved surveillance and enforcement.	2.1.1. Improve skills and competencies of staff responsible for MPAs 2.1.2. Improve the management effectiveness and build a strong consultative approach to governance of MPAs on Mauritius and Rodrigues, and protect areas of high conservation value, focusing on key concentrations of marine and coastal ESAs 2.1.3. Develop livelihood opportunities for local communities to reduce pressure on lagoon resources and demonstrate the benefits of MPAs
	2.2. An investment framework for MPAs is developed and contributes to improved financial sustainability of the MPA sub-system	2.2.1. Analysis of institutional and governance arrangements for MPA management in Mauritius and Rodrigues 2.2.2. Development of an investment framework and financing strategy to realise the values and benefits of MPAs, and increase the financing flows to MPAs, commensurate with need. 2.2.3. Support implementation of the investment strategy,
3. Erosion control and ecosystem services restoration: erosion and soil loss are reduced in 200	3.1 Sustainable land management (SLM) techniques are applied to control erosion and water course sedimentation in the	3.1.1. Analysis to identify suitable techniques for testing. 3.1.2. Documentation and dissemination of results to allow for replication in other areas of the island.

Outcomes	Outputs	Activities
ha of erosion-prone water sheds; and ecosystem services are restored in 100 ha ⁹⁷ of coastal wetlands.	SEMPA watershed, with a focus on Rivière-Coco	
	3.2 Essential ecosystem services are restored in coastal wetlands ⁹⁸ (e.g. water filtration, storage and flood control services, habitat and recreation)	3.2.1. Provision of support for finalization of the draft Wetlands Bill 3.2.2. Analysis of legal issues associated with the management and conservation of wetlands in private ownership, and promote implementation of recommendations 3.2.3. Preparation of a management and action plan for Pointe d'Esny Ramsar site and implementation of required management activities 3.2.4. Improve skills and competencies of staff responsible for wetlands management:

2.1.3 Project Outputs and Activities

Component 1. Mainstreaming of biodiversity into local level physical development planning and tourism management

Outcome 1. Threats to biodiversity and ecosystem function are addressed by ensuring the marine and coastal ESAs are an integral part of planning and implementation mechanisms relating to coastal development and the tourism sector

192. Building on the existing legal framework and planning mechanisms, this component will put in place a gender-responsive and socially inclusive multi-stakeholder management framework to ensure that use of the coast and lagoon takes account of biodiversity conservation and ecosystem service management needs, and that civil society is empowered to participate fully in the process and develop a stewardship approach to use of coastal and marine resources. As a result, pressures to these ecosystems from the many threats and drivers identified in [Section 1.2](#), and specifically within the areas selected as demonstration sites, will be reduced.

193. By refining the standards established for the tourism sector to ensure that biodiversity conservation is fully addressed, this component will help to reduce loss of biodiversity and ecosystem function through inappropriate tourism activities.

Output 1.1) Spatial planning

Information necessary for marine and coastal biodiversity mainstreaming is made available and capacity for knowledge management is developed by making the ESA study and other relevant biodiversity information available

⁹⁷ 100 ha = area of two coastal wetland Ramsar sites (i.e. 48 ha) plus an additional area that might be managed with private owners

⁹⁸ The PIF proposes that this Output should address the Grand Baie wetlands only. However, the Technical Report on Wetlands which was produced after the Grand Baie Wetlands survey (the latter was the primary reference for the PIF for wetlands), shows that there are important coastal wetlands to the north and east of Grand Baie that are also threatened and that have equal and possibly greater potential for protection and restoration. The PPG team therefore felt that the project should assess all the coastal wetlands in order to determine a suitable site for interventions.

194. There is a long-identified need for knowledge management systems in both Mauritius and Rodrigues for coastal and marine biodiversity, and with emphasis on information about the ESAs that will include both (a) a geo-based information system and (b) related targeted gender and socially-inclusive communications materials and mechanisms for dissemination to the general public including all coastal communities. These mechanisms are urgently needed in order to increase public awareness and understanding of the values of marine and coastal ecosystems and provide the critical data needed for effective ICZM planning. Activities envisaged are:

Activity 1.1.1. Provision of an online platform and knowledge management system to support coastal and marine biodiversity management in Mauritius and Rodrigues.

Spatial data can help to improve co-ordination, support evidence-based decision making and is essential for effectively meeting regulatory requirements. The project will help to make marine and coastal spatial data available to government departments, private institutions and the public free of charge via the Internet. The mechanism for achieving this will be determined at the start of the project through discussions with stakeholders and assessment of cost-effective options. One option might be collaboration with the proposed National Spatial Data Infrastructure (NSDI) which is being considered by the MoHL⁹⁹. The NSDI is at a very early stage but would be a platform and spatial data repository for collecting, sharing and disseminating geospatial data either free of charge or at cost (depending on the circumstance), and would provide a tool for analysing and determining solutions to the needs and requirements of national development objectives.

Consideration should also be given to developing a resource centre/hub for marine and coastal biodiversity information, replicating the Climate Change Information Centre (CCIC) set up by MOESDDBM through the UNDP/AFB Climate Change Adaptation Programme. Coastal and marine information (e.g. the results of JICA project) is currently deposited with this resource centre, which provides web-based information on climate change and related issues including reports, articles, and news, and which will ultimately have a physical centre. A similar approach will be considered for marine and coastal biodiversity information, perhaps using one of the new Marine Park centres (see 1.1.3).

The project will provide support for a feasibility study on the most appropriate mechanism for ensuring that through the NSDI and other local/agency information hubs, the ESA data and other spatial/geographic data on marine and coastal biodiversity, can be made available to national level decision-makers, policy analysts, planners, developers, resource users, along with information on critical areas for ecosystem services, and national as well as local level economic and social parameters essential for effective planning. The system/hubs should be compatible with and/or linked to relevant national biodiversity databases such as those at MOI, AFRC and UOM, as well as regional databases and information centres under development through for example, the COI Biodiversity project and the COI ISLANDs project. This activity will be a collaborative initiative with those organisations, institutions and projects that collect coastal and marine biodiversity information. Simple freely available software should be used, and institutional arrangements for maintenance and regular updating must be incorporated. Experience gathered during the establishment of knowledge management systems for the PAN project, and in the Seychelles UNDP-GEF biodiversity mainstreaming project will be used.

The activity will include development of a specific information hub for Rodrigues, compatible with the national RM system and integrated with ongoing ICZM activities through the RRA. The need for this has been identified under previous projects, and this will provide a mechanism for dissemination of the ESA maps and materials. This could be hosted at the new SEMPA Interpretation Centre at Port Sud-Est which is expected to be in place by 2016 (currently being established with funding from RRA,

⁹⁹ The PIF specified that this Output should be carried out using the planned Environmental Information System (EIS) that was to be set up under the MOESDDBM. However, for a variety of reasons, the EIS was not put into operation.

UNDP/AFB Climate Change Adaptation Programme and USD40,000 from UNDP-GEF MPA Partnerships Project).

Activity 1.1.2. ESA data, maps, policy and management recommendations in relation to marine and coastal biodiversity updated as required and translated into more detailed guidance.

This will be a collaborative activity with relevant Ministries, NGOs and projects in both Mauritius and Rodrigues. A review and analysis of the ESA maps and documentation will be undertaken to determine the updates that are required, the work that is already underway (e.g. NPCS is updating the maps for wetlands) and the extent to which the policies and management recommendations can be implemented. Mechanisms for undertaking the updating will be identified (e.g. satellite imagery/ground truthing for the maps), with emphasis placed on the most cost effective and preference given to using existing materials and information.

The more detailed guidance on marine and coastal biodiversity protection and management, and finalization and approval of policies on ESAs will allow planners and decision makers to understand where development should be avoided, where it may be permitted subject to management controls, and what the threat mitigation requirements should be. The OPSs lay out a broad policy for addressing ESAs but implementation is difficult as maps are not readily available and stakeholders (e.g. developers) do not have access to the information. Such an approach is used in the Seychelles where maps of marine and coastal biodiversity and other ecosystems are used on a regular basis by planners and decision makers. Wider availability of the information would allow District Councils, developers and other stakeholders to implement the ESA approach more effectively and to enforce related policies and legislation. The revised ESA documents and maps will be submitted for approval. It should be noted however that lack of approval should not preclude use of the existing documents for planning, where this is currently occurring.

The requirements for updating ESA materials for Rodrigues will be assessed with the RRA and Rodriguan stakeholders and attention given to ensuring a mechanism for making these materials available on the island.

Activity 1.1.3. Economic evaluations of coastal and marine ecosystems will be undertaken for Rodrigues and one District (Black River) in Mauritius, two MPAs (SEMPA and Blue Bay) and the northern coastal wetlands.

As described in [Section 1.2.3](#), natural capital accounting and valuing of ecosystem services is seen as an important part of ensuring that biodiversity is effectively mainstreamed and of demonstrating the economic value of biodiversity to the national economy. Experience from the work of the Natural Capital Accounting project, supported by the COI ISLANDS project and the Mauritius Statistics Bureau, will be used. Emphasis must be placed on simple methods and approaches to ensure that replication is feasible, and also on collaborating with other agencies involved in similar work to make best use of existing skills and experience. The results will be disseminated through the communication and awareness raising activity ([1.1.4](#)) and will be used in other project components to generate support and stakeholder buy-in for protection and management of marine and coastal biodiversity.

Activity 1.1.4. Development and dissemination to the public of information about marine and coastal ESAs, policies and approaches to their management, and related gender and social and economic issues.

A range of user-friendly communication materials (e.g. website, brochures/leaflets, posters, coastal and marine atlas, training tools and guides) will be produced through an inclusive participatory approach, sensitive to the needs of socially, culturally and gender differentiated groups. These will facilitate local community learning and sharing of local experiences, using a human rights-based approach, and inform the broader public, ensuring that the rationale for the protection and management of these ecosystems

becomes widely understood and supported and the role of the ICZM Committees on both islands is clearly understood. The need for some of the ESA information to be excluded from the public domain will be respected.

Mechanisms for maintaining websites, including protocols and procedures and long-term hosting body, will be determined. Materials will be developed in relation to:

- a. The development and implementation of plans for Rodrigues and Black River District, Mauritius (Activities 1.2.1. and 1.2.2 below), and will include both general information on ICZM planning and location specific information, to illustrate the value of coastal and marine ecosystem services (using the results of activity).
- b. MPAs, in line with the activities described under Output 2 building on materials and initiatives developed under previous projects (e.g. materials produced for MPAs by a consortium of NGOs under the UNDP-GEF MPA Partnerships Project). The information produced will feed back into the knowledge management system and centres to be developed and supported under 1.1.1., and will be disseminated through the Marine Park centre(s) on Mauritius and the SEMPA Interpretation Centre currently being established on Rodrigues.
- c. The ecosystem service values of coastal wetlands, including policy recommendations, and the results of the work undertaken through [Output 3.2](#) for replication on other coastal wetlands. Knowledge and policy briefs will be prepared to promote effective implementation of policies and mechanisms to protect coastal wetlands.

A strategy for communication and awareness will be prepared in the first six months of the project, to identify the key target audiences and the most effective mechanisms, media and outputs for each audience. Particular attention will be given to coastal communities who tend to be overlooked and the potential for disseminating materials through, for example, the network of Social and Community Welfare Centres and Women's Associations in coastal Village Council Areas. It may be appropriate to designate specific focal individuals in the communities to assist with this. This activity will make use of and further develop materials and ideas from past and current education and communications initiatives and will be developed as a collaborative effort with the Information and Education Division and the ICZM Division of MOESDDBM, the ICZM Committee, NPCS for wetlands, the RRA, and NGOs including Reef Conservation, MMCS, Eco-Sud and Shoals Rodrigues and MWF.

Output 1.2) ESA mainstreaming in ICZM

ESAs are mainstreamed into physical development and ICZM planning processes, through the provision of guidance and support to ongoing activities and by demonstrating appropriate approaches through implementation of ICZM plans for Rodrigues and one District on Mauritius

195. Several tools and methodologies will be applied. Activities envisaged are:

Activity 1.2.1. Production and dissemination of an analytical review of coastal and marine plans and planning processes to identify progress made and gaps to be filled.

A diverse range of coastal and marine projects and policies has resulted in spatial plans for many parts of the coast and lagoon oriented to different purposes (e.g. OPS's, ICZM Action and Area plans for pressure zones, JICA-funded coastal erosion plans, World Heritage Cultural Site plans, MPA management plans, Tourism Master Plan, - see Table 6 on baseline interventions). These plans address ESAs to different degrees, have resulted in recommendations and management actions that are being implemented to different degrees, and have been developed with variable degrees of stakeholder

participation and buy-in. There is however no synthesis of this work to demonstrate the progress made and the challenges in implementation, and to identify where further initiatives are required.

This activity will involve an analytical review of what has been achieved so far, bringing together spatial and policy information for each District coastal area (this information could potentially be compiled into a coastal atlas for distribution as part of activity 1.1.4), and reviewing planning processes, guidelines and existing recommendations. For each planning area (each District on Mauritius, whole island for Rodrigues), recommendations for further activities to be undertaken and mechanisms for implementation will be identified, with a particular focus on identifying appropriate planning and policies for catchments. Co-ordination of this initiative will be through the ICZM Committee.

The materials produced will support the development of a holistic approach to ICZM and spatial management planning that fully addresses biodiversity, reflects principles and international best practices being developed for marine spatial planning and the “ridge-to-reef” approach (see Section 2.1.2 above), and promotes a participatory multi-sector approach in order to achieve full stakeholder buy-in. Experience from the Seychelles biodiversity mainstreaming project which included a component on the development and implementation of district-level Land, Water and Coastal Use Plans that integrate biodiversity (for Anse Royale, Praslin and La Digue islands) will be used. The policy and strategy work undertaken through the PAN project, in relation to coastal ESAs in the Pas Geometriques, islets and wetlands, will be taken into account, to ensure that there is full harmonization of planning concepts.

Activity 1.2.2. Development and implementation of ICZM plans for Rodrigues and one District (Black River) on Mauritius, taking a “ridge-to-reef” approach, the latter to act as a demonstration for replication in other Districts.

This activity will build on existing initiatives in each area given that much baseline work has been undertaken. The two plans will be developed (or revised) so as to ensure that marine and coastal ESAs (including steep slopes where feasible) are fully integrated into the legal and administrative planning framework. The work will be undertaken using a participatory and consultative approach.

For Rodrigues, the area to be considered includes the entire island and lagoon. The project will support the development and implementation, as required, of the ICZM plan being initiated by the RRA under the COI-FFEM project, and provision of complementary input where required. This plan would address links between the draft Rodrigues SLM Plan and Local Development Plan.

For Black River District, the inland boundary would be determined through discussion with stakeholders and the results of the analysis undertaken in 1.2.1. The plan will collate existing plans for the coastal areas (e.g. plans for pressure zones under the ICZM project and the JICA-funded coastal erosion project), as well as linkages between the marine area and the watershed, the role of Black River Gorge National Park (BRGNP) in maintaining coastal ecosystem services, and will identify actions for implementation that will resolve key issues. This area has been selected because of the urgency of need given the threats to coastal and marine biodiversity from rapidly escalating coastal development (tourism/residential); existence of good data; and previous experience of participatory planning approaches that could be strengthened and replicated. Information from the Urban Profile for Black River District will be used. This activity will involve close collaboration with the PAN project, which is undertaking activities in the BRGNP and adjacent private forests and developing policy approaches for the Pas Geometriques, and the Le Morne Trust Fund which has undertaken a range of planning activities for the Le Morne Cultural WHS Core Zone and Buffer Zone, and it will also address the islets such as Ile aux Benitiers on which there is growing pressure from tourism and visitors.

Each plan will include maps of the marine and coastal ESAs, as well as steep slopes, the management categories and the policies for these ESAs, and an operational strategy and plan. Policies and recommendations will be incorporated into operational permitting and licensing systems governing

land use on the coast, fishing, recreational and tourism activities in the lagoon. Critically sensitive Category 1 ESAs that are not already protected through legal designation will be assessed and suitable forms of protection identified and implemented.

The plans would be developed using a multi-stakeholder approach involving residents' committees, women's, youth, senior citizens associations, local government officers, the tourism industry, public utilities, resource users and relevant sectoral authorities and would build on the recommendations resulting from activity (1.2.1) above. Collaborative multi-stakeholder platforms will be responsible for implementation and will be based on the stakeholder work undertaken during the development of each plan. The ICZM Committee, on Mauritius, and the Rodrigues ICZM Committee (established through the ReCoMap project) will provide oversight and the necessary co-ordination mechanisms. The process to develop the plans will be fully documented with the intention of replication in other Districts on Mauritius as appropriate.

Activity 1.2.3. Capacity building and training for spatial planning, stakeholder negotiation, and other skills required for effective ICZM planning

A capacity needs assessment will be undertaken for the RM. As part of this, the recommendations relating to capacity building in the Outcome Evaluation of the Mauritius UNDP CO's environment programme (2008-2012)¹⁰⁰, and those relating to coastal and marine aquatic biodiversity in the 2005 National Capacity Needs Self Assessment¹⁰¹ should be taken into consideration. Appropriate on-the-job training and mentoring will be provided on both Mauritius and Rodrigues for local government officers, Village Councils, Village Committees, local residents and business group associations, officers in relevant government departments, relevant committees, NGOs and all involved in the process. Exchange visits with related projects in neighbouring countries will be considered (e.g. Seychelles) but may not be feasible given the resources available; other methods for regional exchange of experiences should thus also be sought. In particular, the experiences that will be generated by the COI/FFEM ICZM project should be made use of.

Output 1.3) Tourism sectoral mainstreaming

Standards and a certification system developed for the tourism sector that facilitates the mainstreaming of the management of marine and coastal biodiversity into their operations

196. This output concerns the tourism sector specifically and its interface with biodiversity. It will strengthen the voluntary national Standard for Sustainable Tourism by ensuring that marine and coastal biodiversity are adequately considered through the eco-labelling process, and will assist other related tourism eco-labelling schemes to take a similar approach. The Standard was developed by MoTEC in collaboration with the Mauritius Standards Bureau and tourist industry stakeholders, and approved in 2013, and is applicable to accommodation, restaurants, tour operators, pleasure craft, scuba-diving, eco-guides and other leisure operators and activities. This Output will use experiences from, and build on, as appropriate, other standards and certification initiatives that have taken place or that are underway in the RM (see [Section 1.2.5, under 'Tourism'](#) for further information) including:

- The Blue Flag Programme for public beaches in RM (feasibility study underway at Albion-La Cuvette and Wolmar beaches)

¹⁰⁰ Hodge, S and Ramjeawon, T. (2011). Mauritius Environment Programme (2008-2012). Outcome Evaluation Final. UNDP.

¹⁰¹ 2005. National Capacity Needs Self-Assessment for Global Environmental Management, Republic of Mauritius.

- Guidelines and activities undertaken by AHC/Empretec Mauritius to implement environmentally friendly practices in small hotels (funding by ReCoMap), and the AHRIM initiative supported by the SGP.
- Dolphin watching guidelines and ecolabelling initiative being developed for Mauritius by the Tourism Authority with assistance of MMCS (feasibility study underway)
- Planning to promote sustainable tourism in Rodrigues through Rodrigues Naturellement (programme being launched in 2015)
- Training of eco-guides by the NGOs MWF, Reef Conservation, Eco-Sud and Shoals Rodrigues.

197. It will also use experiences from the Seychelles biodiversity mainstreaming project, through which improved guidance for biodiversity conservation for tourism developers was produced as well as a Sustainable Tourism Label and Environmental Management System for tourism operators and the tools required to adopt and promote this label.

198. The MoTEC, with the TA and the MTPA, and the RRA will be the responsible partners for this Output, supported by NGOs such as MMCS, MWF, Reef Conservation and Shoals Rodrigues, and private tourism operators and associations such as AHRIM and AHC. Activities envisaged are:

Activity 1.3.1. Development of guidelines for ensuring that marine and coastal biodiversity is addressed through the Standard for Sustainable Tourism.

The Standard addresses biodiversity in the broadest sense and does not specifically refer to ESAs or marine and coastal biodiversity, and so the first step will be a review to identify the amendments that are required to ensure that biodiversity is addressed. Guidelines will be produced to translate the Standards more clearly into a form that can be applied to operations that have an impact on marine and coastal ESAs. The costs for operators of participating in the scheme will be reviewed and incentive mechanisms identified. The governance arrangements of the scheme will be reviewed to ensure that this is equitable and that all those who could benefit from the scheme and who depend on marine and coastal ecosystem services can participate. This will reinforce the adoption of good practices in biodiversity management and monitoring compliance.

Activity 1.3.2. Training and capacity building of Tourism Authority staff, private operators and consultants and auditors who will both use and operate the standard and other eco-labelling schemes

This will provide the marine and coastal biodiversity knowledge required for taking part in the scheme and help to ensure that operators can meet the standards. A capacity needs assessment will be undertaken to identify the specific requirements and to ensure that gender balance and gender inclusiveness is respected and to promote parity; particular attention will be paid to small and medium-sized enterprises such as boat operators, dolphin watching enterprises and eco-guides. Training will be MQA approved.

Activity 1.3.3. Provide support for development of annual audits of certified operators.

An assessment of suitable auditing methodologies and tools will be made, including for example, community accountability and score cards that can be completed by local communities and clients of the operators (ensuring appropriate gender balance in both cases). Particular focus will be on the tourism operators within the areas identified under Output 1.2. for implementation of ICZM plans, as through the planning process, these operators will have a better understanding of biodiversity and ecosystem services and their importance and need for protection.

Activity 1.3.4. Documentation of process and dissemination of information, case studies, and other materials.

The work undertaken for this output will be documented and disseminated to ensure (a) a wide understanding of the standards and system throughout the country and (b) knowledge among tourists and visitors, both local and overseas, of the eco-label and why it is important. The documentation and dissemination process will be designed with input from the tourism experts recruited through the project. The project will also support the development of a communication strategy to promote the tourism standard that will lead to both national and international coverage.

Component 2. Strengthening MPA Management¹⁰²

Outcome 2. Threats to marine and coastal biodiversity are mitigated and fishery resources protected in at least 20,000 ha of seascapes through the improved management of MPAs and no-take zones¹⁰³

199. Interventions under this component will address existing MPAs in the RM, and also assess the feasibility of improving protection for marine and coastal ESAs in locations currently outside MPAs, specifically in Mauritius. Active linkages will be sought with the PAN project which, among other activities, is building the capacity of terrestrial protected area staff and assessing options for financial sustainability of protected areas.

200. This component will result in:

- The development of a participatory approach to management that is gender-sensitive and socially-inclusive, taking steps to include all cross sections and income levels of diverse groups;
- An improved understanding of the socioeconomic drivers of destructive practices, of the value of no-take zones in maintaining sustainable fisheries, and of sustainable alternative livelihoods that will reduce such practices and promote a human rights-based approach (HRBA)
- Improved capacity of MPA staff and institutions for management;
- The introduction of management effectiveness assessments as a tool to monitor progress, share knowledge and experiences, and ensure adaptive management;
- The identification and implementation (in as far as is feasible) of a sustainable financing mechanism; and
- A potential increase in the size and effectiveness of the MPA estate, including no-take zones, recognizing that the Republic of Mauritius will need to report on the CBD's Aichi Target 11 by 2020.

201. The interventions will respond to the recommendations of the terminal evaluation of the UNDP-GEF MSP Partnerships for MPAs (PIMS 864). The mentioned project, which ran from 2005 to 2012, aimed to improve management and equitable benefit-sharing of MPAs in the RM, develop a framework of co-management, and identify mechanisms that would provide long-term livelihood benefits to resident fishing communities. Although good progress was made (see [Section 1.2](#)), some of the fundamental policy reforms required were not adopted. This led to the recommendation that the following priority activities should be addressed by a further project:

¹⁰² Title of this component has been edited from the version in the PIF which was "Integration of MPA management into the wider landscape". As indicated in the main body of the PIF text, this component concerns improving MPA management.

¹⁰³ 'MPA' here refers to all forms of marine protected areas in the RM. 'No-take zones' refers to (a) MPAs that have strict protection (e.g. Marine Reserves in Rodrigues) and (b) zones within multiple use MPAs within which fishing is prohibited (e.g. Strict Conservation Zone A in Marine Parks in Mauritius)

For Mauritius:

- Establish a very active process to learn from the experiences of SEMPA in order to implement participatory management in BBMP and BMP;
- Move towards the full implementation of the management plans for BBMP and BMP and resolve carrying capacity issues,
- Study the feasibility of increasing the size of both Marine Parks with an emphasis on achieving a proper scale from an ecological perspective; and
- Identify and implement management activities in the catchment areas at both sites.

For Rodrigues

- Maintain the participatory approach with strong involvement from government, NGOs, and local people, including fishers and tourism;
- Focus on livelihood issues, with an emphasis on alternative sustainable livelihoods for fishers (male and female);
- Consider providing better incentives to the private sector in Rodrigues to support the sustainability of SEMPA;
- Improve enforcement and implement checks and balances so that corruption is minimized and eventually eradicated; and
- Implement a financial sustainability strategy with a main pillar based on the implementation of appropriate user fees, fines, and permits.

202. The terminal evaluation of the GEF MSP Partnerships for MPAs (PIMS 864) suggested that the establishment of a Trust Fund (i.e. the MPA Fund as specified in legislation) to sustain the maintenance of recurring costs should be explored and that the SEMPA watershed and impact of activities within this on the MPA should be addressed.

203. The feasibility of the recommendations made in the technical studies undertaken through the MPA Partnerships project will also be assessed (e.g. legal and institutional review¹⁰⁴, carrying capacity study for Marine Parks on Mauritius¹⁰⁵, sustainable livelihoods assessment¹⁰⁶ and Alternative Livelihoods Action Plan for SEMPA on Rodrigues¹⁰⁷).

204. The outputs of the Protected Area Expansion Strategy Initiative (PAN Project), implemented through the NPCS, will also be taken into account in the final development of activities for this component. The PAN project has, as one of the policy outcomes, a strategy for the establishment of a systemic framework for protected area expansion, which will include MPAs and take account of marine and coastal ESAs including wetlands, islets, and Pas Geometriques.

205. This component will also build on experience with MPAs in neighbouring countries in the Western Indian Ocean. The project team will ensure liaison with relevant national and regional initiatives. For example, the Seychelles mainstreaming biodiversity UNDP-GEF project included a component to improve protection of ecologically sensitive habitats, with a particular focus on participatory and community based initiatives with local fishers. Collaboration with the UNDP-GEF Seychelles *Protected Areas Finance Project*, planned for 2016-2020 and aimed at securing sustainable financing for the protected areas in that country will also be valuable.

206. A key tool for measuring protected area management effectiveness of is the GEF's BD SO1 Tracking Tool (TT), covering both site-level and systemic management aspects. Under the PAN project, the SO1 TT has already been applied twice and it includes thorough assessments of both protected area

¹⁰⁴ Dawson Sheppard, A. (2011). Policy and Legal Review of Co-management of Protected Areas in Mauritius and Rodrigues. Draft Final. Output 1.1: Partnerships for Marine Protected Areas in Mauritius and Rodrigues MAR/03/G35/A/1G/99. Pp. 126. Government of Mauritius, GEF, UNDP

¹⁰⁵ Solimar International 2012. Carrying Capacity Assessment of Blue Bay and Balaclava Marine Parks. Mid Term Report.

¹⁰⁶ Livelihood Assessment of SEMPA – South East Marine Protected Area – Island of Rodrigues, Mauritius.

¹⁰⁷ Alternative Livelihoods Action Plan, SEMPA – South East Marine Protected Area – Island of Rodrigues, Mauritius

finance and management effectiveness for individual sites. It covers the bulk of the terrestrial sub-system with at least 17 sites covered by mid-term and a rather complete overview of financial flows under. For the marine sub-system, a thorough analysis of the current baseline is included in [Annex 3](#). This will serve as a solid basis for measuring success. The TT SO1 will be applied again at the project's mid-term and at its end. It will be reviewed and validated independently by evaluators during the mentioned project milestones (see [Section 4 on Monitoring Framework and Evaluation](#)).

Output 2.1) Planning at various levels applied to MPA management

Management effectiveness of the MPA network is improved through management planning where required, and through the introduction of operations and business planning, and improved surveillance and enforcement.

207. The CBD's Aichi Target 11 requires that by 2020, in each country, "at least 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems, of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes". As part of the Promise of Sydney, a declaration drawn up at the IUCN World Congress on Protected Areas in late 2014, the marine conservation theme recommended¹⁰⁸ that, on the basis of recent scientific research, that 30% of the oceans should be designated as no-take areas. The targets also put strong emphasis on the need for effective management to ensure that the conservation objectives of the MPAs are met.

208. The RM is making progress but still has some way to go to these targets, and this output in particular involves a wide range of activities designed to support their achievement. The establishment of national 'Aichi-inspired' targets for biodiversity management are being developed under the on-going UNDP-GEF BD Enabling Activity Project, aimed at supporting the updating of the National Biodiversity Strategy and Action Plan (NBSAP), plus related activities. National targets for MPA coverage across the Republic remain to be formulated and endorsed by government.

209. Currently, an estimated 15,913 ha of the marine environment are legally protected: 9,150 ha on Mauritius (this includes the marine component of the buffer zone of the Le Morne Cultural World Heritage Site) and 6,733 ha on Rodrigues (see [Section 1.2.7, under 'Marine and Coastal Protected Areas'](#)). Through this project, the expectation is that a number of VMCA's will be recognised as part of the protected area estate, and that some of the marine habitat around the northern islets will be formally protected.

210. In the RM, there is a particular need to gain acceptance for the concept of no-take areas. The value of these is broadly recognised in Rodrigues (although enforcement is difficult – see Section 1), with the designation of four Marine Reserves covering 2,421 ha, and 11 conservation zones within SEMPA covering 1,263 ha. On Mauritius, the only designated no-take area is the Strict Conservation Zone in BBMP covering 9 ha, although the VMCA's being launched in the north will also be no-take areas.

211. Project activities are also directed to improving management effectiveness of the existing MPAs. Using the METT scores, management effectiveness currently averages less than 50% for existing MPAs¹⁰⁹, and the intention is to bring the scores up to between 50-75% through the project interventions. The RM might also want to consider whether it wishes to register any of the more established MPAs with IUCN's Green List of Protect Areas Programme, a new voluntary initiative that promotes good management and

¹⁰⁸ <http://worldparkscongress.org/downloads/approaches/ThemeM.pdf>

¹⁰⁹ SEMPA = 62%, Rodrigues MRs = 43%, BBMP = 58%, BMP = 48%, Mauritius Fishing Reserves = 28%

encourages the adoption of best management practices through a certification scheme¹¹⁰. Activities envisaged are:

Activity 2.1.1. Improve skills and competencies of staff responsible for MPAs

Capacity is limited for the effective implementation and management of existing MPAs and for new areas that might be protected. This activity will result in further professional and technical development of staff in the agencies responsible for different aspects of the planning, development, management and administration of MPAs in the RM, including but not limited to the FPS, NCG and AFRC. A capacity needs assessment will be undertaken for all agencies responsible for MPAs that will include: identification of the desired skills and competence standards required for effective MPA planning, development and management at different levels within the relevant agencies; assessment of the current skills base and competence levels of planning and operational MPA staff; identification of critical gaps as each occupational level and gender breakdown; and identification of suitable capacity building and training opportunities for staff (enforcement, technical and management) at all levels, as well as members of the stakeholder advisory committees. Efforts will be made to understand the causes of gender imbalances and develop appropriate strategies to promote gender-inclusive management. The Management Plans for SEMPA, BBMP and BMP provide details of training and capacity building that are likely to be needed.

Training and development will cover the full range of MPA planning, development and operations, including strategic and business planning; staff management; financial management; risk management; stakeholder participation mechanisms; cooperative governance; knowledge management; recreational and tourism planning and management; legal compliance and enforcement; and monitoring and evaluation. Different training options should be assessed including: training on site; exchanges with neighbouring countries; selected staff to enrol on the WIOMSA MPA Professionals Certification initiative (WIO-COMPASS); exchange visits with SEMPA and other MPAs; organisation of training courses using service providers with a good track record in the region such as the WIOMSA/USAID/NOAA initiative which has been undertaking an MPA climate change capacity building programme in the region (Mauritians attended the 2013 (Understanding and Communicating Climate Change) and 2014 (Conducting vulnerability assessments, scenario planning and analyzing adaptation strategies) workshops and are expected to attend the Nov 2015 workshop (data collection and monitoring tools; and mentoring and career development programmes.

Activity 2.1.2. Improve the management effectiveness and build a strong consultative approach to governance of MPAs on Mauritius and Rodrigues, and protect areas of high conservation value, focusing on key concentrations of marine and coastal ESAs

Mauritius

- Build on previous experiences (e.g. in SEMPA and during the development of the management plans for BBMP and BMP) to strengthen the consultative approach to MPA management and the work of the Management Committee of MPAs. Activities might include further exchange visits with MPA staff in Rodrigues, support to the community consultation process for BMP facilitated by Reef Conservation (developing community profiles which identify and ensure the inclusion of women, and vulnerable groups such as unemployed and poorly educated young women and men, including those engaged in destructive practices), and introduction of negotiation techniques to reduce conflict with fishers.
- Implement the operational and business plan components of the Marine Park management plans and introduce regular assessments of management effectiveness, using recognised methodologies and guidelines (e.g. WIO Management Effectiveness tool)

¹¹⁰ https://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_greenlist/

- Improve enforcement of existing MPAs through: demarcation of boundaries and zones for BMP and the Fishery Reserves, and erection of signs to explain these; purchase of equipment for enforcement officers (e.g. patrol boats, patrol vehicles, dive gear, night vision binoculars, GPS etc); “re-branding” of the FPS and the NCG so that they present a more friendly and positive image (e.g. change of uniforms, training in working with stakeholders etc); and development of a programme for certified skilled community-based “eco-guards” with local knowledge of the coast and lagoons and competencies in navigation, to provide support and assistance to the FPS and NCG, building on work undertaken in Rodrigues and feasibility studies in Mauritius by MMCS with NCG (local community surveillance can provide ‘backstopping’ support and help to build trust between enforcers and local communities).
- Develop management plans for the six Fishing Reserves, using a multi-stakeholder participatory approach, and ensuring that appropriate objectives are developed for conservation of the ecosystems that contribute to the importance of these areas for fisheries production
- Increase the area of protection of Category 1 and 2 marine ecosystems by (1) following-up on the recommendations and proposed zoning for the Flat Island – Gabriel Islets Marine System, proposed under the 2008 islets Management Plans; (2) reviewing the Lagoon Management Plan for Le Morne to identify priority areas for action and then supporting implementation to improve protection; (3) providing technical support to the AFRC and the ICZM Subcommittee on Coral Reefs to assess, prioritise and implement the recommendations for VMCA on the south west (MMCS proposal), south-east (Eco-Sud) and north-east (Reef Conservation proposal) with local stakeholders and communities, and determine whether other VMCA are required; and (4) assessing the feasibility of creating a protected marine Important Bird Area for foraging seabirds in waters adjacent to Round I and Serpent I, as proposed under the Nairobi Convention¹¹¹, and supported by MWF.

Rodrigues

- Re-energise, strengthen and improve where necessary the participatory approach (government, NGOs, tourism operators and local people, including men and women fishers) for the management of MPAs by providing support and capacity building as required to the SEMPA Board and the Northern Marine Reserves Co-ordination Committee.
- Improve enforcement of MPAs by: purchasing equipment for enforcement officers (e.g. patrol boats, patrol vehicles, dive gear, night vision binoculars, GPS etc.); demarcating boundaries and zones of three of the Northern Marine Reserves (Riviere Banane has been demarcated); providing support for the community-based field rangers and supporting bilateral exchanges with MPAs in the region that use the same approach; and ensuring the management plans for the islets within SEMPA are appropriately managed, recognising that there is increasing use of these by tourists.
- Develop operational and business plans and introduce regular assessments of management effectiveness, using recognised methodologies and guidelines (e.g. WIO Management Effectiveness tool).

In Mauritius, the MCD and the FPS under MOESDDBM, and the RRA will be the responsible partners, and NGOs (MMCS, Reef Conservation, MWF and Shoals Rodrigues) and local communities will play important roles.

Activity 2.1.3. Develop livelihood opportunities for local communities to reduce pressure on lagoon resources and demonstrate the benefits of MPAs

This activity will help coastal communities to both understand and reduce the impact of economic activities on MPA resources and to derive benefit from the opportunities that go with the existence of

¹¹¹ Birdlife International 2015. Status of birds in the Marine and Coastal Environment of the Nairobi Convention Area: Regional Synthesis Report.

an MPA. The GEF SGP will be used as the delivery mechanism for the livelihood projects to be undertaken on Mauritius and Rodrigues.

The following components will be included in this activity, but will need further development in consultation with the SGP and all stakeholders directly involved:

1. Building on the experiences with introducing alternative livelihoods for the SEMPA stakeholders on Rodrigues during the UNDP-GEF Partnerships for MPAs project and using proposals in the “short-term” component of the SEMPA Alternative Livelihoods Action Plan, prepare a framework for implementation of alternative income generating activities and initiate priority activities. These might include provision of further training in business skills; establishment of a mechanism for community based micro-savings and loans; and provision of training of community members, particularly fishers, as “eco-guides” for tourists, ideally through a nationally-based certification programme, similar to programmes available in other countries in the region (e.g. South Africa, Comores, Reunion). The SGP’s experience of livelihood projects indicates the need for regular training sessions on business skills and management with support provided through services such as the Small and Medium Enterprises Development Authority (SMEDA) and the Rodrigues Trade and Marketing Co. Ltd. On Rodrigues, a special unit in the EPMU has been set up to support SGP grantees and the project should work through this.
2. Develop 1-2 projects on Rodrigues, with the support of the SGP, that will be run by (a) women and young unemployed men potentially affected by the operationalising of the four no-take Northern Marine Reserves and also by the presence of SEMPA. Activities will be identified that will improve livelihoods (see Section 1 for examples) and thus increase compliance with regulations. This will build on previous initiatives supported by the SGP and undertaken through the UNDP-GEF Partnerships for MPAs project.
3. Develop 1-2 projects on Mauritius, with the support of the SGP, the Women’s Centres, National Women’s Council and National Women’s Entrepreneur Council, Social Welfare Centre and Community Welfare Centres that will be run by (a) unemployed women in coastal VCAs and (b) young unemployed men potentially affected by the operationalisation of Marine Parks and Fishing Reserves. These will build on previous experiences with SGP supported activities, and will link to on-going related activities (see section 1 for examples).
4. Using peer to peer learning approaches, learning will be shared between the different sites/projects.

This activity will be delivered in part through the UNDP-GEF SGP, with the support of the RRA for the Rodrigues activities, and using organisations such as SMEDA, NEF, MMCS, Shoals Rodrigues, and MWF, to provide training.

Output 2.2) MPA finance

An investment framework for MPAs is developed and contributes to improved financial sustainability of the MPA sub-system

212. The terminal evaluation of the MPA Partnerships project concluded that the concept of financial sustainability for Mauritius’ MPAs is still in its infancy, with a need for mechanisms for cost recovery, implementation of entrance fees, and the establishment of mechanisms to finance recurring costs. One aim of the previous project was to adapt policy and legislation in order that MPAs in the RM could keep the income that they generated and the terminal evaluation recommended that this topic should be addressed through a follow-up project. This Output will therefore be based on these earlier recommendations as well as the results of the Protected Area Systems Financial Sustainability Scorecards,

which will help to clarify financial flows and cost benchmarks for conservation effectiveness, and establish a baseline and targets for financial sustainability. The Financial Sustainability Scorecard has been completed for the Mauritius MPA subsystem but should be reviewed in the inception phase of the project to obtain a better understanding of the reasons for the scores in order to guide the activities under this output. The Financial Scorecard for the Rodrigues MPA system will need to be completed in the inception phase.

213. The work for this Output will involve close collaboration with the PAN to build on experiences with terrestrial protected areas and to ensure that a compatible and complementary approach is adopted. Experiences from the UNDP-GEF project Seychelles Protected Area Finance Project. Already in the Seychelles, an increase of approximately 20% of yearly investments in conservation activities has been reported as a result of newly established tourism-conservation partnerships, and this country will be able to provide lessons learned and examples of effective approaches. Activities envisaged are:

Activity 2.2.1. Analysis of institutional and governance arrangements for MPA management in Mauritius and Rodrigues

This will be aimed at providing recommendations for an institutional structure and governance mechanism that will facilitate both management and sustainable financing, help to develop a positive image and “brand” for the MPAs and the enforcement staff (thus helping to reduce conflict with local communities), and identify mechanisms for ensuring sustainability. This analysis will identify strengths and weaknesses of the current approach, where responsibilities are spread across several agencies and provide advice on possible options for improvement. Initial experiences from SEMPA and from elsewhere both regionally and globally, as well as the results of completion of the Financial Sustainability Score Cards, will contribute to this. Recommendations from the PAN project will be taken into consideration.

Activity 2.2.2. Development of an investment framework and financing strategy to realise the values and benefits of MPAs, and increase the financing flows to MPAs, commensurate with need

This will require an analytical review of:

- past relevant national initiatives, including the work being undertaken through the PAN to identify financing mechanisms for terrestrial protected areas;
- relevant international literature and related experiences in other countries, particularly those within the WIO and initiatives involving establishment of Trust Funds;
- assessment of feasibility of implementing the MPA Fund; and
- identification of financing options and pros and cons, building on fiscal approaches to greening the economy

The strategy will encompass a range of revenue raising options including setting up of the MPA Fund as defined under the Fisheries and Marine Resources (Marine Protected Area Regulations 2001) as amended 2007, if feasible (using experience from the initiative under the PAN to establish an NPCF Fund), or perhaps converge towards the establishment of a consolidated trust fund for the entire PA system. Experiences from the financing protected area systems in the region (e.g. Kenya, Seychelles, Mozambique, South Africa) should be used. The strategy should also look at Corporate Social Responsibility (CSR) opportunities, as well as the funding options being identified for terrestrial conservation through the PAN project. The experience of Seychelles, due to the similarities with Mauritius, is particularly useful. A new UNDP-GEF Project focusing on PA Finance is bound to commence in 2016 and can serve as essential inspiration for the next steps in Mauritius.

This activity will also involve developing a standardised set of financial and accounting policies and procedures for MPAs, providing a professional financial backstopping service, reviewing and updating the pricing strategy and structure for MPA products and services, improving revenue from entry and other

user fees (fees are already paid by boat operators but daily permits could be introduced for diving, snorkelling and other water sports, graded according to whether users are residents or overseas visitors); targeting additional focused donor funding support; reducing transaction costs of user-pay systems; improving the productive efficiencies in existing tourism and administrative services; and developing more integrated tourism/recreation products and services.

Institutions involved will include the MCD and AFRC, Ministry of Finance, RRA, and other relevant partners and stakeholders.

Activity 2.2.3. Support implementation of the investment strategy

Implementation should focus on priority activities such as introduction of visitor fees on a variable fee/waiver structure to promote inclusive access (e.g. higher rates for overseas visitors), implementation of a trust fund (with reference e.g. the MPA Fund mentioned in the relevant current legislation), if feasible, and supporting the efforts of the relevant authorities to broker finance from national budgetary appropriations for PA/MPA management. In doing so, it will support the implementation of concrete measures for balancing costs, expenditures and needs across the MPA sub-system.

Component 3. Erosion control and ecosystem services restoration in sensitive areas

Outcome 3. Erosion control and ecosystem services restoration: erosion and soil loss are reduced in 200 ha of erosion-prone water sheds; and ecosystem services are restored in 100 ha of coastal wetlands

214. This component addresses two ESA types: steep slopes, and coastal wetlands, which provide particular important ecosystem services and which are subject to serious land degradation. Coastal wetlands are found only on Mauritius and erosion of steep slopes is of particular concern on Rodrigues.

Output 3.1) Rivière-Coco SLM

Sustainable land management (SLM) techniques are applied to control erosion and water course sedimentation in the SEMPA watershed, with a focus on Rivière-Coco¹¹²

215. Soil erosion on Rodrigues is having an increasingly serious impact on coastal and marine biodiversity. Land degradation here is caused primarily by poorly regulated pastureland management leading to overgrazing, and also by poorly regulated building and construction causing erosion and run-off, the latter escalating due to rapidly growing residential and tourism development and associated infrastructure such as roads. Overgrazing is greatest at the end of the dry season (towards December) at which point the grass tends to be eaten right down; with the first rains, topsoil with its organic matter and nutrients is rapidly washed away, although the root systems tend to remain intact, and completely bare soils and gullies are uncommon¹¹³. Most of the forest plantations are fenced to exclude livestock but this is poorly enforced and there is much illegal grazing.

¹¹² Although Riviere Mourouk is mentioned as an alternative site for this activity in the PIF, following a site visit, the PPG team felt that Riviere Coco is more appropriate, as the former valley is well forested and is not suffering from major erosion.

¹¹³ UNDP/GEF project *Capacity Building for Sustainable Land Management in Mauritius (including Rodrigues)*, Project Document

216. A draft SLM plan for Rodrigues¹¹⁴ was produced as part of the UNDP-GEF project *Capacity Building for Sustainable Land Management in Mauritius (including Rodrigues)*. Output 3.1 is aimed at implementing aspects of the SLM plan in the form of a demonstration project in Rivière Coco, which is in the southeast of Rodrigues and is part of the SEMPA watershed. Much of the SEMPA watershed was once covered by agriculture managed through terraces, but as a result of a 7-year drought in the 1970s, these have largely disappeared as livestock were moved down from higher areas. The old Cattle Walk laws are no longer enforced and livestock (cows and goats) graze throughout the watershed.

217. Rivière Coco has been selected as a demonstration site because the severe erosion here is causing siltation on the subtidal habitats (ESAs) of the MPA. Much of the watershed is covered with eucalyptus plantation, with a few areas of old terraces which are overgrown with grass and need maintenance and repair works, and there is much illegal grazing. Furthermore, with an existing population of about 2000, this area is designated a “secondary growth area” in the 2010 draft Rodrigues Local Plan. The project activities will also build on policies and recommendations in the 2010 draft Rodrigues Local Plan, and contribute to the achievement of Objective 16 of the SEMPA Management Plan: *To maximise the positive impact of SEMPA protection by linking its management to that of adjacent conservation areas to form a broader “ridge to reef” conservation system.* Activities envisaged include:

Activity 3.1.1. Implementation and testing of suitable techniques.

A range of potentially suitable techniques have been identified, including: fencing to restrict cattle grazing to appropriate demarcated areas; promotion of an integrated approach to farming, encouraging semi intensive methods; intensive grazing (planting forage crops on the mountain slopes and as intercrop between the eucalyptus for cutting and carrying to the livestock); introduction of regulations to limit movement of livestock (revision/updating of Cattle Walk legislation); repair of terracing (feasibility of this to be carefully assessed as this is a costly approach and might not be effective); promotion of other agricultural activities such as chicken rearing and orchards; and development of community forestry activities as demonstrated on other parts of the island through the MWF supported project to remove exotic plants and replace them with native trees. Restoration of forested slopes with native vegetation is likely to be the most successful approach in the long-term.

Consultations with stakeholders would be held to agree on the techniques to be used. An awareness raising campaign would need to be undertaken to ensure that local communities fully understand the activities being undertaken. Training and assistance should be provided to local farmers to ensure that they are adequately prepared to undertake the new farming practices. A community based approach would be set up in view of ensuring that livestock from other regions do not hamper the initiative being put forward in Riviere Coco.

Activity 3.1.2. Documentation and dissemination of results to allow for replication in other areas of the island.

Communications materials and guidance will be produced. If the Botanic Garden Centre in Mourouk is constructed, this could be used for sensitization about erosion and mechanism for its control, as well as the new SEMPA Interpretation Centre. Training in the appropriate techniques could be provided to both the agricultural and construction sectors.

¹¹⁴ NB. At the time of the PPG, this document was not available due to computer problems

Output 3.2) Wetlands restoration

Essential ecosystem services are restored in coastal wetlands¹¹⁵ (e.g. water filtration, storage and flood control services, habitat and recreation)

218. Coastal wetlands are the most threatened of all the marine and coastal ESAs in Mauritius and are being progressively damaged and reduced in size through backfilling and coastal development. The ESA study included a survey, undertaken in 2008/2009, of all coastal wetlands in Mauritius, the majority of which are located in two major clusters in the north and north east Districts: Flacq with 112.54 ha and Rivière du Rempart with 95.41 ha. These Districts also include some of the largest single units of wetland with greatest potential for biodiversity conservation, but a large number of these wetlands are in private ownership. The project will attempt to seek a solution to protecting and managing key sites, building on experiences in the PAN with private stakeholders, and with other ESAs that are largely in private ownership (e.g. caves).

219. The project will also undertake a demonstration project at one of the state-owned wetlands, and will provide support for the finalization of the draft Wetlands Bill (2013) for submission to government. The national Ramsar Committee, convened by the MOAFS, provides advice on wetland conservation and management and will provide the co-ordinating mechanism for this component. The activities will complement those planned under the PAN project for wetlands, including restoration at Mare Sarcelle in Bras d'Eau National Park and conservation work in the Rivulet Terre Rouge Estuary Ramsar Site. Activities envisaged include:

Activity 3.2.1. Provision of support for finalization of the draft Wetlands Bill

This will include technical assistance for any amendments required, and assistance with submission to the government for approval. A recent legal report on the 2013 version of the Bill has highlighted some inconsistencies.

Activity 3.2.2. Analysis of legal issues associated with the management and conservation of wetlands in private ownership, and promote implementation of recommendations

This will build on experiences with privately owned forests under the PAN, assessing the role that land swapping, “easements” (rights of use by one person or entity over land owned by another) and tax incentives might play, and develop a strategy with a set of options for resolving this issue, that takes on board the concerns of land owners, involves all stakeholders, builds consensus, proposes acceptable mechanisms that include agreements to stop construction in wetland areas, and financial or fiscal incentives for doing so. Although easements were proposed in the ESA report as a mechanism to prevent backfilling of wetlands by owners, this approach is less easy to apply in Mauritius than in the USA where it is widely used, as the parcels of land in the former country are much smaller and the right to property is guaranteed under law. Support from the local government will be required for this activity as local governments can play a significant role in the management of urban wetlands, and can promote the value of the ecosystems they provide in terms of storm water management, run off and provision of public amenity areas.

¹¹⁵ The PIF proposes that this Output should address the Grand Baie wetlands only. However, the Technical Report on Wetlands which was produced after the Grand Baie Wetlands survey which was the primary reference for the PIF, demonstrates that there are also important coastal wetlands to the north and east of Grand Baie that are also threatened and that have equal and possibly greater potential for protection and restoration. The PPG team therefore felt that the project should assess all the northern coastal wetlands in order to determine a suitable site for interventions.

Activity 3.2.3. Preparation of a management and action plan for Pointe d'Esny Ramsar site and implementation of required management activities

Pointe d'Esny is one of the last large wetlands (35-40 ha) and includes both mangroves and other coastal marshland vegetation and species; the ecosystem services it provides have been estimated at some USDUS 42,000-135,000 annually¹¹⁶. Proposals for a management plan have been outlined, and will be developed further using a collaborative and participatory approach. The plan will identify activities to fulfill priority needs, including public awareness materials and signage, visitor facilities, walkways etc. This activity could be undertaken in collaboration with MWF which has been a partner in the management of this site. Eco-Sud has undertaken clean ups of the lagoon and mangroves in this area and may also be able to assist, and there is a plan to address beach erosion in the area, produced under the JICA project.

Activity 3.2.4. Improve skills and competencies of staff responsible for wetlands management:

A capacity needs assessment will be undertaken for wetlands technical staff in the NPCS, and other agencies involved in wetland conservation and management. On-the-ground training and mentoring will be developed in association with other activities carried out through this Output (e.g. wetlands ecology, restoration and modelling, ecological mapping using GIS, ecosystem valuation, education and communication, community involvement and co-management).

2.2 Gender Considerations and Other Project Benefits, including Innovativeness, Sustainability and Replicability

2.2.1 Gender Mainstreaming Considerations

220. The project will adopt the Human Rights-Based Approach (HRBA) to programming, as used by UN agencies since 2003. This requires that the problems and challenges faced by different stakeholders involved in or affected by project interventions and inequalities and discrimination patterns that occur in the area where the project is located are addressed from the beginning. The HRBA approach particularly emphasises the need for a good understanding of the underlying structural causes of such problems so that effective and sustainable strategies for change can be identified¹¹⁷. The stakeholder analysis undertaken during the PPG and the further stakeholder analysis to be undertaken in the project's inception phase will ensure that the HRBA approach is followed.

221. The GEF's 2012 Gender Equality Policy¹¹⁸ has 7 criteria that the GEF Secretariat and its Partner Agencies need to meet when designing and implementing projects:

- i. Strengthen gender mainstreaming capacity institutionally;
- ii. Consider gender elements as important drivers and incentives for achieving global environmental benefits;
- iii. Ensure that social assessment includes gender analysis -to assess roles, benefits, impacts and risks for women and men of different ages, ethnicities, and social structure and status;
- iv. Identify measures to avoid, minimise and/or mitigate adverse gender impacts;

¹¹⁶ Tatayah, R.V. 2007. An Assessment of Pressures on the Biodiversity of the Pointe d'Esny Wetland (Mahebourg) and Proposal for a Conservation Management Plan

¹¹⁷ UN Evaluation Group (2012) Integrating Human Rights and Gender Equality in Evaluations, Guidance Document. www.uneval.org/document/download/1294

¹¹⁸ GEF (2012) Policy on Gender Mainstreaming. Policy :SD/PL/02 https://www.thegef.org/gef/sites/thegef.org/files/Gender_Mainstreaming_Policy.pdf

- v. Address gender sensitive activities in policies, strategy, action plan;
- vi. Put in place a system for monitoring and evaluating progress in gender mainstreaming, including use of gender-disaggregated indicators; and
- vii. Monitor and provide support for policy implementation, including ensuring the participation of gender experts.

222. The UNDP Gender Equality Strategy 2014-2017 seeks to contribute to the eradication of poverty, and to the reduction of gender inequalities by empowering women. It envisions that a more just, inclusive, sustainable and resilient world can be built by empowering women as agents of change and leaders in the development processes that shape their lives, as well as promoting and protecting their rights. The project is in line with all the three main areas of work of UNDP's Strategic Plan, including the sustainable management of natural resources, as well as the resilience building area in regard to disaster and climate-related shocks. The project focuses both on women and men as agents in mainstreaming biodiversity processes, in gender mainstreaming at institutional level and in promoting alternative sustainable livelihoods.

223. The Government of Mauritius adopted a rights-based National Gender Policy Framework (NGPF) in 2008¹¹⁹, which stipulates that Ministries, Departments and Agencies develop their own specific gender policies to achieve gender equality and women's empowerment in their sectoral mandate areas. These policies are to be implemented through their programmes, interventions, human resource and operational management, budget allocations, execution monitoring and evaluation. The NGPF also promotes decentralised, context-specific, participatory local development and social mobilisation to achieve gender-responsive social transformation and innovation. All Ministries have such gender policies and are currently developing action plans for implementation. The RRA has developed its Gender Policy, as required by the NGPF. It highlights how women's livelihoods have become vulnerable to climate change and environmental degradation and need to be a key focus of policy and planning measures

224. Based on the analysis undertaken during the PPG, the key gender and social equity issues to be addressed by the project are:

- The gender division of labour in coastal communities, with men dominating beach- and lagoon-based leisure, economic, and entrepreneurial activities particularly where these are "motorised" (e.g. involving use of boats, vehicles etc) and women focus on activities such as gleaning for bait and in octopus fishing, especially in Rodrigues. Men also tend to predominate in illegal activities and in practices that damage coastal and marine biodiversity, as the focus group discussions across the different sites in Mauritius have highlighted. Acceptance of such gender imbalances contributes to tolerance of the use of destructive practices, which is exacerbated by inadequate enforcement and management.
- The lack of robust, national and local data on gender-based and other spatially disaggregated, educational, income, age, and ethnic inequalities and *de facto* discrimination impedes effective planning, appropriate allocation of resources and development of effective sectoral, fiscal and broader overarching macroeconomic policies.
- At present, ICZM policies, planning and implementation mechanisms as well as data collection and planning instruments do not incorporate fully social, economic and cultural realities as experienced by the diversity of stakeholders involved (i.e. women, men, boys and girls). The literature review and the results of stakeholder discussions held during the PPG all point to the need to tackle environmental concerns holistically. Support for alternative livelihoods is an important precondition for adopting sustainable practices and the project will commission a community survey to generate the socio economic and spatially-contextualised data to complement the district level Relative Development Index and also as part of the community-

¹¹⁹ Gender.gov.mu.org/English/Documents/activities/nal_gen_pol_fr_mts.doc

based mechanisms for tracking change and creating peer to peer learning networks across project sites both in Mauritius and Rodrigues. Through its partnership with GEF/SGP, the project will generate policy relevant knowledge to foster the integrated mainstreaming of sustainable development goals at coastal level.

- Unpaid care work combined with low pay and long hours in paid employment are major barriers to women's economic and political empowerment. In addition, there is insufficient qualitative and subjective data on perceptions and attitudes, mind sets in regard to gender norms, and this perpetuates inequality.

225. A key project strategy is to reduce the gender bias which assumes that men are the main or sole breadwinner and household head, and thus are the chief recipients of household income. It will explicitly assess, design, monitor and track implementation from this standpoint and distinguish women and men as household beneficiaries of project benefits. In line with the policies outline above, gender-responsive monitoring indicators will be developed, used and regularly assessed for their continued relevance. Care will also be taken to ensure that: women's participation in project activities is not hampered by unpaid care work, and that alternative care arrangements are considered as part of development of sustainable and alternative livelihoods; that women's participation does not worsen their unpaid work load¹²⁰; and that the project does not take advantage of gender biases in income to offer women benefits that are lower compared to men. A household-based approach will be used throughout the project for economic empowerment activities. Both international and local gender experts will be hired to provide the necessary expertise for implementation of the project.

226. The project will address the barriers identified above and the requirements of the gender policies and strategies of the GEF, UNDP, RM and Rodrigues in a number of ways:

a. Promote broader multi-generational, gender-sensitive community engagement / stewardship in the protection and sustainable management of coastal and marine biodiversity

The need for a more inclusive and participatory approach to environmental management in the RM has been identified in many fora and recommended through many programmes and initiatives. The project will promote and support the development of this way of working through all its activities, and through the establishment of stakeholder groups to help plan and implement coastal zone management, MPAs and other interventions as appropriate, in all three project Components. The project will build on, and use the insights of, on-going co-management initiatives, some highly innovative, that are encouraging this approach including the efforts to establish VMCA's on Mauritius, the work of the Le Morne Heritage Trust Fund and the GEF SGP, and the local eco-clubs that have been formed. Stakeholder committees and community meetings organised through the project will include representation of all groups, including women, youth, disadvantaged young men etc. Senior Citizens' Associations are active in teaching older women to swim, take up outdoor active lifestyles and enjoy the amenity values of the lagoon, and will be encouraged to participate. Gender and diversity-sensitive facilitation tools will be used for awareness-raising and community level dialogue.

b. Build capacity across all social groups, including women and youth, for coastal management and sustainable use of marine and coastal resources, and develop a good understanding of the issues involved in all sectors of society.

The training and capacity building activities that will be undertaken under Outputs 1.2 (ICZM), 1.3 (tourism certification), and 2.1 (MPA management), the awareness raising and communications

¹²⁰ As GEF monitoring indicators explicitly require

activities under Output 1.1, and the more specific training and communications activities to be undertaken in Component 3 in relation to reduction in soil erosion and coastal wetlands management, will be gender-sensitive and allow for the inclusion of all social groups as appropriate. The project will strengthen and make more systematic and informed, local communities' awareness of maps, plans, and knowledge generated by the project and in particular of their own localities. The approach to knowledge management will specifically bring out and disseminate local knowledge in each of the sites chosen, from both women and men's perspectives. Social Welfare Centres will be used as community hubs. Facilitation and capacity development tools will be based on HRBA methodology and help generate knowledge and map local histories of an area. It will be important to develop close links between national scientific activities and the local more qualitative knowledge available, in order to generate a full understanding of the socio economic and cultural dimensions of marine and coastal biodiversity management. Peer to peer learning and knowledge-sharing will be used, and both women's and men's voices and actions will be show-cased, using a range of forms including social media, site and exchange visits and twinning arrangements. Knowledge products and platforms will be developed to reinforce women as leaders (government and NGO), scientists, professionals, community organisers and to provide role models for women in conservation and to correct for the gender imbalance.

c. Promote and enhance alternative livelihoods that benefit women, young unemployed men and/or those engaged in vulnerable and/or precarious jobs, and other marginalised groups and that reduce pressure and damaging impacts on marine and coastal biodiversity.

This is a major aspect of Component 2 of the project. Effective management of MPAs requires that communities that make their livelihoods from these areas and the biodiversity these sites protect are disadvantaged by such interventions. Particular focus will be on those potentially displaced by the operationalisation of no-take zones.

In many cases, including in the SEMP in Rodrigues, livelihood alternatives have been identified and communities are already engaged in them (e.g. poultry production). However, further support is needed to make such activities sustainable, in terms of value chains, product development, marketing strategies and capacity development for innovative marketing. The scope of this may be timely, and the project will help communities to take advantage of fair, ethical and 'green' trade niches. The project will draw lessons from past and ongoing projects¹²¹ in the RM. The new livelihood generating activities will evaluate, learn lessons and draw out good practices from previous initiatives, in particular under the GEF SGP. Where possible, the skills and knowledge of local communities in relation to the sea, lagoons, and reefs will be built on, so that cultural links with the marine environment are reinforced and not lost.

Areas where women can benefit in income, knowledge, competencies and resources from the project's interventions will be identified, building on ongoing work from the GEF/SGP (previous projects have, for example, engaged women in mangrove re-forestation, seaweed farming, chicken rearing and organic farming) The project will help to ensure (and monitor) gender balance in the training of eco guides for tourists in activities such as snorkeling, diving, etc, and develop incentives for young local men and others with knowledge to act as mentors and coaches.

The project will work with the Women's Centres, National Women's Council and National Women's Entrepreneur Council under the aegis of the Ministry of Gender Equality, Child Development and Family Welfare and with its institutional partners (such as the agencies responsible for small and medium enterprise support) to develop capacities. It will also explore

¹²¹ UNDP-UNEP (2014) as well as GEF Small Grants Programme such as Alternative livelihoods and Support for Sustainable Marine Resource Management in Rodrigues, and the related Rodrigues Sustainable Livelihoods Assessment Study

ways to connect with the tourism agencies as key partners to build synergies between “ethical/social solidarity” and ‘ecotourism’ dimensions and reduce the economic, social and spatial exclusion experienced by local communities in the vicinity of tourism sites.

2.2.2 Global Environmental Benefits

227. The project will assist the RM in meeting its commitments under a number of multi-lateral environmental treaties as follows:

- CBD: the project will contribute to the achievement of many of the Aichi targets (see Section 8) notably those related to mainstreaming of biodiversity and to the establishment and effective management of a national system of protected areas, thus also helping with implementation of the CBD’s Programme of Work on Protected Areas and the Programme of Work on Marine and Coastal Biodiversity. It will also contribute to protection of one of the Ecologically or Biologically Significant Marine Areas (EBSAs) as required by the CBD¹²²; Blue Bay is listed as one of the 39 EBSAs in the Southern Indian Ocean¹²³, meeting six of the seven criteria that have been defined for EBSAs. The project will contribute to protection and management of this area.
- Ramsar Convention: the project will support improved management of 2 Ramsar sites (Pointe d’Esny and Blue Bay).
- World Heritage Convention: the project will support management of the marine buffer zone of the Le Morne Cultural WHS.
- UNCCD: The project will apply an integrated natural resource management for sustainably managing land, as per the terminology commonly used within the Convention. This work will be carried out under Component 3, which focuses on erosion control and ecosystem services restoration. It will be part of a reef-to-ridge approach in selected sites, keeping in mind that the project’s main focus is on coastal and marine biodiversity, and with the expected benefit of managing ecosystems affected by land degradation, namely steep slopes and wetlands.

228. The IUCN Red List of threatened animals includes the Green Turtle (*Chelonia mydas*), Hawksbill Turtle (*Eretmochelys imbricata*), Small Giant Clam (*Tridacna maxima*), Bénétiér de Rosewater (*Tridacna rosewateri*) and Blainville’s Beaked Whale (*Mesoplodon densirostris*) all of which occur in the waters of the RM. Over 100 coastal and marine species (including corals) in the RM feature in CITES appendices as threatened or endangered. The project will contribute to improved conservation status for these species, and will also help to protect a marine Important Bird Area for foraging seabirds in waters adjacent to Round I and Serpent I, as proposed under the Nairobi Convention.¹²⁴

229. The ESAs that will be addressed by the project are all globally threatened ecosystems. Coral reefs are particularly at risk and the project’s activities are expected to have a positive impact, through a range of mechanisms, on all the reefs surrounding the islands of Mauritius and Rodrigues. It will also directly benefit coastal wetlands, another highly threatened ecosystem, as well as the other marine and coastal ESAs on which there is a focus including sea grass beds, sandy beaches and dunes and intertidal mud flats. As a result of project interventions it is expected that fish stocks in the lagoon areas will recuperate and the marine trophic chain will be in better balance, and a range of other key ecosystem services restored.

¹²² <https://www.cbd.int/ebsa/about>

¹²³ http://www.unep.org/NairobiConvention/docs/Summary_Report_for_EBSAs.pdf

¹²⁴ Birdlife International 2015. Status of birds in the Marine and Coastal Environment of the Nairobi Convention Area: Regional Synthesis Report.

2.2.3 Development Benefits

230. The project will support the Government's national development priorities in terms of promoting an ocean economy, by encouraging and helping to establish a sustainable approach to the use of marine and coastal biodiversity and natural resources. As described in section 2.2.1 it will help to improve gender equality at all levels amongst marine and coastal stakeholders, empowering women and through this helping to reduce poverty.

231. The project will contribute to development of the tourism sector (Component 1), by supporting the establishment of a voluntary certification process which will encourage the industry to act responsibly and minimize damage to marine and coastal diversity. This will help to ensure long-term sustainability of the industry, and help to ensure that small-scale operators can participate fairly and benefit equally from these resources.

232. Component 2 focuses on improving protection for marine and coastal ESAs, which will provide healthier habitat for commercially valuable species and ultimately lead to more productive fisheries and enhanced livelihoods for coastal communities and those involved in the fishing industry. The activities to encourage the effective enforcement of no-take areas and marine reserves, to demonstrate their benefits and promote compliance, will in particular help to improve the health of the fisheries sector.

233. The demonstration project to reduce soil erosion, to be carried out under Component 3, will lead to more sustainable agriculture on Rodrigues, and potentially also Mauritius, as the techniques to be trialed will be able to be replicated subsequently.

2.2.4 Innovativeness, Sustainability and Replicability

234. **Innovativeness.** The project will adopt a number of innovative approaches. In Component 1, the ridge-to-reef approach (an ecosystem-based approach aimed at reversing coastal degradation) will be adopted in order to develop a planning mechanism that will facilitate the full implementation of the RM's ICZM framework. This approach has been endorsed by the SIDS¹²⁵ but has not yet been applied in the Western Indian Ocean. The project will be able to learn from the GEF's current Pacific Islands National Priorities Multi-Focal Area 'Ridge-to-Reef' (R2R) programme¹²⁶, which is aimed at maintaining and enhancing the Pacific Island countries' ecosystem goods and services (provisioning, regulating, supporting and cultural) through integrated approaches to land, water, forest, biodiversity and coastal resource management that contribute to poverty reduction, sustainable livelihoods and climate resilience.

235. The project will also contribute to the development of the concept of VMCA's, which are areas in the lagoon where resource users and coastal communities agree among themselves that no extractive or destructive activities will be carried out. This approach to MPAs has not yet been used in Mauritius, but was used with some success in the UK before a more formal process to designate MPAs was initiated. Many of the VMCA's in the UK were subsequently gazetted as MPAs with a legal basis, suggesting that this approach may be of particular value in situations where there is long held reluctance among some sectors to protect the marine environment, as was the case in the UK and also in some parts of Mauritius. The VMCA's are planned to be set up and managed in a manner analogous to community managed MPAs in other countries, and the project will provide an opportunity to document this approach and monitor its effectiveness.

236. A high-level of Government support for innovation is expected in view of the commitment of Government to the new ocean economy and the environmental protection that will be required to make this sustainable.

¹²⁵ <http://www.sids2014.org/index.php?page=view&type=1006&nr=2373&menu=1507>

¹²⁶ <https://www.thegef.org/gef/node/10726>

237. **Sustainability.** The project has been carefully designed to optimize prospects for institutional, financial, environmental and social sustainability.

- Institutional sustainability will be developed by improving the functionality and effectiveness of the existing institutional frameworks for ICZM and MPAs. The project will contribute to this by: (i) clarifying, and more clearly defining, the roles and responsibilities of each of the government and public institutions responsible for ICZM and MPAs; (ii) establishing an ‘information centre’ as a more cost-effective mechanism for delivering common support services on marine and coastal biodiversity; and (iii) strengthening the capacity of the relevant government ministries to better monitor, evaluate and report on the protection and management of coastal and marine ESAs through the various mechanisms available (MPAs, ICZM plans, tourism ecolabel etc). Institutional sustainability will be assured by focusing on capacity building, both for revenue generation and conservation delivery.
- Financial sustainability will be achieved for MPAs (Component 2) by supporting the development and implementation of a financing strategy for the MPA network, building on work undertaken through the PAN project to ensure sustainable financing of the national protected area network as a whole. The project will build and strengthen the financial management capacity of agencies involved in managing MPAs in terms of budget management, financial control, performance management and financial accountability. The project will also encourage the introduction of business planning processes in the management of MPAs as part of the initiative to improve management effectiveness. Component 2 will investigate means of diversifying income from MPAs, and ensuring that it contributes to site management; in doing so and by closing the MPA financing gap, the project will improve the overall financial sustainability of the system.
- Environmental sustainability will be promoted through the project by improving the management effectiveness of MPAs throughout the RM, developing an approach to ICZM planning that can be effectively implemented and replicated throughout the country, supporting the establishment of a tourism ecolabel scheme that fully takes marine and coastal biodiversity into account, developing mechanisms to protect coastal wetlands and demonstrating effective soil conservation techniques.
- Social sustainability will primarily be achieved by facilitating the active involvement of a range of stakeholders (including private sector, local communities, donors and NGOs) in the ongoing planning, management and monitoring of ICZM plans and MPAs. In particular, the project will seek to optimise entrepreneurial and direct employment opportunities for communities living near MPAs in the development and delivery of tourism and recreational services, and will develop alternative livelihoods for those individuals. The aim is that eco-tourism and diversification of economic activities that involve and rely on relationships with MPAs are to become a significant source of income for local communities and for the MPAs themselves. The involvement of stakeholders in project activities will be guided by robust stakeholder engagement plans that take gender and social equity considerations into account. These stakeholder engagement plans will also make strong provision for conflict management with different categories of user groups.

238. **Replicability.** The two ICZM plans to be developed under Component 1 are considered by the government and stakeholders as demonstration projects that will allow the development of an approach that can be used in all coastal Districts in Mauritius. By selecting Black River District and Rodrigues, for which considerable progress has already been made in terms of stakeholder consultation, and for which there is extensive data available, it is expected that the plans can be completed and implementation started well within the life of the project, with the expectation that a similar approach can be started in the other Districts before the project ends.

239. Two other demonstration activities (techniques to reduce soil erosion in Rodrigues, and mechanisms for conservation of coastal wetlands in Mauritius) are also being designed specifically for

replication. Successful reduction of soil erosion at Riviere Coco will provide an incentive for the uptake of suitable techniques, many of which are known but have been poorly demonstrated, throughout the SEMPAs watershed. Similarly, on Mauritius, there are many potential options for sustainable management of the fragmented coastal wetlands and if techniques can be proved successful in some sites, there is much scope for using them more widely.

240. At the regional level, the project is highly replicable. Other marine and coast biodiversity-rich countries in the Western Indian Ocean are facing similar issues. The ICZM planning approach, the strengthening of MPA management and establishment of VMCA's and the introduction of a tourism ecolabel that takes conservation of marine and coastal biodiversity into account will offer useful lessons to other parts of the region.

241. To facilitate replication, each project output will include the documentation of lessons learnt from implementation of activities and the production of results, tools and guidance materials to be developed during implementation. This will be consolidated by the Project Manager and the Programme Coordination Unit, ensuring that this information will then be made accessible to different stakeholder groups, including through the use of social media and other outreach methods.

2.3 Risks and Safeguards

2.3.1 Risk Analysis

242. During the PPG phase, project risks were updated from those presented in the PIF (Table 9 below).

Table 9: Project Risk Assessment and Mitigation Measures

IDENTIFIED RISKS AND TYPE	RISK RATING	MITIGATION MEASURES
<u>Regulatory</u> The supporting legislation and regulatory framework that will ensure that project interventions are sustainable in the long term is not enacted, and priorities to develop the ocean economy take precedence	Medium	The project will provide legal expertise and support that will help to encourage the government to enact and/or revise the necessary laws or regulations to protect and sustainably manage coastal and marine ESAs (with particular emphasis on wetlands for which legislation is notably lacking). At the same time the project will help to develop a stewardship, and where appropriate, voluntary approach to conservation and management within stakeholder groups and coastal communities, which will help to reduce the need for enforcement and the regulatory approach.
<u>Strategic</u> Institutional responsibilities for CZM and MPAs remain diffuse with no collaboration framework.	Low	Components 1 and 2 of the project have been specifically designed to foster collaboration among responsible partners. MOI will play a lead project implementation role and will ensure coordination and collaboration among the different entities. The role delegated to other entities by MOI will be formalised through agreements (e.g. MOUs) with clear TOR. An analysis of institutional and governance arrangements for MPA management is to be undertaken as part of Output 2 and this will help to clarify the roles and responsibilities of agencies and the support that can be provided by civil society.
<u>Operational</u> Supporting infrastructure and national arrangements for long term maintenance of a	Medium	The project will liaise closely with on-going initiatives in the various responsible partners involved in collating data and information and making this available to decision-makers and the public. It will also promote understanding of the need for sharing information and

IDENTIFIED RISKS AND TYPE	RISK RATING	MITIGATION MEASURES
knowledge management system for marine and coastal biodiversity does not materialize during the life of the project		ensuring that all those with interest in marine and coastal biodiversity can access the information they need. The project will also encourage the use of cost-effective, simple and easy to maintain processes and software in the development of such systems.
<u>Strategic</u> Local level ICZM plans are completed (on paper) but never implemented.	Low	The project will develop and explore various ways and modalities of implementing the proposed ridge-to-reef plans in line within the ICZM Framework, through Component 1 activities, particular Output 1.1.4 (awareness raising to ensure that all stakeholders understand the need for such plans), Output 1.2.1 (analytical review of ICZM to date), Output 1.2.2 (demonstration plans for one District on Mauritius and for Rodrigues), and Output 1.2.3 (training and capacity building which will ensure that staff and agencies have the required skills and capabilities). These activities will increase the chances of the plans being effectively implemented and of the relevant stakeholders being involved in sector-specific and location-specific actions.
<u>Strategic</u> Fishers and coastal communities see the no-take zones in Rodrigues and in the Marine Parks in Mauritius as damaging to their livelihoods and fail to respect rules of access.	Low	The project will mitigate the risk of no-take zones failing to produce the desired results by developing, with the affected communities, a livelihoods programme. A sound basis for this has been established by the GEF SGP, and experiences of previous projects will be used, and recommendations from recently prepared livelihood strategies will be used.
<u>Strategic</u> Expectations towards the engagement of the tourism sector prove ambitious.	Low	Specialised technical assistance will be contracted to ensure that the tourism industry is fully engaged; activities to be carried out under Output 1.3 have been developed in close collaboration with MOTEC, AHRIM and interested individual tourist operators. Certification has been tried with some success in the Seychelles and the project will ensure that experience from the Seychelles is used to replicate successful approaches.
<u>Strategic</u> The level of threat to biodiversity and ecosystem services is higher than assumed.	Low	The project builds on the thorough analysis of threats to biodiversity and ecosystem services carried out through the ESA Study. Although threats are very serious, these are well understood and there is evidence of gradually increasing capacity to address them, including at systemic level (e.g. policies, laws and finance). Management capacity across all the responsible entities will be enhanced through the project and thus opportunities for addressing threats will be increased. Threats from climate change present a growing trend, particularly in the form of sea water warming and acidification, sea level rise, and increased frequency and intensity of storms, which will have a significant impact on marine and coastal biodiversity, but the RM is participating in a range of regional initiatives designed to build resilience in both ecosystems and coastal communities, as well as capacity in all stakeholders to undertake appropriate mitigation actions.

2.3.2 UNDP Social and Environmental Screening Results

243. The UNDP Social and Environmental Screening Report is provided in [Annex 6](#). The overall Risk Categorisation for the project is considered Low.

2.4 Cost effectiveness

244. The strategic focus of project investment in the mainstreaming of marine and coastal biodiversity in the tourism and coastal development sectors, and the improvement of management effectiveness of MPAs will lead to overall long term savings in conservation and sustainable management of ecosystem services which at present depends on an *ad hoc* project-based approach, whereby activities tend to be discontinued even if considered potentially effective, and then initiated again later with the burden of start-up costs, recovery of information and recruitment of new personnel.

245. A small short-term catalytic investment by the project in identifying appropriate financing mechanisms for MPAs, in collaboration with the protected area financing work undertaken through the PAN, will provide the groundwork for improving the future long-term financial viability of MPAs in the RM. A comparatively small investment by the project in rationalizing and strengthening the institutional competencies of MPA agencies will help to focus the optimal deployment of limited resources and capacity in the ongoing improvement of the management effectiveness of MPAs in the RM. Project support for improvement in proficiency and skills of MPA management staff within these institutions will also ensure that the productivity and effectiveness of the limited human resources available to these institutions is enhanced and optimally deployed.

246. Project support in reforming and updating the policy framework and, where appropriate, enabling legislation for protection and management of marine and coastal ESAs, with modest costs, result in substantive long term returns, including: creating an enabling regulatory framework for the mainstreaming of management of marine and coastal biodiversity particularly in the coastal development and tourism sectors; clarifying institutional roles and responsibilities for marine and coastal biodiversity protection and management; better integrating and aligning MPAs with other sectoral development programs; and strengthening the cooperative governance of MPAs. The project will promote a participatory approach which is increasingly being recognized as one of the most cost-effective mechanisms for ensuring the effective implementation and long-term sustainability of MPAs and ICZM plans, in that local communities and other stakeholders start to take responsibility themselves for compliance with regulations and implementation of management activities.

247. A modest investment in testing the cost-effectiveness of ecosystem service restoration and sustainable management techniques in a number of demonstration sites will contribute to significantly improving the future costs and effectiveness of these operations.

248. The project's alternative from the baseline is shown in Table 10 below. Global benefits are described in [Section 2.2.2](#).

Table 10: Project alternative from the baseline

<i>Current Baseline</i>	<i>Alternative</i>
Coastal and marine biodiversity and ecosystem resilience in Mauritius and Rodrigues will continue to be threatened and impacted by economic activities that fragment habitats and affect species. Threats may increase with the development of the ocean economy, and will be compounded by other anthropogenic stressors (land-based pollution, climate change and ocean acidification).	Local government level ICZM plans are developed and effectively implemented, addressing threats to biodiversity and ecosystem integrity across the lagoons and watersheds of Mauritius and Rodrigues. Critically sensitive areas containing marine and coastal ESAs are designated as set asides and protected from physical development that could degrade their values and ecosystem services.

<i>Current Baseline</i>	<i>Alternative</i>
	The tourism sector is actively engaged in biodiversity and ecosystem management, deriving direct benefits from it that outweigh costs.
The ICZM framework will continue to operate on a small-scale, ad hoc project approach and fail to promote an integrated approach that takes biodiversity and ecosystem services sufficiently into consideration	Biodiversity and the maintenance of ecosystem services are incorporated into all relevant operational permitting/licensing systems, including EIA, effectively changing management practices within the land-use planning, tourism and other physical development sectors.
MPA management effectiveness will continue to be low across the RM with limited financial resources dedicated to it.	At least 20,000 ha of marine and coastal habitat throughout the RM benefit from protection as MPAs of varying designations with improved management and a framework for investments that involves both the tourism sector and communities through sustainable livelihoods.
Lagoon areas continue to be impacted by unsustainable land use practices upstream.	SLM techniques and practices are demonstrated and implemented that reduce land-based threats to ecosystem integrity in lagoon areas and are replicated, with a particular focus on Rodrigues.
Wetlands near built-up areas will continue to be backfilled and dumped.	Critical wetlands located in urban and tourist areas are valued and sustainably managed with the involvement of the surrounding communities for the many ecosystem services that they provide and the benefits that these provide.

3 Management Arrangements

3.1 Project Implementation Arrangement

249. The project will be implemented over a period of five years (60 months). Mauritius Oceanography Institute (MOI) is the government institution responsible for the implementation of the project and will act as the Implementing Partner (IP). UNDP is the Implementing Agency. The project is nationally implemented in line with the Standard Basic Assistance Agreement (SBAA, 1974) between the UNDP and the Government of Mauritius, and the Country Programme Document for 2013-2016.

250. The Implementing Partner will take overall responsibility for the project implementation, and the timely and verifiable attainment of project objectives and outcomes. It will provide support to, and inputs for, the implementation of all project activities. The highest authority of the Implementing Partner will serve as the National Project Director (NPD) for the project implementation. The NPD will chair the Project Steering Committee (PSC), and be responsible for providing government oversight and guidance to the project implementation. The NPD will not be paid from the project funds, but will represent a Government in kind contribution to the Project. The NPD will be technically supported by an international Chief Technical Adviser (CTA). The CTA will support the provision of the required technical inputs, reviewing and preparing Terms of Reference and reviewing the outputs of consultants and other sub-contractors. The CTA will be recruited using standard UNDP-CO recruitment procedures and will report directly to the NPD.

251. A Project Steering Committee (PSC) will be convened by the Implementing Partner to provide expert and technical guidance to implementation of the project. The PSC, which will be chaired by the NPD, will serve as the project's coordination and decision-making body, that is, the Project Board. It will meet according to the necessity, but not less than once in 4 months, to review project progress, approve project work plans and approve major project deliverables. The PSC is responsible for ensuring that the project remains on course to deliver products of the required quality so as to meet the outcomes defined in the project document. The PSC's role will include: (i) overseeing project implementation; (ii) approving all project work plans and budgets, at the proposal of the Project Manager (PM), for submission to the UNDP Regional Centre; (iii) approving any major changes in project plans or programs; (iv) providing technical input and advice; (v) approving major project deliverables; (vi) ensuring commitment of resources to support project implementation; (vii) arbitrating any conflicts within the project and/or negotiating solutions between the project and any parties beyond the scope of the project; and (ix) overall project evaluation. The PSC will include representatives from the Mauritius Oceanography Institute, UNDP and other relevant stakeholders. The PSC representation and terms of reference will be finalized in the Project Inception Workshop (IW).

252. Working closely with the Implementing Partner, the UNDP Country Office (UNDP-CO) will be responsible for: (i) providing financial and audit services to the project; (ii) when required, recruitment of project staff and contracting of consultants and service providers (else, this responsibility lies with the IP); (iii) overseeing financial expenditures against project budgets approved by PSC; (iv) appointment of independent financial auditors and evaluators; and (v) ensuring that all activities including procurement and financial services are carried out in strict compliance with UNDP-GEF procedures. A UNDP staff member will be assigned with the responsibility for the day-to-day oversight and control over project finances.

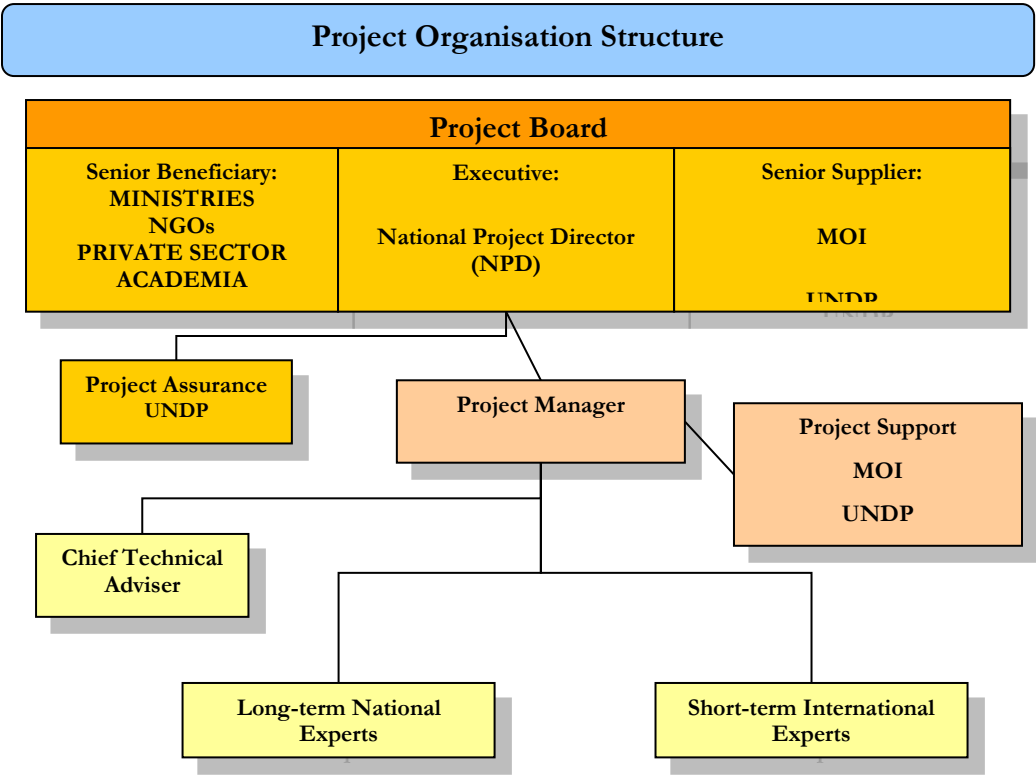
253. The day-to-day administration of the project will be carried out by a Project Management Unit (PMU) comprising a Project Manager (PM) and one Project Assistant, who will be located within the Implementing Partner offices. The project staff will be recruited using standard UNDP recruitment

procedures. The PM will, with the support of the Project Assistant, manage the implementation of all project activities, including: (i) preparation/updates of project work and budget plans, record keeping, accounting and reporting; (ii) drafting of terms of reference, technical specifications and other documents as necessary; (iii) identification, proposal of project consultants to be approved by the PSC, coordination and supervision of consultants and suppliers; (iv) organization of duty travel, seminars, public outreach activities and other project events; and (v) maintaining working contacts with project partners at the central and local levels. The Project Manager will liaise and work closely with all partner institutions to link the project with complementary national programs and initiatives.

254. The PM is accountable to the Implementing Partner and the PSC for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds. The PM will produce Annual Work and Budget Plans to be approved by the PSC at the beginning of each year. These plans will provide the basis for allocating resources to planned activities. The PM will further produce quarterly operational reports and Annual Progress Reports (APR) for submission to the PSC. These reports will summarize the progress made by the project versus the expected results, explain any significant variances, detail the necessary adjustments and be the main reporting mechanism for monitoring project activities. The PM will also be technically supported by contracted national and international service providers. Recruitment of specialist services for the project will be done by the PM, in consultation with the UNDP and the Implementing Partner.

255. The following project organogram represents the expected key relationships governing the project.

Figure 4: Project Organogram



4 Monitoring Framework and Evaluation

4.1 Monitoring and Reporting

256. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures; and will be provided by the Project Team and the UNDP Country Office (UNDP-CO) with support from the UNDP Regional Centre in Addis Ababa, Ethiopia. The Project Steering Committee will monitor the project progress and ensure that the activities are undertaken in a timely manner and meet the goal and objectives of the project.

257. The Strategic Results Framework ([Section 6](#)) provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis on which the project's Monitoring and Evaluation system will be built throughout the 5-year implementation period. The Biodiversity Focal Area Tracking Tools (see [Annex 3](#)) will all be used as instruments to monitor progress in MPA management effectiveness.

258. The principle components of the Monitoring and Evaluation Plan will include: (1) establishing monitoring responsibilities and events, (2) project reporting and (3) independent evaluations. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Phase following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

4.1.1 Milestones

Project start

259. A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

260. The **Inception Workshop** should address a number of key issues including:

- Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and Regional Coordinating Unit (RCU) staff (i.e. UNDP-GEF Regional Technical Advisor) vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed;
- Based on the project results framework and the relevant [GEF Tracking Tools](#) if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks;
- Provide a detailed overview of reporting, monitoring and evaluation requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled;
- Discuss financial reporting procedures and obligations, and arrangements for annual audit;

- Plan and schedule Project Steering Committee meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Steering Committee meeting should be held within the 12 months following the inception workshop.

261. An **Inception Workshop Report** is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform;
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS;
- Risks become critical when the impact and probability are high. Note that for UNDP-GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical);
- Based on the information recorded in Atlas, a Project Progress Report (PPR) can be generated in the Executive Snapshot;
- Other ATLAS logs will be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually

262. Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

263. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);
- Lesson learned/good practice;
- AWP and other expenditure reports;
- Risk and adaptive management
- ATLAS QPR.

264. Annual monitoring will occur through the Project Steering Committee meetings. This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to PSC meetings at least four times a year, i.e. on a quarterly basis – normally around January, April, July and November.

Periodic Monitoring

265. Through site visits: UNDP CO and the UNDP-GEF region-based staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Steering Committee may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Steering Committee members.

Project Reporting

266. **Periodic Monitoring** through site visits: UNDP CO and the UNDP-GEF region-based staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

267. **Mid-term of project cycle:** The project will undergo an independent Mid-Term Review at the mid-point of project implementation (expected to be in July 2017). The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term review will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit (RCU) and UNDP-GEF. The GEF BD SO2 TT as set out in the Project Results Framework (Part 3 of this project document) will also be completed during the mid-term evaluation cycle.

268. **End of Project:** An independent Terminal Evaluation will take place three months prior to the final PB meeting and will be undertaken in accordance with UNDP-GEF guidance. The terminal evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The terminal evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The GEF BD SO2 TT as set out in the Project Results Framework in Section III of this project document) will also be completed during the terminal evaluation cycle. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response, which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Centre (ERC).

4.1.2 Other M&E Aspects

Independent Evaluations

269. The project will be subjected to at least two independent external evaluations as follows: An independent Mid-Term Review will be undertaken at exactly the mid-point of the project lifetime. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

270. An independent Final Evaluation will take place three months prior to the terminal PSC meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact

and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The TOR for this evaluation will be prepared by the UNDP CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

Learning and knowledge sharing

271. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

272. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

273. There will be a two-way flow of information between this project and other projects of a similar focus.

4.2 Monitoring and Evaluation Budget

Table 11: Project Monitoring and Evaluation work plan and budget

Type of M&E activity	Responsible Parties	Budget USD Excluding project team staff time	Time frame
Inception Workshop and Report	PM PMU (Project Management Unit – GoM-UNDP) UNDP CO, UNDP GEF	Indicative cost: USD20,000	Within first two months of project start up with the full team on board
Measurement of Means of Verification of project results.	UNDP GEF RTA/PM will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members. PMU, esp. M&E expert	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on output and implementation	Oversight by PM PMU, esp. M&E expert Implementation teams	To be determined as part of the Annual Work Plan's preparation. Indicative cost is USD50,000	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	PM PMU UNDP CO UNDP RTA UNDP GEF	None	Annually

Type of M&E activity	Responsible Parties	Budget USD Excluding project team staff time	Time frame
Periodic status/ progress reports	PM and team	None	Quarterly
Mid-term Review	PM PMU UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: USD44,000	At the mid-point of project implementation.
Terminal Evaluation	PM PMU UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: USD44,000	At least three months before the end of project implementation
Audit	UNDP CO PM PMU	Indicative cost per year: USD3,000 (USD18,000 total)	Yearly
Visits to field sites	UNDP CO UNDP RCU (as appropriate) Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly for UNDP CO, as required by UNDP RCU
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		USD 172,000 (+/- 2.5% of total GEF budget)	

5 Legal Requirements

5.1 Legal Context

274. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the Government of Mauritius and the United Nations Development Programme, signed by the parties on 29 August, 1974. The host country-implementing agency shall, for the purpose of the SBAA, refer to the government co-operating agency described in that Agreement.

275. The UNDP Resident Representative in Port Louis is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-EEG Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

276. Consistent with the Article III of the SBAA, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

277. The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

278. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

279. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via

<http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>.

This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

5.2 Audit Clause

280. Audit will be conducted according to UNDP Financial Regulations, Rules, and applicable Audit policies.

5.3 Communications and visibility requirements

281. Full compliance is required with UNDP's Branding Guidelines. These can be accessed at <http://intra.undp.org/coa/branding.shtml>, and specific guidelines on UNDP logo use can be accessed at: <http://intra.undp.org/branding/useOfLogo.html>. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: [www.thegef.org/gef/GEF logo](http://www.thegef.org/gef/GEF_logo).

The UNDP logo can be accessed at:

<http://intra.undp.org/coa/branding.shtml>.

282. Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at:

[www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08 Branding the GEF%20final 0.pdf](http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf).

Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

283. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

6 Strategic Results Framework

6.1 Programmatic Links

<p>This project will contribute to achieving the following Country Program Outcomes as defined in the RM UNDP Country Programme Document:</p> <p>Outcome 3. Achieving environmental sustainability while addressing climate change and ensuring more effective environmental protection and conservation of natural resources.</p>
<p>Country Program Outcome Indicators:</p> <p>Indicator (a) Sustainable management of specific surface area of land and seascape important for biodiversity and ecosystem services;</p> <p>Indicator (b) number of coastal sites rehabilitated or protected</p>
<p>Primary Applicable Key Environment and Sustainable Development Key Result Area:</p>
<p>Applicable GEF Strategic Objective and Program:</p> <p>BD 2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors</p> <p>BD 1: Improve Sustainability of Protected Area Systems</p> <p>LD 3: Reduce pressures on natural resources from competing land uses in the wider landscape</p>
<p>Applicable GEF Biodiversity Expected Outcomes:</p> <p>Outcome 1.1: Improved management effectiveness of existing and new protected areas.</p> <p>Outcome 1.2: Increased revenue for protected area systems to meet total expenditures required for management.</p> <p>Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation.</p> <p>Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.</p> <p>Applicable GEF Land Degradation Expected Outcomes</p> <p>Outcome 3.1: Enhanced cross-sector enabling environment for integrated landscape management</p> <p>Outcome 3.2: Integrated landscape management practices adopted by local communities</p> <p>Outcome 3.3: Increased investments in integrated landscape management</p>
<p>Relevant GEF Biodiversity Outputs:</p> <p>Output 1.1. New protected areas (number) and coverage (hectares) of unprotected ecosystems.</p> <p>Output 1.3. Sustainable financing plans (number).</p> <p>Output 2.1. Policies and regulatory frameworks (number) for production sectors.</p> <p>Output 2.2. National and sub-national land-use plans (number) that incorporate biodiversity and ecosystem services valuation.</p>

<p>Relevant GEF Land Degradation Outputs</p> <p>Output 3.1 Integrated land management plans developed and implemented</p> <p>Output 3.2 INRM tools and methodologies developed and tested</p> <p>Output 3.3 Appropriate actions to diversify the financial resource base</p> <p>Output 3.4 Information on INRM technologies and good practice guidelines disseminated</p>
<p>Applicable GEF Biodiversity Outcome Indicators:</p> <p>1.1: Protected area management effectiveness score as recorded by Management Effectiveness Tracking Tool.</p> <p>1.2: Funding gap for management of protected area systems as recorded by protected area financing scorecards.</p> <p>2.1: Landscapes and seascapes certified by internationally or nationally recognized environmental standards that incorporate biodiversity considerations (e.g. FSC, MSC) measured in hectares and recorded by GEF tracking tool.</p> <p>2.2. Policies and regulations governing sectoral activities that integrate biodiversity conservation as recorded by the GEF tracking tool as a score.</p> <p>Applicable GEF Land Degradation Outcome Indicators</p> <p>3.1 Policies support integration of agriculture, rangeland, forest, and other land uses</p> <p>3.2 Application of integrated natural resource management (INRM) practices in wider landscapes</p> <p>3.3 Increased resources flowing to INRM and other land uses from diverse sources</p>
<p>Gender Marking: Data to be recorded in UNDP's Atlas system by the project's year 2 and by its end:</p> <ul style="list-style-type: none"> - Total number of full-time project staff that are women - Total number of full-time project staff that are men - Total number of Project Board members that are women - Total number of project Board members that are men - The number of jobs created by the project that are held by women - The number of jobs created by the project that are held by men

6.2 Logframe

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Project Objective: To mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into the operations and policies of the tourism and physical development sectors in the Republic of Mauritius through a 'land- and seascape wide' integrated management approach based on the Environmental Sensitive Areas' (ESAs) inventory and assessment.					
1	Area of coastal and marine ESAs under improved management or conservation status	4,696 ha (= currently managed MPAs i.e. Blue Bay Marine Park and SEMPA)	27,000 ha (i.e. approx. area of marine and coastal ESAs in ICZM plans for Black River District (4602 ha), and Rodrigues (16,290 ha); and area of ESAs in proposed and existing MPAs outside these locations (c. 8,022 ha) where management will be improved)	Spatial data and GIS (e.g. NSDI) Information on MPAs from AFRC Project Progress Reports Project Annual reports/PIR	<u>Assumptions:</u> Capacity building project interventions effectively contribute to institutional development Government commits to an incremental growth in the funding allocation, and policy support for protection and sustainable management of marine and coastal biodiversity <u>Risk:</u> Policy reform is slow and does not support the required changes needed
2	Average METT Scores for the 5 METT sites impacted by the project	48%	At least 60%	METT assessment compiled (a) during PPG (reviewed and revised by the UNDP-GEF RTA), (b) by mid-term and (c) by project end, independently vetted by evaluators for b and c.	
3	Policy effectiveness of ESA categorisation in key planning and decision making processes pertaining to coastal and marine areas	ESAs are not fully integrated in the development planning process (as stated in the PRODOC barrier analysis, paragraph 143, and in related content.)	A number of barriers relating to the mainstreaming or application of coastal and marine ESAs in decision making processes have been overcome, as independently vetted by project evaluations	Mid-term Review Terminal Evaluation	

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Outcome 1: Threats to biodiversity and ecosystem function are addressed by ensuring that marine and coastal Environmentally Sensitive Areas (ESAs) are an integral part of planning and implementation mechanisms relating to coastal development and the tourism sector.					
Outputs: Information necessary for marine and coastal biodiversity mainstreaming is made available and capacity for knowledge management is developed by making the ESA study and other relevant information available ESAs are mainstreamed into physical development and ICZM planning processes, through the provision of guidance and support to the ongoing ICZM planning and physical development planning processes and by demonstrating appropriate approaches through implementation of an ICZM plan for Rodrigues and one District level plan for Mauritius Standards and a certification system developed for the tourism sector that facilitates the mainstreaming of the management of marine and coastal biodiversity into their operations					
4	Spatial and policy information for all marine and coastal ESAs openly and freely available to all planning agencies, decision makers, stakeholders and to the general public, with due consideration to the different target audiences in the terms of data use and data applications	The ESA maps have not been distributed to all local authorities, and it is not always easy for a planning authority or developer to identify whether a proposed development site will impact on an ESA.	(a) All relevant Ministries to have access to information and to be using it in planning applications and permits that affect marine and coastal ESAs (b) All relevant planning decisions in coastal and marine areas to take account of ESAs (c) Open, free and interactive access to geo-referenced ESA maps, assuming that the adequacy of terms of data use and data applications with respect to the different data users	Availability of maps, documents etc. on line Results of survey of stakeholders at beginning and end of project to assess use of the information Mid-term Review, Terminal Evaluation (end of project achievements to be independently assessed through evaluation)	<u>Assumptions:</u> Government willing to make information and maps on ESAs publically available (other than critical confidential information such as private ownership details) Relevant government entities show willingness to implement policy measures and legislation Local government and stakeholders willing to develop and implement ICZM plans
5	Number and profile of persons(M/F) and organisations accessing coastal and marine biodiversity information using the tools and products developed by and/or influenced by the project	Zero	Target to be determined during inception phase following refinement of relevant project activities	Sex, age, location disaggregated feedback forms attached to communications materials MOUs between institution housing the knowledge management system and institutions providing data Web hits Number, sex, age, location of subscribers to newsletters/electronic mail outs Visitors to visitor centres, Training courses participant records, disaggregated by sex, age location	Rodrigues establishes a long-term budget for the GIS Unit and has the capacity to manage the Unit & retains the capacity Ministry of Housing & Lands collaborate on the ESA & OPS Integration Eco-labelling is of interest to operators in the coastal zone and they are willing to pay for it.

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
6	For Rodrigues, existence of marine and coastal information and GIS unit	None	Unit in place with qualified staff recruited and working effectively	Presence of unit	<u>Risk:</u> Conflicts and misunderstandings between agencies involved undermine efforts Tourism operators unwilling to participate in voluntary eco-labelling schemes
7	Extent of Category 1 and, where required by the ESA Policy, Category 2 ESAs that are protected	Re-assessment of area of each marine and coastal ESA type in each existing <i>managed</i> protected area (figures exist for 2009 in the ESA study but need updating)	All Category 1 and, where required, Category 2 ESAs to be legally protected and more effectively managed, as independently assessed by project end	ESA spatial data Information from relevant Ministries Terminal Evaluation	
8	Number of tourism operators participating in eco-labelling /tourism standards schemes	Baseline to be determined separately for Mauritius and Rodrigues at start of project	To be determined during inception phase	Figures from MOTEC, MSB	
9	Number of individuals (M/F) trained to participate in, and to manage/certify/etc the ecolabelling schemes in such a way that they address marine and coastal biodiversity	Numbers already trained from (information from TA)	To be determined during inception phase	Project Progress Reports Project Annual reports/PIR	

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
Outcome 2: Threats to marine and coastal biodiversity are mitigated and fishery resources protected in at least 20,000 ha of seascapes, through the improved management of MPAs and no-take zones.					
Outputs: Management effectiveness of the MPA network is improved through management planning where required, and also through the introduction of operations and business planning, and improved surveillance and enforcement. An investment framework for MPAs is developed and contributes to improved financial sustainability of the marine protected area sub-system					
10	Protected area management effectiveness scores for each MPA as recorded by Management Effectiveness Tracking Tool (METT) – see PRODOC Annex 3, Table 14	Baseline METT Scores: SEMPA = 62% Rodrigues Northern Marine Reserves = 43% BBMP = 58% BMP = 48% Fishing Reserves = 28%	METT Scores by project end: SEMPA = at least 75% Rodrigues Northern Marine Reserves = at least 55% BBMP = at least 70% BMP = at least 55% Fishing Reserves = at least 40%	METT assessment compiled (a) during PPG (reviewed and revised by the UNDP-GEF RTA), (b) by mid-term and (c) by project end, independently vetted by evaluators for b and c.	<u>Assumptions:</u> Government adopts fundamental policy reforms required, such as the consultative approach to MPA planning and management involving increased stakeholder participation Institutional and policy barriers for an effective site-level revenue generation, collection and retention into the PA system can be lifted, and government allows funding generated by MPAs to be invested in site management
11	Area (ha) of MPAs, either legally designated or established through MOUs with communities	15,913 ha	20,000 ha (expectation to include VMCA's and marine areas around northern islets)	Project Progress Reports Project Annual reports/PIR	Communities and stakeholders accept responsibility for sustainable stewardship of coastal and marine resources
12	Key MPA finance indicators, as recorded by the SO1 TT, Financial Scorecard for the MPA Sub-system (see PRODOC Annex 3, Table 15)	(a) Funding gap for management of MPAs: As per the rough SO1 TT baseline assessments, the funding gap (2015) is approx. 100% of current expenditure under the basic management scenario, and 430% under the optimal management scenario (b) Financial Sustainability Score for the MPA Sub-system = 24%	(a) The annual financing gap is reduced to be at least 50% of expenditure under the basic management scenario (b) Financial Sustainability Score for the MPA Sub-system = increases to at least 40%	Financial Sustainability scorecards assessment compiled (a) during PPG (reviewed and revised by the UNDP-GEF RTA), (b) by mid-term and (c) by project end, independently vetted by evaluators for b and c.	The Social and Community Welfare Centres have the resources to act as information, communication and facilitation hubs The financial reporting system of the MOEMRFSOI is adapted to provide information directly on MPA planning and management operations

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
13	Total operational budget (including HR and capital budget) allocation for MPA management	c. USD300,000	USD 450,000 (based on expectation of 50% increase)	Audited financial reports of MOEMRFSOI	More detailed MPA finance assessments, especially with respect to needs and gaps, are carried out regularly and broken down for relevant PA/MPA managing agencies in Mauritius and Rodrigues, in close collaboration with the PAN and other related projects
14	Number of additional males benefitting from livelihoods strengthened through solutions for management of MPAs	Gender sensitive community baseline survey to be undertaken during inception phase of workshop	To be determined once baseline has been established	Tracker studies, panel data On Rodrigues, information from SGP monitoring unit in the EPU	<u>Risk:</u> Adverse policy and regulatory environment prevails (e.g. Government does not support proposals for MPA revenue retention; does not change policy direction towards more decentralised socio economic and environmental planning)
15	Number of additional females benefitting from livelihoods strengthened through solutions for management of MPAs	Gender Sensitive baseline survey to be undertaken during inception phase of workshop	To be determined once baseline has been established	Tracker studies, panel data On Rodrigues, information from SGP monitoring unit in the EPU	Downturn in visitor numbers reducing income to MPAs from fees and permits Coastal communities unwilling to adopt new practices and livelihoods

Outcome 3: Erosion control and ecosystem services restoration: erosion and soil loss are reduced in 200 ha of erosion-prone water sheds; and ecosystem services are restored in 100 ha of coastal wetlands.

Outputs:
Sustainable land management (SLM) techniques are applied to control erosion and water course sedimentation in the SEMPA watershed, with a focus on Rivière-Coco
Essential ecosystem services are restored in coastal wetlands (e.g. water filtration, storage and flood control services, habitat and recreation)

16	Area of coastal wetlands managed effectively	26 ha (based on area of Rivulet du Terre Rouge Ramsar site and assumption that this is managed effectively)	100 ha (= area of two coastal wetlands Ramsar sites – 48 ha – plus an additional area that might be managed with private owners)	Project Progress Reports Project Annual reports/PIR	<u>Assumptions:</u> Government is willing to support appropriate legislative and policy reforms Other enabling legislation passed and/or regulations made:
17	Legislation passed	Draft Wetlands Bill	Wetlands Act in place	Government gazette notice	Environment Act updated,

#	Indicator	Baseline	Targets by End of Project	Source of verification	Risks and Assumptions
18	Area over which soil erosion techniques are successfully applied in Riviere Coco	Zero	Area of Riviere Coco that requires erosion control to be determined at start of project (PIF assessed 200 ha but this needs checking)	Project information (PIR reports etc.)	<p>Development and Planning Act wholly proclaimed, and regulatory framework for ESA adopted</p> <p>Private landowners willing to participate in conservation interventions for coastal wetlands, and issues surrounding private ownership resolved</p> <p>Women and men farmers on Rodrigues are willing to adopt new practices that prevent soil erosion</p> <p><u>Risk:</u> Soil erosion prevention techniques take longer than project lifetime for proven success</p>

7 Budget and Work Plan

7.1 Total Budget and Work Plan

Atlas Award and Project ID	00090446 / 00096201	Project Title	Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius
Business Unit	MUS10	Implementing Partner under NIM	Mauritius Oceanography Institute

GEF Comp. Outcome /Atlas Activity	Responsible Party	Fund ID	Donor Name	ERP / ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Budget Notes
Comp 1. BD Mainstreaming	M/Environment M/Housing Tourism Authority RRA M/Ocean Economy (Fisheries)	62000	GEF	71200	International Consultants	555,000	123,000	123,000	123,000	75,000	111,000	1
				71300	Local Consultants	312,000	57,000	60,000	67,500	60,000	67,500	2
				71600	Travel	225,000	45,000	50,000	50,000	45,000	35,000	3
				74200	Audio Visual & Print Prod Costs	260,000	30,000	60,000	60,000	60,000	50,000	4
				72100	Contractual Services-Companies	167,000	36,000	42,500	38,500	25,000	25,000	5
				72200	Equipment and furniture	70,000	70,000	0	0	0	0	6
				72800	Information Technology Equipment	91,000	91,000	0	0	0	0	7
				75700	Training, workshops & conference	24,000	6,000	6,000	5,000	4,000	3,000	8
TOTAL COMPONENT 1						1,704,000	458,000	341,500	344,000	269,000	291,500	
Comp 2. Strengthening MPA Mgr	M/Ocean Economy (Fisheries) RRA MOI	62000	GEF	71200	International Consultants	195,000	39,000	39,000	39,000	39,000	39,000	9
				71300	Local Consultants	135,000	27,000	27,000	27,000	27,000	27,000	10
				71600	Travel	130,000	20,000	30,000	30,000	30,000	20,000	11
				72800	Information Technology Equipment	15,000	15,000	0	0	0	0	12
				72200	Equipment and furniture	320,000	30,000	90,000	90,000	80,000	30,000	13
				72100	Contractual Services-Companies	1,167,000	136,000	342,500	338,500	225,000	125,000	14

GEF Comp. Outcome /Atlas Activity	Responsible Party	Fund ID	Donor Name	ERP / ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Budget Notes
				75700	Training, workshops & conference	30,000	6,000	6,000	6,000	6,000	6,000	15
TOTAL COMPONENT 2						1,992,000	273,000	534,500	530,500	407,000	247,000	
Comp 3. Ecosystem services & restoration	RRA M/Agro(NPCS)	62000	GEF	71200	International Consultants	120,000	24,000	24,000	24,000	24,000	24,000	16
				71300	Local Consultants	105,000	30,000	30,000	15,000	15,000	15,000	17
				71600	Travel	83,056	20,000	20,000	18,000	15,000	10,056	18
				72800	Information Technology Equipment	15,000	15,000	0	0	0	0	19
				72300	Materials & Goods	250,000	30,000	50,000	60,000	60,000	50,000	20
				72100	Contractual Services-Companies	144,500	28,500	35,000	31,000	25,000	25,000	21
				75700	Training, workshops & conference	28,700	6,000	6,000	6,000	5,800	4,900	22
TOTAL COMPONENT 3						746,256	153,500	165,000	154,000	144,800	128,956	
Project Management	MOI	62000	GEF	71300	Local Consultants	196,800	42,200	38,200	38,200	44,200	34,000	23
				72200	Equipment and furniture	4,000	3,000	1,000	0	0	0	24
				72800	Information Technology Equipment	6,500	5,000	1,500	0	0	0	25
				74500	Miscellaneous Expenses	965	200	200	200	200	165	26
				74598	DPC	14,000	3,000	4,000	4,000	2,000	1,000	27
TOTAL PROJECT MANAGEMENT COST						222,265	52,400	46,900	44,400	44,400	34,165	
PROJECT TOTAL						4,664,521	936,900	1,087,900	1,072,900	865,200	701,621	

Budget Notes	
1	Cost of contractual appointment of international consultants: CTA, Information & Knowledge Management Expert, Environmental Economist, Sustainable Tourism Expert, Gender & Social Inclusion Specialist (partly), Evaluation Experts
2	Cost of contractual appointment of local consultants: CZM expert, Gender & Social Inclusion Expert (partly), Information Management System Specialist, Evaluation Expert, Auditor
3	In-country travel costs for consultants and project staff - associated with stakeholder consultations etc. Costs of trips & per diem for consultants & project staff when on mission
4	Production and printing costs of communications resources and media (newsletters, brochures, fact sheets, websites, booklets, radio/TV inserts, DVDs, etc.)

Budget Notes	
5	Cost for contractual appointment of education/awareness & communications service provider, environmental economics & business consulting service provider, training & capacity building service provider (local & international), environmental law service provider. This cost is shared between budget lines 5, 13 & 20.
6	Acquisition of transportation equipment for project staffs (road transportation vehicles)
7	Acquisition of laptops, software licenses, external hard drive, printer etc. for responsible parties (USD15,000). Cost to support GIS of ICZM is USD 75,000 (IT equipment & software)
8	Costs associated with organizing focused specialized stakeholder engagement workshops and hosting issue-based stakeholder workshops (venue, catering, printing etc.)
9	Costs of contractual appointment of international consultants: MPA expert, gender & social inclusion specialist (partly)
10	Costs of contractual appointment of local consultants: MPA expert, gender & social inclusion expert (partly)
11	In-country travel costs for consultants and project staff - associated with stakeholder consultations etc. Costs of trips & per diem for consultants & project staff when on mission
12	Acquisition of laptops, software licenses, external hard drive, printer etc. for responsible parties
13	Equipment for enforcement & monitoring at MPAs (contribute to the purchase of boats, signage, demarcation buoys, GPS equipment etc.)
14	Cost for contractual appointment of education/awareness & communications service provider, environmental economics & business consulting service provider, local & international training & capacity building service provider, SGP delivering mechanism for livelihoods opportunities, environmental law service provider
15	Costs associated with organizing focused specialized stakeholder engagement workshops and hosting issue-based stakeholder workshops (venue, catering, printing etc.)
16	Costs of contractual appointment of international consultant: Wetlands Conservation Expert
17	Costs of contractual appointment of local consultants: Legal expert, SLM/erosion control expert
18	In-country travel costs for consultants and project staff - associated with stakeholder consultations etc. Costs of trips & per diem for consultants & project staff when on mission
19	Acquisition of laptops, software licenses, external hard drive, printer etc. for responsible parties
20	Procurement of materials & goods for implementation of action plan at Pointe D'Esny Demonstration Site & implementation of SLM techniques at Riviere Coco
21	Cost of contractual appointment for education/awareness & communications service provider, local & international training & capacity building service provider, environmental service provider
22	Costs associated with organizing focused specialized stakeholder engagement workshops and hosting issue-based stakeholder workshops (venue, catering, printing etc.)
23	Costs of contractual appointment of Project Manager and Project Assistant
24	Acquisition of office equipment for project manager and project assistant - desks, chairs, tables, filing cabinets and bookcases
25	Acquisition of laptops, software licenses, external hard drive, printer, LCD projector for Project Manager & Project Assistant
26	Insurance, bank, security and insurance charges plus other sundries and supplies for project management unit.
27	UNDP Direct Project Cost- for implementation Support Services

7.2 Sources of confirmed co-financing

Name of Co-financier	Type of Co-financing	Co-financing Amount (\$)
Mauritius Oceanography Institute (MOI)	In-kind	1,832,208
Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands (MOEMRFSOI)	In-kind	1,626,000
National Coast Guard (NCG)	In-kind	430,000
Ministry of Environment, Sustainable Development, Disaster and Beach Management (MOESDDBM)	In-kind	1,326,000
Ministry of Agro Industry and Food Security (MOAFS)	In-kind	1,288,000
Ministry of Tourism and External Communications (MOTEC)	In-kind	1,884,000
Ministry of Gender Equality, Child Development & Family Welfare (MGECDFW)	In-kind	6,000
Rodrigues Regional Assembly (RRA)	In-kind	1,000,000
Reef Conservation Mauritius	In-kind	152,969
Mauritius Marine Conservation Society	In-kind	120,000
EcoSud	In-kind	444,000
Mauritian Wildlife Foundation	In-kind	3,900,000
University of Mauritius	In-kind	2,490,000
Shoals Rodrigues	In-kind	150,000
AHRIM – Hotels and Restaurants Association	In-kind	15,000
Rogers & Company Ltd	In-kind	405,000
United Nations Development Programme (UNDP)	Cash	70,000
		17,139,177

Refer to [Annex 1](#) more details.

8 Project Fit

8.1 Project consistency with national and regional strategies

8.1.1 Consistency with national strategies

284. The project is fully consistent with and supportive of national development strategies and plans, including the National Environmental Policy 2007, which defines the overarching environmental objectives and strategies for the country, the National Biodiversity Strategy and Action Plan 2006 (currently being revised), the Fisheries Act No 27 (2007), the National Tourism Policy (2005/6), the draft National Action Programme for the UNCCD and associated draft Investment Framework Strategy (IFS) for Sustainable Land Management (SLM), and other policies as outlined Section 1.2.5. It will support a number of activities proposed under the Government Programme for 2015-2019¹²⁷, including ensuring that the newly evolving ocean economy is sustainable, providing technical input for the revision and development of new legislation (e.g. new Fisheries and Marine Resources Bill) and providing capacity building and training for small-scale fishers.

285. The project will serve as a key implementation tool for the national ICZM Framework (2010). It is also in line with MOESDDBM's position on the importance of coastal and marine resources, as stated in the 2011 Outlook Report (Chap. 6): "*Implement recommendations of the Integrated Coastal Zone Management Framework and the Environmentally Sensitive Areas Study*"¹²⁸ As a complement to the PAN project, it will contribute to the overall development of the national protected areas network.

286. At the time the PIF was developed, it was envisaged that the project would make a contribution to the biodiversity and ecosystem services aspects of the Maurice Île Durable (MID) Policy, Strategy and Action Plan¹²⁹. However, following the 2014 election, the MID project was dissolved. Nevertheless, many of the activities and approaches are being continued under the MOESDDBM and the project will therefore continue to contribute to the more general aspects of this initiative.

287. The project will build on the results and recommendations of other related recently completed projects as follows:

- Japan International Cooperation Agency (JICA) project *Capacity Development on Coastal Protection and Rehabilitation in the Republic of Mauritius*: due to be completed in 2015, this project undertook an analysis of coastal erosion in the RM and developed coastal management plans for 14 sites in Mauritius, with guidelines for reef conservation and coral farming as one option for erosion control. Recommendations are being implemented by AFRC and MOI but further support is needed and the MOESDDBM has requested this project should follow up on the recommendations for seagrass and corals.
- UNDP-GEF MSP Project *Partnerships for Marine Protected Areas in Mauritius and Rodrigues*, which was completed in 2012: Component 2 of the project is designed around the recommendations of the terminal evaluation of this project (see [Section 2. Project Strategy](#)).
- UNDP-GEF MSP *Capacity Building for Sustainable Land Management in Mauritius including Rodrigues* project, which ended in 2012 and was designed to support the RM's implementation of UNCCD. Output 3.1 will address some of the outcomes of this project as they related to

¹²⁷ <http://www.lexpress.mu/sites/lexpress/files/attachments/article/2015/2015-01/2015-01-27/govprog2015.pdf>

¹²⁸ Ministry of Environment & Sustainable Development (2011): *Mauritius Environment Outlook Report: Summary for Decision-Makers*.

¹²⁹ <http://mid.govmu.org/portal/sites/mid/index.html>

Rodrigues, noting that the National Action Programme and associated Investment Framework Strategy have yet to be completed.

288. The project is also consistent with strategies and policies in place for Rodrigues that relate to protection and management of marine and coastal biodiversity and ecosystem services including policies and plans prepared to address the need for sustainable development, poverty reductions, sustainable land management, sustainable tourism, and effectively managed marine and coastal protected areas (see [Section 1.2.5](#)).

8.1.2 Consistency with regional/global strategies

336. As a Small Island Developing State (SIDS), the RM is committed to meeting the sustainable development goals and priorities of the Barbados Programme of Action and the Mauritius Strategy for Implementation (MSI)¹³⁰. As is the case with other SIDS, the RM is placing emphasis on the development of an “Ocean Economy”, which will be dependent on the sustainable exploitation of coastal and marine resources. By ensuring that ESAs and the ecosystem services they provide are protected and sustainably managed, the project will help to ensure that the Ocean Economy can be pursued on a sustainable basis.

337. The project will also contribute to meeting the commitments of the RM under the Nairobi Convention, particularly the recommendations relating to marine and coastal biodiversity developed at the 8th Conference of the Parties held in June 2015¹³¹.

289. The project will support the role of the RM in the Western Indian Coastal Challenge¹³², which is a Global Island Partnership (GLISPA) initiative launched in 2012 as a “call to action” focused on integrated marine and coastal management that builds on the efforts of the Nairobi Convention, WIO/LAB Strategic Plan, and the Indian Ocean Commission’s efforts to put ICZM Action Plans and Locally Managed Marine Areas (LMMA) in place at country level. The proposed overall goal, to be achieved by 2032, is: “Coastal economies and communities sustained by safeguarding the region’s vulnerable marine and coastal ecosystems”

8.2 Fit with GEF Focal Area Strategy and Eligibility Discussion

8.2.1 GEF conformity

339. The project has been designed to meet overall GEF requirements in terms of design and implementation.

290. It will contribute to Strategic Objective 2 of the GEF5 Focal Area Strategy (BD2), ‘*Mainstream biodiversity conservation and sustainable use into production landscapes, seascapes and sectors*’. The mainstreaming approach has been chosen because it allows the project impact to go beyond site-based action and focus on sectoral impacts and the wider landscape. It will lift the management of ESAs to the land/seascape level. It also creates scope for ensuring that biodiversity and ecosystem services can be integrated into sectoral policies and practices, e.g. through permitting systems or incentives for the tourism industry to respect and protect marine and coastal ecosystem services.

¹³⁰ National Report of the Republic of Mauritius; Third International Congress on Small Island Developing States, September 2014, Western Samoa. UNDP/UNDESA

¹³¹ <http://www.unep.org/NairobiConvention/Meetings/COP8/index.asp>

¹³² <http://glispa.org/11-commitments/32-western-indian-ocean-coastal-challenge-wio-cc>

291. The project will contribute to Strategic Objective 1 of the GEF5 Focal Area Strategy (BD1), *‘Improve the Sustainability of Protected Area Systems’*, Outcome 1.1: *Improved management effectiveness of existing and new protected areas*. Component 2 of the project is focused entirely on improving the management of existing MPAs in the RM, and developing new approaches to protection of critically important coastal and marine ecosystems in other places.

292. The project also contributes to the achievement of Objective 3 of the GEF5 Land Degradation Strategy (LD3), which is to *‘Reduce pressures on natural resources from competing land uses in the wider landscape’*. The project will focus on specific issues related to watershed erosion and its interaction with the downstream areas on Rodrigues.

8.2.2 Country eligibility

293. The project is country driven. As a party to the UN Convention on Biodiversity (CBD), the RM is committed to implementation of the Programme of Work on Protected Areas and the Programme of Work on Marine and Coastal Biodiversity

294. The revised NBSAP, currently in preparation, will set new national biodiversity targets in response to the Aichi Targets, and will integrate the new aspects of the CBD Strategic Plan, such as mainstreaming and anchoring planning to national development frameworks, valuing ecosystem services and promoting ecosystem-based adaptation and resilience. The previous 2006-2015 NBSAP called for new MPAs and required the approach of community participation in marine conservation, which will be a strong thread in this project.

295. The ways in which the project will contribute to achievement of the Aichi Targets in the RM are shown in Table 12:

Table 12: Aichi Targets to which the project will directly contribute

	Date	Target	Project contribution
Strategic Goal A		Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	
1	2020	.. people aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	Output 1, activities 1.1.1, 1.1.2. and 1.1.4
2	2020	.. biodiversity values integrated into national and local development and poverty reduction strategies and planning processes and being incorporated into national accounting, as appropriate, and reporting systems.	Output 1, particularly activity 1.1.3
3	2020 positive incentives for the conservation and sustainable use of biodiversity developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	Output 1.3 (standards and certification for the tourism sector)
4	2020	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	Output 1 (activities associated with development and implement of ICZM plans
Strategic Goal B:		Reduce the direct pressures on biodiversity and promote sustainable use	
5	2020	.. the rate of loss of all natural habitats, ... is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	All Components

	Date	Target	Project contribution
6	2020	.. all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	Components 1 and 2
10	2015	.. the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning	All components
Strategic Goal C:		Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	
11	2020	at least 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems, of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes	All outputs under Component 2
12	2020	the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	All Components
Strategic Goal D:		Enhance the benefits to all from biodiversity and ecosystem services.	
14		ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	All components
15		... ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	All Components
Strategic Goal E:		Enhance implementation through participatory planning, knowledge management and capacity building	
18		.. the ... knowledge, innovations and practices of ... local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of ... local communities, at all relevant levels.	All Components
19	2020	.. knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	Output 1.1. – all activities

296. The RM is also a signatory to the UN Convention to Combat Desertification (UNCCD), and Component 3 of the project p to prepare for adaptation in line with the recommendations of the UNFCCC and the Kyoto Protocol. The following mitigation and adaptation measures in line with the objectives of the UNFCCC objectives are underway in the country and will be supported by the project: coastal protection works, mangrove propagation, and monitoring and protection of coral reefs.

8.3 Fit with UNDP's Strategic Plan and other (country-level) Programming Frameworks

297. UNDP approaches the issues of biodiversity management and ecosystem resilience from a development and governance point of view. The agency's goal is to build the capacity of beneficiary countries to maintain and enhance their ecosystem services in order to secure livelihoods, fight poverty and promote development. UNDP's Ecosystems and Biodiversity Framework 2012-2020 establishes a benchmark of achievements and the strategic thinking behind its programming in relation to these issues.

298. The project is in line with the UNDP Strategic Plan 2014-2017 which puts emphasis on maintenance and protection of natural capital, as well as developing incentives to both manage and benefit biodiversity. The Strategic Plan emphasises assisting citizen engagement, especially with women and youth, on sustainability issues; developing and/or harmonizing local regulations and laws/by-laws on environmental management; identifying options for addressing issues such as safeguards to reduce social and environmental impacts, benefit sharing from biodiversity, incentives to conserve and sustainably utilize biodiversity, and ways to develop and sustainably manage ecosystem services; and, more broadly, grow markets for sustainable products and services benefiting the poor. Work will focus on conservation and sustainable use of natural resources and biodiversity as well as creation of employment and livelihoods, for instance, through management and rehabilitation of ecosystem services, from the sub-national to the national level, including protected, indigenous and community conserved areas. The project will support these aims.

299. Biodiversity issues are addressed in the UNDP 2013-2016 Country Programme Document (CPD). Pillar 3, covers Energy and Environment, and has a diversified portfolio of work on the sustainable management of natural resources particularly relevant to a small island developing state, incorporating the promotion of sustainable livelihoods and decent work for vulnerable groups such as fishermen. The project reflects the UNDP CO's work programme in that it will address the conservation of biodiversity, management of marine and coastal resources, and sustainable land management. The aim is to build the capacity of national institutions dealing with biodiversity to adopt global best practices and to improve management of land and seascapes that provide critically important ecosystem services. The Country Office has one dedicated environment programme officer, plus support from other programme staff, operations and the Country Office's senior management staff. The Country Office team is supported by the UNDP Regional Coordination Unit based in Addis Ababa, Ethiopia.

8.4 Main synergies with Related Projects and Programs

300. In addition to the programmes and activities underway through individual Ministries and by NGOs that are described in the baseline ([Section 1.4](#)) there are several closely-related on-going donor-funded national and regional programmes. Table 13: Matrix of Collaboration Table 13 lists these and suggests ways in which collaboration might be beneficial.

Table 13: Matrix of Collaboration

INITIATIVES / INTERVENTIONS	HOW COLLABORATION WITH THE PROJECT WILL BE ENSURED
UNDP-GEF Project Expanding coverage and strengthening management effectiveness of the protected area network on the island of Mauritius (the PAN Project)	The project will collaborate closely with the PAN project which addresses forest ESAs and thus complements the coastal and marine biodiversity focus, although the PAN project addresses Mauritius only (not Rodrigues). The PAN project has many activities that relate to or complement activities within the marine and coastal biodiversity project and the latter will build on and collaborate closely with these including: development of a strategy for expansion of the national protected area network; strengthening of the legal and institutional framework for management of protected areas and development of a strategic plan for establishment of a protected area institution (which may have lessons learned for governance of MPAs); and the development of an integrated financing strategy to be based largely on tourism and land stewardship which will provide important pointers for the investment framework of MPAs.
UNDP/AFB Climate Change Adaptation Programme in the Coastal Zone of Mauritius	<p>This project, funded through the UNFCCC Adaptation Fund and running from 2012-2018, is hosted by MOESDDBM and is closely linked given its focus on the coastal zone. The project is aimed at combating beach erosion and flood risk in three coastal sites (Mon Choisy, Riviere des Galets, and Quatre Soeurs) with various infrastructure (e.g. sloped rock mounds offshore to deflect waves, public buildings on stilts) and natural protection (e.g. mangroves and other shoreline vegetation) mechanisms. The project is assessing the effectiveness of such coastal protection measures and helping to develop an early warning system. The project will also aim to ensure that all policies, strategies, plans, and regulations recognize climate change impacts in the coastal zone over the next 50 years and will provide information on climate change to the public and decision-makers through the CCIC. An additional activity is a pilot project on coral farming in 5 sites, underway through MOEMRFSOI.</p> <p>The marine and coastal biodiversity project will collaborate closely with this project particularly in relation to the outputs under Component 1.</p>
UNDP-GEF National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan in Mauritius NBSAP	<p>This project, led by the MOAFS, runs to 2016 and has the following components:</p> <ol style="list-style-type: none"> (1) A participative stocktaking exercise on biodiversity planning to develop national biodiversity targets in response to the global Aichi Targets; (2) Revision/updating of the NBSAP (3) Strengthening national frameworks for resource mobilization, Convention reporting and exchange mechanisms. <p>There are also associated activities in terms of ecosystem valuation (primarily inland ecosystems), and the establishment of a clearing house mechanism</p>
Projet de Gestion Durable des Zones Côtieres des pays de la COI – Indian Ocean Commission (GDZCOI)	<p>This regional project, funded by the COI, FFEM (and the ADB for the Comores component) covering Mauritius (Rodrigues), Madagascar and Comores is aimed at gathering and disseminating experiences and progress in ICZM and protection of marine and coastal biodiversity, and developing good ICZM practices at pilot sites, including appropriate governance, protection of marine and coastal biodiversity, management of watersheds, and ecosystem evaluation. Activities to be supported by the project include:</p> <ol style="list-style-type: none"> 1. Regional/international exchange programmes for capacity building on marine conservation 2. Feasibility study for Rodrigues to be considered as Biosphere Reserve at the UNESCO 3. Development of a regional database on good practices of ICZM and marine biodiversity 4. Application of ICZM good practices on 3 pilot sites: St Marie (Madagascar), Moheli (Comores) & Rodrigues (Mauritius) <p>The project will collaborate closely with the GDZCOI in relation to Output 1.2</p>
ISLANDS project - COI	<p>Currently in its second phase but due to complete in 2017, this project includes a number of activities, of which the following are related to the project:</p> <ul style="list-style-type: none"> • the establishment of a regional coral reef facility

INITIATIVES / INTERVENTIONS	HOW COLLABORATION WITH THE PROJECT WILL BE ENSURED
	<ul style="list-style-type: none"> • development of the Coral Reef Information System (CRIS) • Coral reef monitoring review (completed and published) <p>The project should ensure appropriate linkages with these initiatives when developing activities relating to coral reefs.</p>
The coastal, marine and island specific biodiversity management in East African and Indian Ocean states – COI	<p>Funded by EU; budget 15 million euros; project period 2014-2018</p> <p>This project covers the COI countries including RM, and is aimed at strengthening national and regional capacities, at all levels, in managing coastal, marine and island-specific biodiversity resources and ecosystems. It includes components on (1) improving and harmonising policies and institutional framework; (2) education, awareness-raising and communications particularly aimed at decision makers; (3) improving mechanisms for sharing data relating to biodiversity; (4) establishment of regional biodiversity thematic centres; and (5) a small grants programme for projects relating to biodiversity and sustainable livelihoods. The project will develop appropriate linkages and will be able to benefit from the regional experiences being developed</p>
UNDP-GEF The Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonisation and Institutional Reform (WIO LME SAPPHIRE)	<p>Currently being planned for implementation 2015-2020; builds on the previous project ASCLME; includes components on policy harmonisation and management reforms, capacity building, integrating the ecosystem-based management approach into Local Economic Development Plans at selected pilot sites; ecosystem-based practices among artisanal fisheries. For Mauritius, plans have been made to build on MID Linkage with related projects to ensure co-ordination. Linkages to be developed.</p>
WIO-SAP Partnerships for the Implementation of the Strategic Action Programme for the Protection of the Western Indian Ocean from Land Based Sources and Activities	<p>2nd Phase of WIO-LAB programme; activities currently being defined but will address water pollution and degradation of critical habitats from land-based impacts and will therefore be relevant. The project will develop linkages as WIO-SAP progresses.</p>

9 Annexes

Annex 1. Co-Financing Letters

Name of Co-financier	Date of letter	Co-financing Amount (USD)
Mauritius Oceanography Institute	16 September 2015	1,832,208
Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands	04 August 2015	1,626,000
National Coast Guard	25 June 2015	430,000
Ministry of Environment, Sustainable Development, Disaster and Beach Management	26 June 2015	1,326,000
Ministry of Agro Industry and Food Security	17 July 2015	1,288,000
Ministry of Tourism and External Communications	15 July 2015	1,884,000
Ministry of Gender Equality, Child Development & Family Welfare	30 June 2015	6,000
Rodrigues Regional Assembly	3 July 2015	1,000,000
Reef Conservation Mauritius	13 July 2015	152,969
Mauritius Marine Conservation Society	24 June 2015	120,000
EcoSud	13 July 2015	444,000
Mauritian Wildlife Foundation	25 June 2015	3,900,000
University of Mauritius	25 June 2015	2,490,000
Shoals Rodrigues	19 June 2015	150,000
AHRIM – Hotels and Restaurants Association	25 June 2015	15,000
Rogers & Company Ltd	24 June 2015	405,000
United Nations Development Programme	24 July 2015	70,000
TOTAL Amount mobilized		17,139,177

Co-financing letters are attached in a separate file, available at:

[ANNEXES 1 4 5 toPRODOC \(SUBMISSION\) 4843 MauritiusMainstr 110116.pdf](#)

Annex 2. Terms of Reference for Project Staff /Consultants

A) Key Terms of Reference

Included herein:

- National Project Director (NPD)
- Project Manager
- Project Assistant
- Chief Technical Adviser

National Project Director (NPD)
<p><u>Background</u></p> <p>The NPD is the focal point for responsibility and accountability at the Implementing Partner (IP). The NPD will be appointed at Director or higher level in the IP. The NPD works on the project on a part time basis and should be able to devote a reasonable amount of time to project activities. As a person appointed by Government, the NPD will not be paid or compensated for services to the project but will represent a Government in kind contribution to the Project.</p>
<p><u>Duties and Responsibilities</u></p> <ul style="list-style-type: none">• Assumes overall responsibility for the successful execution and implementation of the project toward achieving the outcomes and outputs;• Ensures the proper use of project resources;• Serves as a focal point for coordination of the project with implementing agencies, UNDP, Government and other partners;• Ensures that Government inputs for project are available;• Leads and coordinates partners in the selection of the Project Manager;• Supervises the Project Manager and facilitates the work of the Project Manager and all staff;• Ensures that the required project work plan is prepared and updated in consultation and agreement with UNDP and distributed to the Government (Counterpart Ministry);• Leads and arranges the recruitment of project professional and support staff in line with laid out recruitment process;• Authorises commitments of resources for inputs including staff, consultants, goods and services and training. May appoint an alternate that can support the project work in the absence of the NPD;• Will represent the Implementing Partner at project meetings and annual reviews;• Will lead efforts to build partnerships for the support of outcomes indicated in the project document; and• Will support resource mobilisation efforts to increase resources in cases where additional outputs and outcomes are required.

Project Manager

Background

The Project Manager (PM) will be locally recruited based on an open competitive process. He/She will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. The PM will report to the UNDP-CO, in close consultation with the host institution for all of the project's substantive and administrative issues. From the strategic point of view of the project, the PM will report on a periodic basis to the Project Steering Committee (PSC). Generally, the PM will be responsible for meeting government obligations under the project, under the national execution modality (NEX). He/She will perform a liaison role with the Government, UNDP and other UN Agencies, NGOs and project partners, and maintain close collaboration with any donor agencies providing co-financing.

Duties and Responsibilities

- Supervise and coordinate the production of project outputs, as per the project document;
- Mobilize all project inputs in accordance with UNDP procedures for nationally executed projects;
- Supervise and coordinate the work of all project staff, consultants and sub-contractors;
- Coordinate the recruitment and selection of project personnel;
- Prepare and revise project work and financial plans, as required by UNDP;
- Liaise with UNDP, relevant government agencies, and all project partners, including donor organizations and NGOs for effective coordination of all project activities;
- Facilitate administrative backstopping to subcontractors and training activities supported by the Project;
- Oversee and ensure timely submission of the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, quarterly financial reports, and other reports as may be required by UNDP, GEF and other oversight agencies;
- Disseminate project reports and respond to queries from concerned stakeholders;
- Report progress of project to the steering committees, and ensure the fulfilment of steering committees directives;
- Oversee the exchange and sharing of experiences and lessons learned with relevant community based integrated conservation and development projects nationally and internationally;
- Ensures the timely and effective implementation of all components of the project;
- Assist community groups, municipalities, NGOs, staff, students and others with development of essential skills through training workshops and on the job training thereby upgrading their institutional capabilities;
- Coordinate and assists scientific institutions with the initiation and implementation of all field studies and monitoring components of the project; and
- Perform any other duty relevant to the assignment.

Competencies

Corporate Competencies:

- Demonstrates integrity by modeling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability; and
- Treats all people fairly without favouritism.

Functional Competencies:

Knowledge Management and Learning:

- Promotes a knowledge sharing and learning culture in the office;
- In-depth knowledge on sustainable development issues and the mainstreaming of biodiversity conservation;
- Ability to advocate and provide policy advice; and
- Actively works towards continuing personal learning and development in one or more Practice Areas, acts on learning plan and applies newly acquired skills.

Development and Operational Effectiveness:

- Ability to lead strategic planning, results-based management and reporting;
- Ability to lead formulation, implementation, monitoring and evaluation of sustainable development programmes and projects, and mobilize resources;
- Good knowledge of the Results Management Guide and Toolkit;
- Strong IT skills; and
- Ability to lead implementation of new systems and processes, and affect staff behavioural/attitudinal change.

Management and Leadership:

- Focuses on impact and results for the client and responds positively to feedback;
- Leads teams proactively and effectively and shows conflict resolution skills;
- Consistently approaches work with energy and a positive, constructive attitude;
- Demonstrates strong oral and written communication skills;
- Builds strong relationships with clients and external actors;
- Remains calm, in control and good humoured even under pressure; and
- Demonstrates openness to change and ability to manage complex situations.

Required Skills and Experience

Education:

- A Master degree in Environmental, Natural Sciences or Natural Resources Management;
- PhD is desirable but not a requirement;
- Master degree in management/project management is also highly desirable and can be accepted in place of a degree in Environment if completed by adequate experience.

Experience:

- At least 5 years of experience in natural resource planning and management;
- At least 5 years of project/programme management experience;
- Working experience with the project national stakeholder institutions and agencies is desired;
- Ability to effectively coordinate a large, multi-stakeholder project;
- Ability to administer budgets and prepare work plans;
- Ability to mobilize, train and work effectively with counterpart staff at all levels and with all groups involved in the project;
- Strong drafting, presentation and reporting skills;
- Good IT skills (word processing, presentation, spread sheets, internet, email); and
- Excellent oral and written communication skills.

Language:

- Fluency in English and French (written & spoken).

Nationality:

- Qualified Mauritian only.

Project Assistant

Background

The Project Assistant will be locally recruited based on an open competitive process. He/She will be responsible for the overall administration of the project. The Project Assistant will report to the Project Manager. Generally, the Project Assistant will be responsible for supporting the Project Manager in meeting government obligations under the project, under the national execution modality (NEX).

Duties and Responsibilities

- Collect, register and maintain all information on project activities;
- Contribute to the preparation and implementation of progress reports;
- Monitor project activities, budgets and financial expenditures;
- Advise all project counterparts on applicable administrative procedures and ensures their proper implementation;
- Maintain project correspondence and communication;
- Support the preparations of project work-plans and operational and financial planning processes;
- Assist in procurement and recruitment processes;
- Assist in the preparation of payments requests for operational expenses, salaries, insurance, etc. against project budgets and work plans;
- Follow-up on timely disbursements by UNDP CO;
- Receive, screen and distribute correspondence and attach necessary background information;
- Prepare routine correspondence and memoranda for Project Manager's signature;
- Assist in logistical organization of meetings, training and workshops;
- Prepare agendas and arrange field visits, appointments and meetings both internal and external related to the project activities and write minutes from the meetings;
- Maintain project filing system;
- Maintain records over project equipment inventory; and
- Perform any other duty relevant to the assignment.

Competencies

Corporate Competencies:

- Demonstrates commitment to UNDP's mission, vision and values;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Highest standards of integrity, discretion and loyalty.

Functional Competencies:

Knowledge Management and Learning:

- Shares knowledge and experience;
- Actively works towards continuing personal learning, acts on learning plan and applies newly acquired skills;
- Excellent written and oral communication skills.

Development and Operational Effectiveness:

- Ability to perform a variety of standard tasks related to Results Management, including screening and collecting of projects documentation, projects data entering, preparation of revisions, filing, provision of information;
- Ability to provide input to business processes re-engineering, implementation of new system, including new IT based systems.

Leadership and Self-Management:

- Focuses on result for the client and responds positively to feedback;
- Consistently approaches work with energy and a positive, constructive attitude;
- Remains calm, in control and good humoured even under pressure.

Required Skills and Experience

Education:

- Minimum Bachelor Degree in; Management, Engineering, Economics, Finance, Biology and or Environmental Sciences.

Experience:

- At least 3 years in project management, administrative and/or financial management, environmental management experience;
- Demonstrable ability to administer project budgets, and track financial expenditure;
- Demonstrable ability to maintain effective communications with different stakeholders, and arrange stakeholder meetings and/or workshops;
- Excellent computer skills, in particular mastery of all applications of the MS Office package.

Language:

- Fluency in English and French (written & spoken).

Nationality:

- Qualified Mauritian only

Chief Technical Adviser

Background

The Chief Technical Adviser (CTA) will be responsible for providing overall technical backstopping to the Project. He/She will render technical support to the National Project Director, Project Manager and other government counterparts. The CTA will support the provision of the required technical inputs, reviewing and preparing Terms of Reference and reviewing the outputs of consultants and other sub-contractors. The CTA will also provide the principal technical input on ICZM. He/She will report directly to the National Project Director.

Duties and Responsibilities

- Provide technical support to the National Project Director, Project Manager and other government counterparts in the areas of project management and planning, management of site activities, monitoring, and impact assessment;
- Provide the necessary technical input on ICZM;
- Support the Project Manager in preparing Terms of Reference for consultants and sub-contractors, and assist in the selection and recruitment process;
- Support the Project Manager in coordinating the work of all consultants and sub-contractors, ensuring the timely delivery of expected outputs, and ensuring an effective synergy among the various sub-contracted activities;

- Assist the National Project Director and Project Manager in the preparation of the Combined Project Implementation Review/Annual Project Report (PIR/APR), inception report, technical reports, quarterly financial reports for submission to UNDP, the GEF, other donors and Government Departments, as required;
- Assist the National Project Director and Project Manager in mobilizing staff and consultants in the conduct of a mid-term project evaluation, and in undertaking revisions in the implementation program and strategy based on evaluation results;
- Assist the National Project Director and Project Manager in liaison work with project partners, donor organizations, NGOs and other groups to ensure effective coordination of project activities;
- Support the Project Manager in documenting lessons from project implementation and make recommendations to the Steering Committee for more effective implementation and coordination of project activities; and
- Perform other tasks as may be requested by the National Project Director and Project Manager.

Qualifications

- University education (MS or PhD), with specific expertise in the area of ICZM with a good understanding of conservation, sustainable use and management of marine and coastal biodiversity;
- At least 15 years of professional experience in conservation, sustainable use and management of marine and coastal biodiversity;
- Demonstrable experience in implementing equivalent GEF or other multilateral donor-funded projects;
- Be an effective negotiator with excellent oral and presentation skills;
- A good working knowledge of international best practice in conservation, sustainable use and management of biodiversity is desirable;
- Excellent writing skills; and
- Fluency in English is required. A working knowledge of French is desirable.

B) Overview of inputs from technical assistance consultants

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
Local			
Project Manager	600	260	See TOR above – contributes to project management
Project Assistant	250	260	See TOR above – contributes to project management
Coastal Zone Management Expert	1500	75 (15 weeks each year)	In collaboration with the international ICZM expert: Output 1.1 Assist with development of a suitable knowledge management framework of ICZM and marine and coastal biodiversity conservation and management

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
			Output 1.2: assist with preparation of overview of current coastal and marine plans and planning processes, to provide a gap analysis and identify priority activities needed Output 1.3. Assist with production of tourism standards
MPA Planning & Management consultant	1500	75 (15 weeks each year)	In collaboration with the international MPA expert: Output 1.1. Assist with the development of the knowledge management system to ensure that information about MPAs is appropriately included Output 1.2. Assist with the development of ICZM plans for Rodrigues and Black River District in relation to MPAs Output 1.3. Assist with development of a standards and certification system for the tourism industry Outcome 2. Assist with: the capacity needs assessment; analysis of institutional and governance arrangements for MPAs to provide recommendations for improved sustainability of the MPA network; development and implementation of an investment framework and financing strategy for MPAs
Legal & institutional Expert (with focus on Environmental Law)	1500	20 (10 weeks in year 1 & year 2)	In collaboration with the international legal consultant: Output 1.1 and 1.2. Review ESA policies, draft Bill and other materials and make recommendations on the most effective way to implement policies and ensure mainstreaming, providing more detailed guidance as required Output 2.2. Assist with the analytical review of MPA institutional and governance arrangements ensuring that appropriate recommendations are made Output 3.2. Review draft Wetlands Bill and provide advice on final amendments and assistance with submission to the government; provide an analysis of legal issues associated with the management and conservation of wetlands in private ownership
Sustainable Land Management/Erosion Control Expert	1500	50 (10 weeks each year)	Working with national experts and organisations (e.g. MWF): Output 3.1. Analyse suitable soil erosion reduction techniques that can be applied in Riviere Coco; oversee their implementation; document activities undertaken and results

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
Gender & Social Inclusion Expert	1500	30 (6 weeks per year)	With the international gender and social inclusion expert, develop the approach to addressing gender and social inclusion across the project activities, ensuring that GEF and UNDP guidelines are adhered to and that suitable implementation and reporting arrangements are made
Education/awareness & Communications Service Provider	1500	45 (5 weeks in year 1, 10 weeks in years 2,3,4,5)	Output 1.1. and Output 2.1. Develop communications, awareness-raising and education materials to ensure that the values of marine and coastal biodiversity are widely communicated to the general public and decision makers; identify appropriate outlets and mechanism for dissemination (to conduct media release).
Environmental Economics and Business Consulting Service Provider	1500	30 (10 weeks in years 1, 2 and 3)	In collaboration with relevant international consultants: Output 1.1. Support the preparation of economic evaluations for Rodrigues, one coastal District in Mauritius, Blue Bay marine park, SEMPA, and the northern coastal wetlands Output 1.3: Support the development and implementation of a standard for sustainable tourism in RM that addresses marine and coastal biodiversity Output 2.2: Support the development of an investment framework and sustainable financing strategy for MPAs in RM; to design payment for ecosystem services modality.
Training & capacity building service provider	1500	100 (20 weeks per year)	Support the work of the international capacity building provider (see next section)
Information management system specialist	1500	50 (10 weeks each year)	With the international information specialist and in collaboration with relevant institutions (e.g. NSDI and CCIC) Output 1.1. develop a strategy for ensuring that information on coastal and marine biodiversity and ESAs is appropriately incorporated into national knowledge management systems, and manage knowledge activities throughout the Project.
SGP delivering mechanism for Output 2.1 Livelihoods opportunities in Mauritius and Rodrigues		Full time 5 years	Output 2.1. Identify suitable livelihood opportunities for testing in Rodrigues and Mauritius; assist with implementation of the activities ensuring appropriate training is provided

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
and marketing service provider			(e.g. on marketing, accounting etc) and document the process and outcomes.
Monitoring & evaluation review consultant	1500	10 weeks per year	Participate in drafting mid-term and final evaluation report/s; local liaison with project team, government and UNDP during project evaluation; liaison with the counterpart international monitoring and evaluation expert; participate in discussions to realign the project time-table/log frame at the mid-term stage.
Evaluation experts	1500	5 weeks in year 3, 5 weeks in year 5	The standard UNDP-GEF project evaluation TOR will be used. This will include: participate, alongside the international consultants, in the mid-term and final evaluation of the project, in order to assess the project progress, achievement of results and impacts; develop draft evaluation report and discuss it with the project team, government and UNDP; as necessary, participate in discussions to realign the project time-table/logframe at the mid-term stage.
Auditor	1500	2 weeks per year (year 2 till year 5)	Mid-term and final independent audit of project expenditure as per UNDP-GEF standard ToR.
International			
Chief Technical Adviser, and ICZM expert	3000	50 weeks (10 weeks in each year)	See detailed TOR above – contributes to project management and provides expertise throughout project on ICZM, with particular emphasis on: Output 1.1 Advise as required on development of a suitable knowledge management framework of ICZM and marine and coastal biodiversity conservation and management Output 1.2: lead on preparation of overview of current coastal and marine plans and planning processes, to provide a gap analysis and identify priority activities needed Output 1.3. Provide technical support
MPA Planning & Management specialist	3000	50 weeks (10 weeks in each year)	In collaboration with the national MPA planning and management consultant: Output 1.1. Assist with the development of the knowledge management system to ensure that information about MPAs is appropriately included

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
			<p>Output 1.2. Provide input to the development of ICZM plans for Rodrigues and Black River District in relation to MPAs</p> <p>Output 1.3. Provide any required support to the development of a standards and certification system for the tourism industry</p> <p>Outcome 2. Provide leadership on all outputs under this outcome; assist with the capacity needs assessment; undertake the analysis of institutional and governance arrangements for MPAs to provide recommendations for improved sustainability of the MPA network; provide technical input into the development and implementation of an investment framework and financing strategy for MPAs. The MPA expert should have a strong background in economics; and should support implementation of existing marine parks management plans & contribute to development of new plans.</p>
Environmental Law Service Provider	3000	10 weeks (6 weeks in first year and 4 weeks in second year)	<p>In collaboration with relevant national consultants:</p> <p>Output 1.1 and 1.2. Review ESA policies, draft Bill and other materials and make recommendations on the most effective way to implement policies and ensure mainstreaming, providing more detailed guidance as required</p> <p>Output 2.2. Assist with the analytical review of MPA institutional and governance arrangements ensuring that appropriate recommendations are made</p> <p>Output 3.2. Review draft Wetlands Bill and provide advice on final amendments and assistance with submission to the government; provide an analysis of legal issues associated with the management and conservation of wetlands in private ownership</p>
Environmental Economist	3000	24 weeks (12 weeks in year 1 & 2)	<p>With the support of relevant international and local consultants:</p> <p>Output 1.1: Undertake economic evaluations of (a) coastal and marine ecosystems in Rodrigues and one District in Mauritius (Black River); (b) Blue Bay Marine Park and SEMPA; and (c) northern coastal wetlands in Mauritius. Simple</p>

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
			methods should be used, based on work already underway in the RM and the WIO, and the evaluations should be oriented to provide data that can be used in communications and awareness raising activities that will be undertaken by the project. Devise payments modalities for ecosystem services with clear procedures, tariffs and other arrangements.
Wetlands Conservation Expert	3000	40 weeks (8 weeks each year)	With the support of relevant local experts: Output 1.1, Ensure that wetlands are adequately addressed in the development of the knowledge management system; support the development of communications and advocacy materials on wetlands Output: 3.2. Provide oversight of all activities and develop the overall approach to implementation of this component of the project; develop the concept for the demonstration project at Pointe d'Esny;
Gender & Social Inclusion Specialist	3000	30 weeks (6 weeks per year)	With the support of the national gender and social inclusion specialist, develop the approach to addressing gender and social inclusion across the project activities, ensuring that GEF and UNDP guidelines are adhered to and that suitable implementation and reporting arrangements are made.
Sustainable Tourism Specialist	3000	32 weeks (8 weeks in years 1, 2,3 and 4 weeks in years 4,5	With the support of the national tourism consultant: Output 1.3. Provide oversight of all activities; develop guidelines for ensuring that marine and coastal biodiversity is addressed through the Standard for Sustainable Tourism; identify auditing methods and approaches; support the training work; document the work undertaken and provide information for dissemination.
Training & capacity building service provider	3000	62 weeks (10 weeks in year 1) 16 weeks in year 2 & 3	With the support of relevant national consultants: Outputs 1.2, 1.3 and 2.1: undertake the capacity needs assessments required and the subsequent training; putting particular emphasis on working with local communities, facilitation, developing negotiating skills, good communications skills;

Position Titles	USD/per son week	Estimated person weeks	Tasks to be performed
		10 weeks in yr 4 & 5)	and using on-the-job training wherever feasibility. Subsequently provide mentoring of trainees, back up and quality assurance
Information and Knowledge Management Expert	3000	40 weeks (8 weeks per year)	To devise specifications, assist in procurement, train Ministries staff in collaboration with the local information specialist and in collaboration with relevant institutions (e.g. NSDI and CCIC) and develop a strategy for ensuring that information on coastal and marine biodiversity and ESAs is appropriately incorporated into national knowledge management systems. Subsequently, to manage knowledge management activities throughout the Project, identify and obtain required resources and ensure access by the staff and management of the implementing entity.
Evaluation experts	3000	24 weeks (12 weeks in year 3 and 12 weeks in year 5)	The standard UNDP-GEF project evaluation TOR will be used. This will include: Lead the mid-term and the final evaluations; Work with the local evaluation consultant in order to assess the project progress, achievement of results and impacts; develop draft evaluation report and discuss it with the project team, government and UNDP; As necessary participate in discussions to extract lessons for UNDP and GEF

Annex 3. Tracking Tools

The Biodiversity (BD) and Land Degradation Tracking Tools (TT) assessments for areas and sectors relevant for this project, and covering the following GEF Strategic Objectives, attached as separate Excel files, available at:

[4843 BD SO2 and SO1 TT 4843 Mauritius Mainstreaming FINAL\(110116\).xlsx](#)
[4843 LD3 TT 4843 Mauritius Mainstreaming FINAL\(110116\).xlsx](#)

- SO2 Mainstreaming
- SO1 Protected Areas
- Land Degradation Focal Area - Portfolio Monitoring and Tracking Tool (PMAT), LD3

Summary tables for BD TTs are provided further down.

Table 14: Overview of BD SO1 METT sites and scores

Name of Protected Area	Year of establishment	Area in Hectares	Global designation or priority lists	Local Designation of Protected Area	IUCN Category	Management Authority	METT Scores
Balaclava Marine Park	1997/2000	485	No	Marine Park	2	MOEMRFSOI, Fisheries Division	48%
Blue Bay Marine Park	1997/2000	353	Ramsar site	Marine Park	2	MOEMRFSOI, Fisheries Division	58%
South East Marine Protected Area	2009	4,300	IBA	MPA	6	Rodrigues Regional Assembly (RRA)	62%
6 Fishing Reserves: Port Louis, Poudre d'Or, Poste La Fayette, Trou d'Eau Douce, Grand Port, Black River	1998/2000	6,352	No	Fishing Reserves	6	MOEMRFSOI, Fisheries Division	28%
Northern Marine Reserves (Riviere Banane, Anse aux Anglais, Grand Bassin, Passe Demi)	2007	2,420	No	Fishing Reserves	6	Commission for Environment, Rodrigues Regional Assembly	43%

Table 15: BD SO1 Financial Scorecard Analysis with focus on the Marine Sub-System

Financial Analysis of the National Protected Area System	Baseline year 2015 (US\$)
Available Finance	
(1) Total annual central government budget allocated to PA management (excluding donor funds and revenues generated for the PA system)	323,550
(2) Extra budgetary funding for PA management (Total A +B)	0
A. Funds channelled through government - total	0
B. Funds channelled through third party/independent institutional arrangements – total	0
(3) Total annual site based revenue generation across all PAs broken down by source (Total A through E)	27,231
A. Tourism entrance fees	0
C. Income from concessions	0
D. Payments for ecosystem services (PES)	0
E. Other non-tourism related fees and charges (specify each type of revenue generation mechanism)	0
(4) Percentage of PA generated revenues retained in the PA system for re-investment	0%
(5) Total finances available to the PA system [line items 1+2.A+2.B]+ [line item 3 * line item 4]	323,550
Costs and Financing Needs	
(1) Total annual expenditure for PAs (all PA operating and investment costs and system level expenses)*	323,550
(2) Estimation of PA system financing needs (A, B and C)	
<u>A. Estimated financing needs for <i>basic</i> management costs (operational and investments) to be covered</u>	<u>657,143</u>
- PA central system level operational costs (salaries, office maintenance etc.)	200,000
- PA site management operational costs	300,000
- PA site infrastructure investment costs	100,000
- PA system capacity building costs for central and site levels (training, strategy, policy reform etc.)	57,143
<u>B. Estimated financing needs for <i>optimal</i> management costs (operational and investments) to be covered</u>	<u>1,757,143</u>
- PA central system level operational costs (salaries, office maintenance etc.)	300,000
- PA site management operational costs	400,000
- PA site infrastructure investment costs	1,000,000
- PA system capacity building costs for central and site levels (training, strategy, policy reform etc.)	57,143
<u>C. Estimated financial needs to expand the PA systems to be fully ecologically representative</u>	<u>not applicable</u>
Annual financing gap (financial needs – available finances)	
1. Net actual annual surplus/deficit (difference between expenditure and available finances)	0
2. Annual financing gap for <u>basic</u> management scenarios*	<u>333,593</u>
3. Annual financing gap for <u>optimal</u> management scenarios*	<u>1,433,593</u>
4. Annual financing gap for basic management of an expanded PA system (current network costs plus annual costs of adding more PAs)	not applicable
5. Projected annual financing gap for basic expenditure scenario in year X+5	not estimated
<u>Notes: *Funding gap is approx. 100% of current expenditure under the <i>basic</i> management scenario and 430% under the <i>optimal</i> management scenario.</u>	

Table 16: BD SO1 Financial Scorecard with focus on the Marine Sub-System

Scoring and Measuring Progress in PA Finance Components	Sub-System's Scores
Component 1) Legal, regulatory and institutional frameworks	20 out of 90 = 22%
Component 2) Business planning and tools for cost-effective management	18 out of 59 = 31%
Component 3) Tools for revenue generation by PAs	15 out of 71 = 21%
Total Scores for PA Sub-System	53 out of 220 = 24%

Table 17: Project Sectoral Targets and Landscape/Seascape Coverage

Sectoral Targets	Indicator
1) Primary Sectors	Coastal Property Development/Planning, Tourism
2) Secondary Sectors	Fisheries
Landscape/Seascape Coverage Foreseen at project start	Indicator
Landscape/seascape area <u>directly</u> covered by the project (ha)	27,000
Landscape/seascape area indirectly covered by the project (ha)	39,470
Explanation for indirect coverage numbers:	<p>Area directly covered = This is the coastal and marine area over which ICZM planning will be carried out, improving management and conservation status. The area of 20,000 ha of MPAs that will be better managed is a subset of this wider area over which ICZM planning will be undertaken.</p> <p>Area in directly covered = This is the total area of Coastal and Marine ESAs (excluding the islets), as follows: Seagrass and Algal Beds (ESA type 3.a) 21,044 ha; Coral Reefs (ESA type 3.b) 13,311 ha; Sand Beach and Dunes (ESA type 2.a) 2,965 ha; Inter-tidal Mudflats (ESA type 1.f) 1,575 ha; Coastal wetlands (ESA type 1.a) 406 ha; and Mangroves (ESA type 1.e) 169 ha.</p>

Annex 4. Maps

Map 1. Mauritius - District land- and seascapes proposed as planning areas with protected areas overlain
Map 2. Marine and Coastal ESAs in Pamplemousses District
Map 3. Marine and Coastal ESAs in Riviere du Rempart District
Map 5. Marine and Coastal ESAs in Grand Port District
Map 6. Marine and Coastal ESAs in Savanne District
Map 7. Marine and Coastal ESAs in Black River District
Map 8. Marine and Coastal ESAs in Northern Islets
Map 9. ESAs in Rodrigues

Northern Coastal Wetlands:

Map 10 a. Northern Coastal Wetlands - Grand Baie
Map 10 b. Northern Coastal Wetlands
Map 10 c. Northern Coastal Wetlands - Cap Malheureux Area
Map 10 d. Northern Coastal Wetlands - Isle d'Ambre Area
Map 10 e. Northern Coastal Wetlands – Poudre d'Or – Riviere du Rempart Area
Map 10 f. Northern Coastal Wetlands – Roche Noires Area

Map 11. Land Degradation Hotspots in Riviere Coco Watershed

The maps are attached as a separate file, available at:

[ANNEXES 1 4 5 toPRODOC \(SUBMISSION\) 4843 MauritiusMainstr 110116.pdf](#)

Annex 5. Technical Reports from PPG Phase

The following Technical Reports are attached as a **separate file**, available at:
[ANNEXES 1 4 5 toPRODOC \(SUBMISSION\) 4843 MauritiusMainstr 110116.pdf](#)

PPG Study #1) Marine & Coastal Biodiversity and ESAs in Mauritius and Rodrigues

Contents (12 pages)

- 1 Introduction
- 2 Species Diversity
- 3 Ecosystem Diversity and Environmentally Sensitive Areas (ESAs)
 - 3.1 Seagrass and algal beds
 - 3.2 Coral reefs
 - 3.3 Sand beaches and dunes
 - 3.4 Inter-tidal mudflats
 - 3.5 Coastal wetlands or marshlands
 - 3.6 Mangroves
 - 3.7 Islets
- 4 Ecosystem services
 - 4.1 Provisioning ecosystem services
 - 4.2 Regulating ecosystem services
 - 4.4 Supporting ecosystem services
- 5 Threats to biodiversity and ecosystem services
 - 5.1 Coastal wetlands
 - 5.2 Mangroves
 - 5.2 Seagrass and algal beds
 - 5.3 Sand beaches and dunes
 - 5.4 Coral Reefs

PPG Study #1) Review of Coastal & Marine Protected Areas

Contents (18 pages)

- 1 Introduction
- 2 Marine Protected Areas (MPAs)
 - 2.1 Mauritius Main Island MPAs
 - Marine Parks
 - Fishing Reserves
 - Le Morne Cultural World Heritage Site (WHS)
 - Voluntary Marine Conservation Areas (VMCAs)
 - Other marine areas
 - 2.2 Rodrigues MPAs
 - South East Marine Protected Area (SEMPA)
 - Northern Marine Reserves
- 3 Protected areas for islets
- 4 Ramsar sites
- 5 Pas Géométriques
- 6 Contribution of protected areas to economic development and livelihoods
 - 6.1 Fishery benefits and no take areas
 - 6.2 Tourism benefits

Annex 6. Social and Environmental Screening Report

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the [Social and Environmental Screening Procedure](#) and [Toolkit](#) for guidance on how to answer the 6 questions.

Project Information

Project Information	
1. Project Title	Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius
2. Project Number	4843
3. Location (Global/Region/Country)	Republic of Mauritius

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the Project mainstreams the human-rights based approach

The project will enhance the availability, accessibility and quality of benefits and services for potentially marginalized individuals and groups (such as fishers and coastal communities) and increase their inclusion in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle). It will promote and encourage the participation of all users of marine and coastal biodiversity in their protection and sustainable management, and will thus lead to more equitable sharing of the benefits of these resources. The project will pay particular attention to currently marginalized sectors of the population (women, disadvantaged coastal communities, unemployed youth etc) and demonstrate mechanisms by which such groups can both benefit from and contribute to the sustainable management of marine and coastal resources.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

The project will ensure that women and men play equal roles in the proposed interventions, participate equally in all planning and decision-making committees and bodies, and benefit from the livelihood and economic activities that will take place. The project will be operate according to the RM's National Gender Policy Framework and each Ministry's gender policy, and will collaborate with the Ministry of Gender Equality, Child Development and Family Welfare as appropriate. Encouragement will be given to women to take leadership roles at all levels (including government, coastal community, marine protected area). The project document includes an analysis of gender inequalities and explains how UNDP will promote changes in relation to gender inequality. Age and sex-disaggregated data and gender statistics and specific, measurable indicators related to gender equality and women's empowerment will be used, and the results framework includes: (a) special measures/outputs, and (b) indicators to address gender inequality issues.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The project will help to ensure that marine and coastal Environmentally Sensitive Areas (coral reefs, seagrass beds etc) and the ecosystem services they provide are addressed in physical development planning and the implementation of coastal zone management plans, with policies and interventions to ensure that critically sensitive ESAs are protected, and others sustainably managed. The project will also ensure that the implementation of standards for sustainable tourism fully take account of the need to protect and sustainably

manage marine and coastal ESAs, and demonstrate the value of mainstreaming sustainable management of steep slopes and coastal wetlands, to facilitate replication beyond the demonstration sites. The support for improved management of marine protected areas will contribute to greater understanding by all stakeholders and decision-makers of the benefits that can be realized through sustainable management of ESAs. The project will support implementation of national environmental sustainability priorities and country commitments under the Convention on Biological Diversity, will strengthen environmental management capacities of the Republic of Mauritius, will address environment-development linkages (especially the poverty-environment nexus) and will apply a precautionary approach to natural resource conservation

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? <i>Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any “Yes” responses). If no risks have been identified in Attachment 1 then note “No Risks Identified” and skip to Question 4 and Select “Low Risk”. Questions 5 and 6 not required for Low Risk Projects.</i>		QUESTION 3: What is the level of significance of the potential social and environmental risks? <i>Note: Respond to Questions 4 and 5 below before proceeding to Question 6</i>		QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?	
Risk Description	Impact and Probability (1-5)	Significance (Low, Moderate, High)	Comments	Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.	
Risk 1: Improved enforcement of regulations relating to access to or use of marine and coastal resources could result in some users, notably coastal communities, having reduced fishery catches, reduced ability to take tourists to attractions (Component 2), or reduced access to agricultural or grazing land (Component 3), leading to potential economic displacement	I = 2 P = 1	Low	-	Component 2 includes an Output devoted to the development of sustainable livelihoods for coastal communities that might be affected by the implementation of MPAs on both Rodrigues and Mauritius, and by the introduction of soil erosion reduction mechanisms on Rodrigues. This Output will be delivered through the GEF SGP which has substantial experience in the RM of developing livelihood activities in parallel with interventions to protect and	

Risk Description	Impact and Probability (1-5)	Significance (Low, Moderate, High)	Comments	Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.
				sustainably manage marine and coastal biodiversity
Risk 2: Project activities are proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (marine parks & fishing reserves), and areas proposed for protection	I = 3 P = 3	Low	This project is specifically designed to protect and sustainably manage ESAs and to improve the management of marine and coastal protected areas and thus will not have an adverse effect on either	Project activities will not adversely affect ESAs or protected areas. Mechanisms to be used include capacity building, strengthening of standards and certification systems, demarcation, improved enforcement and potential expansion of protected areas, and erosion control. Project activities pose few adverse social and environmental risks to sensitive areas. At the same time, the project will specify certain further interventions during project implementation (e.g. reforestation, shifting agricultural patterns/practice, restricted use/access). Social and/or environmental risks to ESAs or protected areas from project activities will be reviewed as the project progresses using appropriate monitoring and evaluation methods and any potential adverse impacts identified in advance and suitable mitigation measures identified and introduced.
Risk 3: The project will likely affect harvesting of fish by addressing unsustainable practices and may increase catches through better management of marine protected areas	I = 3 P = 3	Low	The project involves the harvesting of fish in the sense that it will both address threats to marine	Project activities are designed to reduce unsustainable use of fishery resources, and in the long-term improve catches and therefore the

Risk Description	Impact and Probability (1-5)	Significance (Low, Moderate, High)	Comments	Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.
			biodiversity, which includes the unsustainable harvesting of fish populations or other aquatic species, and will also contribute to potential improvement in catches of marine fishery resources through better management of marine protected areas and enforcement of lagoon regulations.	livelihoods of fishers and coastal communities. Potential risks of heightened enforcement and increased catches (e.g. displacement of fishing activities) will be reviewed and assessed in the course of the project.
Risk 4: The primary outcome of the Project is increased abundance and populations of marine and coastal species, which may ultimately be sensitive or vulnerable to potential impacts of climate change	I = 2 P = 2	Low		Climate change is having a significant impact on marine and coastal biodiversity globally, through sea water warming, ocean acidification and increased intensity and frequency of storms in particular, with coral reefs and sandy beaches notably at risk. The ESAs in the RM are already affected by such changes and this project is designed to help mitigate the threats, increase the resilience of the ESAs and complement other climate change related initiatives and projects currently under way (e.g. UNDP-GEF Climate Change Adaptation project)

QUESTION 4: What is the overall Project risk categorization?		
Select one (see SESP for guidance)		Comments
Low Risk	<input checked="" type="checkbox"/>	
Moderate Risk	<input type="checkbox"/>	
High Risk	<input type="checkbox"/>	
QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
Check all that apply		Comments
Principle 1: Human Rights	<input type="checkbox"/>	
Principle 2: Gender Equality and Women's Empowerment	<input type="checkbox"/>	
1. Biodiversity Conservation and Natural Resource Management	<input type="checkbox"/>	
2. Climate Change Mitigation and Adaptation	<input type="checkbox"/>	
3. Community Health, Safety and Working Conditions	<input type="checkbox"/>	
4. Cultural Heritage	<input type="checkbox"/>	
5. Displacement and Resettlement	<input type="checkbox"/>	
6. Indigenous Peoples	<input type="checkbox"/>	
7. Pollution Prevention and Resource Efficiency	<input type="checkbox"/>	

Final Sign Off

Signature	Date	Description
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1: Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	Answer (Yes/No)
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	no
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? ¹³³	no
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	Yes
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	no
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	no
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	no
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	No
1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed	Yes

¹³³ Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

Checklist Potential Social and Environmental Risks	
for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	no
1.4 Would Project activities pose risks to endangered species?	No
1.5 Would the Project pose a risk of introducing invasive alien species?	No
1.6 Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7 Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	yes
1.8 Does the Project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	No
1.9 Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10 Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11 Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? <i>For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.</i>	No
Standard 2: Climate Change Mitigation and Adaptation	
2.1 Will the proposed Project result in significant ¹³⁴ greenhouse gas emissions or may exacerbate climate change?	No
2.2 Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	yes
2.3 Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? <i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i>	No
Standard 3: Community Health, Safety and Working Conditions	
3.1 Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2 Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3 Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4 Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5 Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No

¹³⁴ In regards to CO₂, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

Checklist Potential Social and Environmental Risks		
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	no
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	Yes
5.3	Is there a risk that the Project would lead to forced evictions? ¹³⁵	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? <i>If the answer to the screening question 6.3 is “yes” the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.</i>	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No

¹³⁵ Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

Checklist Potential Social and Environmental Risks		
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol</i>	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

Annex 7. Consultation meetings held during PPG phase

#	DATE	MEETINGS/WORKSHOPS/SITE VISITS	ATTENDED BY
1	23 February	Introductory meeting at MOI with National Project Director & research scientists	PPG Team
2	25 February	Inception workshop at Domaine Les Pailles with all key stakeholders. 70 participants were present	PPG Team
3	26 February	De-briefing of inception workshop at MOI with National Project Director & research scientists	PPG Team
4	28 February	Meeting at REEF Conservation with the President, Board Member & Manager	Team Leader
5	28 February	Grand Baie Wetlands site visit	Team Leader
6	29 February	Site visit at Blue Bay Marine Park	Team Leader, Economist
7	1 March	Visit to Baie du Nord, Rodrigues, for the re-opening of 'Fish Catch'. Chief Commissioner & Commissioner for Environment were present	Gender/Social Expert, CZM Expert, Project Manager
8	2 March	Meeting in Rodrigues to assess baseline & data collection with RRA officials (12 representatives from Commissions for Environment/Tourism/Agriculture/Land Planning.	Team Leader, Gender/Social Expert, CZM Expert, Project Manager
9	3 March	Meeting in Rodrigues for data collection with 11 representatives from NGOs, women association, fishermen association	Team Leader, Gender/Social Expert, CZM Expert, Project Manager
10	3 March	Site visit at SEMPA, Riviere Coco/Riviere Mourouk watershed with Project Manager of SEMPA & representative from Commission for Environment	Team Leader, Gender/Social Expert, CZM Expert, Project Manager
11	4 March	Meeting at Cadastral Office, Rodrigues with Planning Officers	Team Leader, Gender/Social Expert, CZM Expert, Project Manager
12	4 March	Site visit at Riviere Banane & Anse Aux Anglais Marine Reserves with Shoals Rodrigues	Team Leader, Gender/Social Expert, CZM Expert, Project Manager
13	4 March	Meeting with Adviser on Economic Development, Economic Planning Unit of Rodrigues	Team Leader, Gender/Social Expert, Project Manager
14	5 March	METT exercise for SEMPA & Northern marine reserves	Team Leader
15	6 March	Meeting with MMCS staff	Team Leader
16	16 March	Meeting with Gender Unit & Social Welfare Division (Govt of Mauritius) & Socio-economic Development Unit (UNDP) to discuss strategies and approaches to ensure greater gender parity and inclusion of marginalized communities in project implementation	Gender expert, economist, Project Manager
17	30 March	Meeting at Ministry of Housing & Lands to assess baseline & data collection. Representatives include the Chief Technical Officer, Principal Planner, Principal Surveyor, Principal Cartographer, Ag. Deputy Permanent Secretary & Associate Research Scientist (MOI)	Legal Adviser, CZM Expert, Economist, Project Manager
18	31 March	Meeting at Ministry of Environment, Sustainable Development, Disaster and Beach Management to assess baseline & data collection. Representatives include Deputy Director & the following	Legal Adviser, CZM Expert, Economist, Project Manager

#	DATE	MEETINGS/WORKSHOPS/SITE VISITS	ATTENDED BY
		Divisions ICZM, Pollution Control, EIA/PER monitoring, Project Coordination, Environmental Law, Climate Change Adaptation & Associate Research Scientist (MOI)	
19	1 April	Meeting at Ministry of Tourism & External Communications to assess baseline & data collection with the Tourism Planners	Legal Adviser, CZM Expert, Economist
20	2 April	Meeting at Ministry of Agro Industry and Food Security (NPCS) to assess baseline & data collection, with the Director & Scientific Officers	Legal Adviser, CZM Expert, Project Manager
21	9 April	Meeting at Ministry of Local Government to assess baseline & data collection, with the enforcement officers & Associate Research Scientist (MOI)	Gender/Social Expert, Project Manager
22	10 April	Meeting with key experts from Mauritius Ports Authority, Delphinium Consulting & Mauritius Research Council	PPG Team
23	10 April	Meeting at Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands to assess baseline & data collection, with Fisheries Protection Service, Marine Conservation Division & Associate Research Scientist (MOI)	Gender/Social Expert, Economist, Project Manager
24	13 April	Gender & Social Assessment Community Group Discussion at Case Noyale, with Women & Fishermen Associations	Gender/Social Expert, Project Manager
25	15 April	Gender & Social Assessment Community Group Discussion at Vieux Grand Port, with Women & Fishermen Associations	Gender/Social Expert, Project Manager
26	17 April	Gender & Social Assessment Community Group Discussion at Grand Bay, with Women & Fishermen Associations	Gender/Social Expert, Project Manager
27	28 April	Meeting with CEO of AHRIM	Economist
28	8 May	Meeting with OIC & Site Manager of Le Morne Heritage Trust Fund	Team Leader, Project Manager
29	11 May	Management Effectiveness Tracking Tool exercise at Albion Fisheries Research Centre, with Fisheries Protection Service, Marine Conservation Division & representatives from Blue Bay & Balaclava Marine Parks	Team Leader, Economist, Project Manager
30	12 May	Meeting with representatives of COI in charge of Biodiversity Project, ICZM Project & ISLANDS Project	Team Leader & Project Manager
31	13 May	Meeting with National Coordinator GEF UNDP SGP	Team Leader & Project Manager
32	14 May	Meeting at Ministry of Agro Industry and Food Security (NPCS) to discuss the Project Strategy, with Deputy Director, Scientific Officers	Team Leader, Legal Adviser, Project Manager
33	14 May	Meeting at Ministry of Environment, Sustainable Development, Disaster and Beach Management to discuss the Project Strategy, with Deputy Director & the following Divisions: ICZM, Climate Change, Environmental Law, Information & Education, Project Coordination, Sustainable Development, Pollution Control, Policy & Planning, EIA/PER monitoring	Team Leader, CZM Expert, Project Manager
34	15 May	PPG Team meeting to discuss on progress of work	PPG Team

#	DATE	MEETINGS/WORKSHOPS/SITE VISITS	ATTENDED BY
35	20 May	Financial Sustainability Scorecards exercise at Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands, with Deputy Director, Marine Conservation Division	Team Leader, Economist, Project Manager
36	21 May	Skype call with SEMPA Project Manager & representative of Commission for Environment (Rodrigues)	Team Leader, Project Manager
37	22 May	Meeting PPG Team to discuss on draft prodoc under preparation and forthcoming consultation workshops (Mauritius & Rodrigues)	PPG Team
38	1 June	Meeting with OIC of MOI to discuss project management arrangements	Project Manager
39	2 June	Meeting with Analysts of Ministry of Finance & Economic Development to discuss co-financing	Project Manager
40	9 June	Consultation meeting with Rodrigues representatives (Commission for Environment, Tourism, Land Planning, Agriculture & MWF) to discuss draft project document, at Mourouk Ebony Hotel	Team Leader, Project Manager
41	10 June	Consultation workshop at Domaine Les Pailles with all key stakeholders to discuss draft project document. 60 participants were present	PPG Team



*Empowered lives.
Resilient nations.*

7 January 2016

**STANDARD LETTER OF AGREEMENT BETWEEN UNDP AND
THE GOVERNMENT OF MAURITIUS**

FOR THE PROVISION OF SUPPORT SERVICES

Dear Mr. Manraj,

1. Reference is made to consultations between officials of the Government of Mauritius (hereinafter referred to as "the Government") and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects namely the GEF funded Mainstreaming Biodiversity into the Management of the Coastal Zone of the Republic of Mauritius (Award id 79829), executed by the Mauritius Oceanography Institute. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Government through its institution designated in the relevant programme support document or project document, as described below.

2. The UNDP country office may provide support services for assistance with reporting requirements. In providing such support services, the UNDP country office shall ensure that the capacity of the Government-designated institution is strengthened to enable it to carry out such activities directly. The costs incurred by the UNDP country office in providing such support services shall be recovered from the project budget.

3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the programme/project:

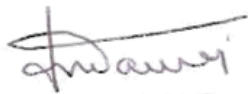
- (a) Simple procurement of goods (under 100,000 USD)
- (b) Complex procurement of goods (above 100,000 USD)
- (c) Simple recruitment (under 100,000 USD)
- (d) Complex recruitment (above 100,000 USD)
- (e) If recruitment of project personnel: administration of project personnel
- (f) Organization of travel and per diem for resource persons
- (g) Payments on behalf of Ministry

... 2/

4. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. Support services described in paragraph 3 above shall be detailed in an annex to the programme support document or project document, in the form provided in the Attachment hereto. If the requirements for support services by the country office change during the life of a programme or project, the annex to the programme support document or project document is revised with the mutual agreement of the UNDP resident representative and the designated institution.
5. The relevant provisions of the UNDP Standard Basic Assistance Agreement with the Government of Mauritius (the "SBAA"), including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed programme or project through its designated institution. The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the programme support document or project document.
6. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.
7. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 above shall be specified in the annex to the programme support document or project document.
8. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.
9. Any modification of the present arrangements shall be effected by mutual written agreement of the parties hereto.
10. If you are in agreement with the provisions set forth above, please sign and return to this office two signed copies of this letter. Upon your signature, this letter shall constitute an agreement between your Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,

For the Government:



Mr. D. Manraj, GOSK
Financial Secretary
& GEF Operational Focal Point
Ministry of Finance and Economic Development

Signed on behalf of UNDP:



Mr. Simon Springett
UNDP Resident Representative

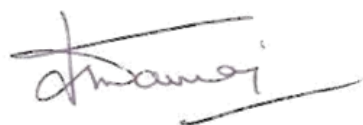
Attachment

DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

1. Reference is made to consultations between Ministry of Finance and Economic Development, the institution designated by the Government of Mauritius and officials of UNDP with respect to the provision of support services by the UNDP country office for the GEF funded Mainstreaming Biodiversity into the Management of the Coastal Zone of the Republic of Mauritius.
2. In accordance with the provisions of the letter of agreement signed on and the relevant project document, the UNDP country office may provide support services to the above mentioned projects as described below.
3. Support services to be provided:

Support services	Item	Schedule for the provision of the support services	Unit Cost to UNDP of providing such support services	Amount (USD)	Amount and method of reimbursement of UNDP
1. Simple recruitment (under 100,000 USD)	Recruitment of 5 International Consultants, 1 project manager, 1 project assistant	10 weeks	1,000	7,000	Directly charged to project execution budget
2. Complex recruitment (above 100,000 USD)	2 Request for Proposals	15 weeks	3000	6,000	
3. Simple procurement of goods (under 100,000 USD)	1 Procurement of Equipment for project team	10 weeks	1000	1,000	
Total				14,000	

For the Government:



Mr. D. Manraj, GOSK
Financial Secretary
& GEF Operational Focal Point
Ministry of Finance and Economic Development

Signed on behalf of UNDP:



Mr. Simon Springett
UNDP Resident Representative