



## **Inclusive conservation of sea turtles and seagrass habitats in the north and north-west of Madagascar**

### **Part I: Project Information**

#### **GEF ID**

10696

#### **Project Type**

FSP

#### **Type of Trust Fund**

GET

#### **CBIT/NGI**

CBIT **No**

NGI **No**

#### **Project Title**

Inclusive conservation of sea turtles and seagrass habitats in the north and north-west of Madagascar

#### **Countries**

Madagascar

#### **Agency(ies)**

UNEP

#### **Other Executing Partner(s)**

Ministry of Environment and Sustainable Development (MEDD)

#### **Executing Partner Type**

Government

#### **GEF Focal Area**

Biodiversity

#### **Taxonomy**

Focal Areas, International Waters, Marine Protected Area, Aquaculture, Large Marine Ecosystems, Coral Reefs, Biomes, Mangrove, Seagrasses, Biodiversity, Protected Areas and Landscapes, Coastal and Marine Protected Areas, Community Based Natural Resource Mngt, Mainstreaming, Tourism, Fisheries, Sea Grasses,

Mangroves, Species, Wildlife for Sustainable Development, Illegal Wildlife Trade, Threatened Species, Financial and Accounting, Payment for Ecosystem Services, Climate Change, Climate Change Adaptation, Livelihoods, Climate finance, Sea-level rise, Influencing models, Transform policy and regulatory environments, Demonstrate innovative approach, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Stakeholders, Civil Society, Non-Governmental Organization, Community Based Organization, Communications, Education, Awareness Raising, Public Campaigns, Behavior change, Local Communities, Type of Engagement, Consultation, Partnership, Participation, Information Dissemination, Beneficiaries, Private Sector, SMEs, Individuals/Entrepreneurs, Gender Equality, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender-sensitive indicators, Gender results areas, Access and control over natural resources, Access to benefits and services, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Integrated Programs, Food Security in Sub-Sahara Africa, Resilience to climate and shocks, Capacity, Knowledge and Research, Learning, Adaptive management, Theory of change, Indicators to measure change, Knowledge Exchange, Enabling Activities, Knowledge Generation, Innovation

**Sector**

**Rio Markers**

**Climate Change Mitigation**

Climate Change Mitigation 0

**Climate Change Adaptation**

Climate Change Adaptation 1

**Submission Date**

2/16/2022

**Expected Implementation Start**

6/1/2022

**Expected Completion Date**

5/31/2027

**Duration**

60In Months

**Agency Fee(\$)**

320,180.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

<b>Objectives/Programs</b>	<b>Focal Area Outcomes</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
BD-1-1	Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors	GET	641,966.00	2,828,793.00
BD-1-5	Mainstream biodiversity across sectors as well as landscapes and seascapes through inclusive conservation	GET	1,219,735.00	7,068,838.00
BD-2-7	Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate	GET	1,508,619.00	9,469,558.00
<b>Total Project Cost(\$)</b>			<b>3,370,320.00</b>	<b>19,367,189.00</b>

## B. Project description summary

### Project Objective

To adopt integrated approaches for inclusive conservation of sea turtles and seagrasses and the sustainable management of their habitats in North-West Madagascar.

<b>Project Component</b>	<b>Financing Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>GEF Project Financing (\$)</b>	<b>Confirmed Co-Financing(\$)</b>
--------------------------	-----------------------	--------------------------	-------------------------	-------------------	-----------------------------------	-----------------------------------

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
1. Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats	Technical Assistance	<p><i>1. The effective policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats are implemented, as indicated by:</i></p> <p><b>Increased number of policies/strategies/frameworks for conservation of sea turtles and seagrass endorsed and implemented by the Government of Madagascar in the project framework.</b> <i>Baseline: 0; Target: &gt;=4</i></p> <p><b>Increased number of inter-agency and intersectoral mechanisms for conservation of sea turtles and seagrass developed and functional at national level.</b> <i>Baseline: 0; Target: &gt;=2;</i></p>	<p><b>1.1.</b> Policy/Strategy/Legal documents for conservation of sea turtles and seagrass are drafted/amended, endorsed by the Madagascar Government;</p> <p><b>1.2.</b> Fisheries-Environment Inter-Ministerial Commission and Regional Environmental Units (<i>Cellule R?gionale Environnementale</i>), CR-GIZC are re-established and functional to coordinate national and regional efforts for marine resources conservation and sustainable management, including sea turtles and seagrass;</p> <p><b>1.3.</b> National sea turtles and seagrass monitoring and Knowledge Management system is developed and operationalized</p>	GET	776,000.0 0	2,585,793.0 0

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
2. Effective management of sea turtle and seagrasses habitats (include both INV and TA)	Investment	<p><i>2. Improved management of marine turtle and seagrass habitats in the project sites, as indicated by:</i></p> <p><b>Total area of established and operationalized MPAs:</b> <i>Baseline: 0 ha; Target ? 209,000 ha</i></p> <p><b>Increased management effectiveness of 4 target MPAs (METT score):</b> <i>Baseline: Nosy Hara NP - 79; Sahamalaza NP - 73; Ankarea MPA ? 70; Ankivonjy MPA - 71; Target: Nosy Hara NP - 95; Sahamalaza NP ? 92; Ankarea MPA ? 90; Ankivonjy MPA - 90;</i></p> <p><b>Increased capacity of LE agencies in Sofia and Diana Regions to investigate and prosecute crime against sea turtles and other marine species</b> (using Capacity Assessment Scorecard for Law Enforcement Agencies): <i>Baseline: 36%; Target: 60%</i></p> <p><b>Stable nesting populations of Green Turtle and Hawksbill Turtle</b> in 6 project sites: <i>Baseline: Nosy Hara NP: 656; Sahamalaza NP: 80;</i></p>	<p><b>2.1.</b> New LMMAs/MPAs (Bobaomby and Analalava,) are established in the key sea turtles and seagrass habitats and operationalized;</p> <p><b>2.2.</b> Capacity of Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs for protection of sea turtles and seagrass is improved through systematic training programs, equipment, and management support;</p> <p><b>2.3.</b> Capacity of law enforcement agencies to protect sea turtles and seagrass in the project area is strengthened through training on environmental crime investigation and prosecution.</p>	GET	1,175,000.00	9,060,558.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
3. Incentives for local communities and private sector to conserve sea turtles and seagrass (Include both INV - 803,000 and TA - 231,000)	Investment	<p>3. Local communities and private sector adopt sustainable livelihood and business practices that address sea turtle and seagrass conservation, as indicated by:</p> <p><b>Increased area of validated and operationalized community-based Blue Carbon projects for conservation of mangroves and seagrass:</b> <i>Baseline: 0 ha; Target: 1,000 ha;</i></p> <p><b>Increased number of people producing food and income from CBNRM and alternative livelihood options provided by the project:</b> <i>Baseline: 0; Target: &gt;=3,000 (at least 30% women)</i></p> <p><b>Increased number of private sector entities that introduced sea turtle and seagrass conservation in their business practices</b> as a result of the project: <i>Baseline:0; Target: &gt;=5</i></p> <p><b>Increased percentage of women participating in the project activities:</b> <i>Baseline:0; Target: &gt;=35%</i></p>	<p><b>3.1.</b> Pilot community livelihood projects targeting conservation of sea turtles, seagrass and mangroves are developed and implemented through Blue Carbon and other mechanisms;</p> <p><b>3.2.</b> Sustainable practices and mechanisms incorporating sea turtle and sea grass conservation are introduced to private sector in the project area;</p> <p><b>3.3.</b> Project gender mainstreaming strategy is developed and implemented</p>	GET	1,034,000.00	6,768,838.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
M&E, Knowledge Management	Technical Assistance	N/A	N/A	GET	225,320.00	
<b>Sub Total (\$)</b>					<b>3,210,320.00</b>	<b>18,415,189.00</b>

**Project Management Cost (PMC)**

GET	160,000.00	952,000.00
<b>Sub Total(\$)</b>	<b>160,000.00</b>	<b>952,000.00</b>
<b>Total Project Cost(\$)</b>	<b>3,370,320.00</b>	<b>19,367,189.00</b>

**Please provide justification**

N/A

**C. Sources of Co-financing for the Project by name and by type**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Recipient Country Government	Ministry of Environment & Sustainable Development (MEDD)	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Ministry of Fisheries and Blue Economy (MPEB)	In-kind	Recurrent expenditures	750,000.00
Recipient Country Government	National Committee for Integrated Coastal Zone Management	In-kind	Recurrent expenditures	2,200,000.00
Recipient Country Government	Madagascar National Parks (MNP)	In-kind	Recurrent expenditures	3,235,457.00
Recipient Country Government	National Center for Oceanographic Research (CNRO)	In-kind	Recurrent expenditures	400,000.00
Recipient Country Government	National Center for Oceanographic Research (CNRO)	Grant	Investment mobilized	500,000.00
Private Sector	Foundation for Biodiversity and Protected Areas of Madagascar (FAPBM)	Grant	Investment mobilized	2,243,000.00
Civil Society Organization	WWF Madagascar	In-kind	Recurrent expenditures	7,400.00
Civil Society Organization	WWF Madagascar	Grant	Investment mobilized	5,076,800.00
Civil Society Organization	Wildlife Conservation Society (WCS)	In-kind	Recurrent expenditures	848,000.00
Civil Society Organization	Madagascar Action Development	In-kind	Recurrent expenditures	200,000.00

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Civil Society Organization	Madagasikara Voakajy	In-kind	Recurrent expenditures	400,000.00
Civil Society Organization	Community Centered Conservation (C3)	In-kind	Recurrent expenditures	75,000.00
Civil Society Organization	Blue Ventures	In-kind	Recurrent expenditures	43,250.00
Beneficiaries	The Cantonnement de l'Environnement et Developpement Durable	In-kind	Recurrent expenditures	34,285.00
Beneficiaries	Commune of Analalava Settlement	In-kind	Recurrent expenditures	77,142.00
Beneficiaries	Antonobe Rural Commune	In-kind	Recurrent expenditures	55,714.00
Beneficiaries	Befotaka-Nord Rural Commune	In-kind	Recurrent expenditures	55,714.00
Beneficiaries	Amboloboza Rural Commune	In-kind	Recurrent expenditures	55,714.00
Beneficiaries	Mahadroka Rural Commune	In-kind	Recurrent expenditures	55,714.00
Beneficiaries	Analalava Tia Fandrosoana	In-kind	Recurrent expenditures	5,714.00
Civil Society Organization	Community Centered Conservation (C3)	Grant	Investment mobilized	14,000.00
Recipient Country Government	Sahamalaza National Park	In-kind	Recurrent expenditures	1,470,000.00
Recipient Country Government	Sahamalaza National Park	Grant	Investment mobilized	30,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Civil Society Organization	Analalava Fisheries Circumscription	In-kind	Recurrent expenditures	34,285.00
<b>Total Co-Financing(\$)</b>				<b>19,367,189.00</b>

**Describe how any "Investment Mobilized" was identified**

The cofinancing secured represents US\$ 11,474,389 of recurrent expenditures (59%) and US\$ 7,892,800 of the investment mobilized (41%). Investment mobilized represents parallel investments and allocations from the entities indicated in the table above: ? WWF: financial resources mobilized from the Bezos Fund project in Ambaro Bay for community-based mangroves conservation and restoration (habitat used by sea turtles), the Margaret A. Cargill Philantorities (MACP) Project to increase protection of the Nosy Hara Marine Protected Area and mangroves of Baie d'Ambaro, including sea turtle and seagrass habitat; and the Sustainable Coastal Fishing Project operating in the Nosy Hara Marine Protected Area for patrolling and surveillance activities to stop poaching; ? The Sahamalaza National Park will provide secured government investments for conservation activities in the transition zones of the Sahamalaza Marine Biosphere Reserve (outside the Park) as well as in the Radama Islands and others where the marine turtles' nesting sites are located; ? FABPM investments represent a share of the fund annual revenue received through investments in financial markets (stocks and index funds) and allocated to support MPAs in the project area; ? C3 investmenst are mobilized from EU EcoFish project (2020-2024) aimed to support remote coastal communities in the far north of Madagascar on sustainable management of small-scale fisheries; ? CNRO investment resources represent funds of research project targeting conservation of sea tutrles and seagrass in the Noth-West Madagascar. 180% value of cofinance anticipated at the Concept (PIF) stage has been realized.

**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	GET	Madagascar	Biodiversity	BD STAR Allocation	3,370,320	320,180	3,690,500.00
<b>Total Grant Resources(\$)</b>					<b>3,370,320.00</b>	<b>320,180.00</b>	<b>3,690,500.00</b>

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

---

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount (\$)**

100,000

**PPG Agency Fee (\$)**

9,500

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	GET	Madagascar	Biodiversity	BD STAR Allocation	100,000	9,500	<b>109,500.00</b>
<b>Total Project Costs(\$)</b>					<b>100,000.00</b>	<b>9,500.00</b>	<b>109,500.00</b>

## Core Indicators

**Indicator 2 Marine protected areas created or under improved management for conservation and sustainable use**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
428,134.00	637,134.00	0.00	0.00

**Indicator 2.1 Marine Protected Areas Newly created**

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0.00	209,000.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
Akula National Park Analalava	12568 9 N/A	Select Protected Landscape/Seascape		173,000.00		<input type="checkbox"/>
Akula National Park Bobaombay	12568 9 N/A	Select Protected Landscape/Seascape		36,000.00		<input type="checkbox"/>

**Indicator 2.2 Marine Protected Areas Under improved management effectiveness**

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
428,134.00	428,134.00	0.00	0.00

Name of the Protected Area	WDP ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Akula National Park Ankara	125689 55554 8848	Select Protected Landscape/Seascape	137,690.00	137,690.00			71.00		
Akula National Park Ankivo	125689 55554 8847	Select Protected Landscape/Seascape	139,409.00	139,409.00			70.00		
Akula National Park Nosy Hara	125689 55569 7918	Select National Park	125,000.00	125,000.00			79.00		
Akula National Park Sahamalaza	125689 90066 7	Select National Park	26,035.00	26,035.00			73.00		

**Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
<b>Female</b>	5,000	5,000		
<b>Male</b>	8,000	8,000		
<b>Total</b>	13000	13000	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

**The project will achieve these targets through the following key interventions: ?**

**Establishment and full operationalization of two target Marine Protected Areas (MPAs)/LMMAs ? Bobaomby (36,000 ha) and Analalava (173,000 ha) - located in the project area. That includes development and submission for approval to MEDD and Administrations of Sofia and Diana Regions of all mandatory documents and plans**

for the target MPAs, comprehensive capacity building program for the MPAs? staff, and investments in the MPA equipment and basic infrastructure (Outputs 2.1); ? Capacity building for four target MPAs - Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs ? covering total area of 428,134 ha (Outputs 2.2 and 2.3). That includes strengthening COSAPs managing and protecting the NPs and MPAs (trainings for Community Marine Rangers on anti-poaching and sea turtle and seagrass monitoring); essential equipment for Community Marine Rangers and OMCs working in the NPs/MPAs; and technical assistance to COSAPs in the target NPs and MPAs to develop new dina targeting conservation of sea turtles and seagrass and bring existing conservation dina in full compliance with national legislation, develop and sign cooperation agreements between COSAPs, OMCs, and other law enforcement agencies to fight sea turtle poaching and illegal trade and destructive practices for seagrass and other marine ecosystems (mangroves and coral reefs), and update of the Marine Natural Resources Management Plans with targeted activities for sea turtle and seagrass conservation; ? Overall the project will provide direct capacity building support and investments to approximately 13,000 people (>=30% are women) including (1) law enforcement officers and Community Marine Rangers in the project sites receiving training and equipment for anti-poaching, investigation and prosecution of environmental crime, and monitoring of sea turtles and seagrass (Outputs 1.3, 2.1-2.3); (2) total number of local people in the project area trained and involved in sustainable livelihood projects and practicing learned approaches to improve their livelihoods, including Blue Crabon project (Output 3.1); and (3) staff of private sector companies that will be trained in application of integrated sea turtle and seagrass conservation approaches in the business practices (Output 3.2).

## Part II. Project Justification

### 1a. Project Description

describe any changes in alignment with the project design with the original pif

#### 1a. *Project Description.*

The project was designed in full accordance with the PIF with some necessary adjustments to the project Components, Outcomes, Outputs, co-financing, and budget made during stakeholder consultations and project development (see Annex G for details). A brief description of the project is presented below.

#### 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description):

Madagascar (officially the Republic of Madagascar), is an island country in the Indian Ocean, approximately 400 km off the coast of East Africa. At 592,800 km<sup>2</sup> Madagascar is the world's second-largest island country. The total population of the island is estimated in 26,969,313 people (population density ? 45.5 people/km<sup>2</sup>) that increases with an average annual growth rate of 2.5% (2018) . More than 80% of Madagascar's population is rural (2020). Agriculture, including fishing and forestry, is Madagascar's largest industry and employs 82% of its labor force . Other economic activities include emerging tourism, textile and mining industries. The country's average GDP annual growth rate is 5.91% (2001-2020) , however, the growth is likely to have reversed in 2020 due to COVID-19 impact. Despite the growing economy, 77.6% of Madagascar's population still lives below the poverty line (2020) and the country's Human Development Index is low (0.528, 2020), ranked as 164 among the countries of the world). With 5,600 kilometers of coastline and an Exclusive Economic Zone that extends over more than a million square kilometers, Madagascar has substantial marine and coastal resources. The fishery sector plays a leading role on the island's economy with an annual production capacity of \$750 million equivalent to more than 7% of the national GDP and a contribution of 6.6% to the total exports. It is also critical to the nutritional health and food security of Malagasy people, contributing around 20% to their animal protein consumption. Fishing and aquaculture support almost 1.5 million people in Madagascar, most of whom come from coastal areas. This segment of the population is often among the most vulnerable and marginalized communities, with a majority without other assets such as a land that could allow them to diversify their revenues

Madagascar is one of eight "hottest" biodiversity hotspots based on richness and endemism of plants (c. 12,000 spp. of vascular plants, >90% endemic) and vertebrates (>700 spp. with c. 50% endemism in birds and >98 per cent in amphibians, reptiles and mammals) . The island's ecosystems include many types of forests, savannah, steppes, rivers, lakes, wetlands, mangroves, drylands, and reefs. Madagascar continental shelf (between -20 and -250 m) covers about 117,000 km<sup>2</sup> and supports impressive marine biodiversity. The island has a unique marine ecosystem diversity: from temperate oceanic environments in the south to tropical lagoonal ecosystems in the west and north, no other country in the region exhibits such a rich diversity of marine ecosystems. The island keeps some of the Indian Ocean's most extensive mangrove forests, seagrass beds and coral reefs: Madagascar is among the top 15 countries harboring the largest area of these ecosystems in the world . For example, coral reefs (including fringing reefs, islands, platforms, and both emergent and submerged barrier reefs) cover 2,230 km<sup>2</sup> of the Madagascar's nearshore area . Madagascar provide habitat for at least 4,792

species of marine invertebrate macrofauna (60% of the Western Indian Ocean region's marine invertebrate macrofauna). Madagascar supports more species of reef-building corals (380 species) than reported for any other western Indian Ocean country and that diversity is also high for reef fish (830 species reported in the literature) and mollusks.

Madagascar falls within the Tropical Indo-Pacific Seagrass Bioregion, which contains the highest diversity of tropical seagrass species (24 species). No comprehensive survey has mapped the entire seagrass resources of Madagascar and although the global seagrass distribution database estimates Madagascar's seagrass area at 5796 km<sup>2</sup>, the exact area/extent is unknown. Twelve seagrass species, with additional two species under review for synonymy, have been confirmed from the waters of Madagascar: *Cymodocea rotundata*, *Cymodocea serrulate*, *Enhalus acoroides*, *Halodule uninervis*, *Halodule wrightii*, *Halophila ovalis*, *Halophila stipulacea*, *Ruppia maritima*, *Syringodium isoetifolium*, *Thalassodendron ciliatum*, *Thalassia hemprichii*, and *Zostera capensis*. The most significant seagrass meadows (composed by eight species) are thought to exist in the north-west of the Madagascar island. That hypothesis is supported by recent C3 research in the area (see Fig.1).

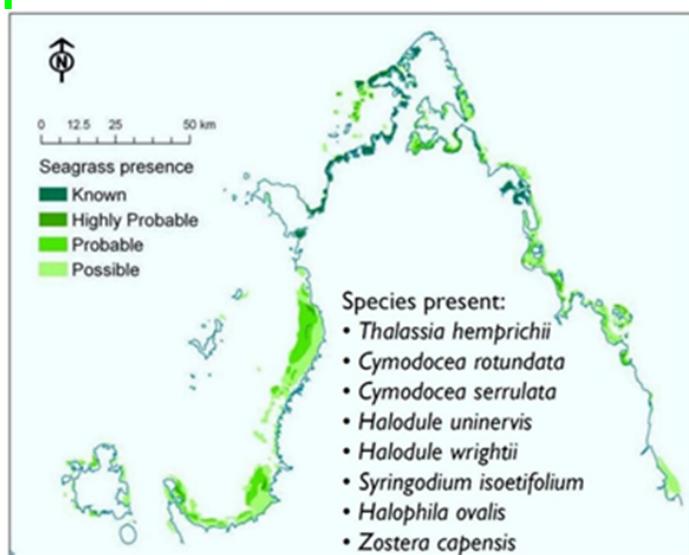


Figure 1. Seagrass locations in the Northern Madagascar identified using Landsat Zulu satellite imagery, Landsat natural satellite imagery and GoogleEarth (C3 Madagascar Presentation 'Current Status of Research on Sea Turtles and Seagrass in Northern Madagascar?').

Seagrass meadows are important economic assets in Madagascar on both regional and local scales. Seagrass meadows represent important nursery and feeding grounds for many commercially important fish and wide variety of marine invertebrates in Madagascar. A single acre of seagrasses can support 40,000 fish and 50 million invertebrates. The seagrass meadows of Madagascar also provide food and critical habitat for green sea turtle (*Chelonia mydas*) and dugong (*Dugong dugon*) which are listed as Endangered and Vulnerable respectively in the IUCN Red List. Some species of fish and sea cucumber inhabiting seagrass beds are export products that bring foreign income fundamental for the economic development of the country. Seagrasses are valuable at local levels as they contribute to the provision of protein and cash income to the different human populations (through fishing, collecting invertebrates, and sea cucumbers in the seagrass habitat). Apart from fisheries production, seagrasses provide a range of goods and services from attenuating wave energy and reducing coastal erosion/sedimentation to cultural importance. Thus, seagrass meadows stabilize the seafloor, reducing wave action by about 20%, limiting erosion, and protecting coasts from storm damage. Despite seagrass beds cover less than 0.2% of the ocean floor, they absorb ~10% of all carbon buried in ocean sediment at twice the rate as the world's temperate and tropical forests, per area. Seagrasses also provide critical habitat for fish and harbor a wide variety of invertebrates including crabs, squid, sponges, sea anemones and worms. Recent study found that seagrass meadows mitigate disease risks

by reducing pathogen exposure in the water for humans and marine organisms and can implement a role of natural wastewater treatment facilities . Another last study found that seagrass ecosystems can alleviate low pH, or more acidic, conditions for extended periods of time, and can reduce local acidity by up to 30% . Seagrasses are considered one of the most economically valuable habitats in the world and produce significant economic benefits valued at ~\$US 30 million per year for Cambodia and SUS 103 million annually for Australia , not mentioning other countries

There are five species of sea turtles in Madagascar coastal waters (out of eight species of sea turtles in the world): hawksbill turtle (*Eretmochelys imbricata*), green turtle (*Chelonia mydas*), loggerhead turtle (*Caretta caretta*), olive riddle turtle (*Lepidochelys olivacea*) and leatherback turtle (*Dermochelys coriacea*). The first four species are known to nest in Madagascar . Hawksbill turtle is considered Critically Endangered, green turtle ? Endangered, while leatherback turtle, loggerhead turtle, and olive riddle turtle are Vulnerable . Populations of all five species in Madagascar are considered declining and their nesting sites are disappearing . Most known nesting sites in Malagasy waters support less than 50 nests/year, with the most recent estimates suggesting that Madagascar has approximately 1,200 turtle nests/year . The coast of north-west Madagascar is considered an important nesting and feeding ground for marine turtles, mainly green and hawksbill turtles: a study published in 2007 suggests that at least 100?500 hawksbill and 700?1,200 green turtles may nest annually along the 115 km of coastline surveyed, including Nosy Iranja (in Ankivonjy Marine Protected Area), the Radama Islands, and the Nosy Hara archipelago . The largest single nesting site, located on Nosy Hara, is thought to support around 500 nests of *C. mydas* (Humber et al. 2017) and around 100 *E. imbricata* nests per year (Metcalf et al. 2007) . Other significant sites include Nosy Iranja (Ankivonjy MPA) (>100 nests of *C. mydas*) (Bourjea et al. 2006) and Nosy Ankazoberavina in Ankivonjy Marine Protected Area (supporting 50->100 nests of *E. imbricata* (A. Cooke and Kelonia, unpublished data) . Despite the significance nest aggregations, Humber et al. report more than 40 sites in north-west Madagascar where nesting has not been recorded since 2000. There are three nesting sites identified in Ankarea MPA: the islet of Tsarabanjina, the village of Ankarana and Andatsatsa on the Grand Mitsio . There are four nesting sites identified in Analalava, three nesting sites in Sahamalaza, and five nesting sites in Bobaomby (Cf. Page 47)

Hawksbill turtles are omnivorous consumers occurring in coral reef ecosystems. They can promote the growth of hard corals through predation on sponges, thus, their removal could significantly affect the structure and function of coral reef ecosystems. However, the ecological roles and importance of hawksbill turtles in coral reef ecosystems has not been investigated in detail, and the identification of foraging grounds for hawksbill turtles is still poorly understood in many regions, including in the western Indian Ocean and in Madagascar . As grazers, green turtles act as ecosystem engineers, and their grazing behavior has the potential to affect competition between foraged species including between native and non-native species . The hunting of sea turtles is a long-established economic activity of Madagascar's coastal peoples, with associated cultural traditions

The key threats for Madagascar's sea turtles and seagrass ecosystems are considered below (see also Table 1 and Fig. 2)

? Direct harvesting of adults and eggs: turtle poaching and egg harvesting is a common supply in the local market mainly in the North, in Antsohihy and Analalava in Sofia region; people have long been harvesting turtles for meat, eggs, shell, skin and oil. During the nesting season (October to January in Madagascar), turtle hunters (men) comb the beaches at night looking for nesting females. While poaching activities involve men, women take part in the preparation and marketing of turtle meat. Often, they wait until the female has deposited her eggs to kill her. Then, they take both the eggs and the meat. Many countries forbid the taking of eggs, including Madagascar, but enforcement is lax, illegal harvest is rampant, and the eggs can often be found for sale in local markets . Additionally sea turtles in Madagascar are harvested using harpoons and spearguns, and shark nets . The WCS asserts that the recent spike in the exploitation of marine turtles in Madagascar is being driven by increasing demand for marine turtle meat and oil both on local markets and in Southeast Asia and the participation of local villagers in the illegal hunting for monetary gain. In August 2016 a mission in the Radama Islands archipelago in northwest Madagascar resulted in the seizure of 13 immense nets and 3 live

captured sea turtles were found on site. Authorities also discovered the carapaces of hundreds of recently killed green sea turtles at the site which are the most commonly hunted species because of their large size. Similar discoveries in April 2018 of the remains of poached turtles were found in the vicinity of the southern part Ankivonjy Marine Protected Area between Ankivonjy MPA and Sahamalaza NP which is managed by WCS in collaboration with local communities.

? Estimates of turtle catches in Madagascar in 1980-2015 have been relatively constant: 13,000 individuals per year (Hughes 1973; Frazier 1980); about 11,000 per year (Rakotonirina and Cooke 1994); 10,000 and 16,000 per Humber (2015). However, recent CITES survey (2018) estimates that artisanal fisheries in Madagascar harvest more than 100,000 sea turtles annually. Over 90% of marine turtles caught in Madagascar are destined for local consumption or for local trade. Today illegal sea turtle trade is an established business and there are merchants that specialise in buying and selling turtle meat. CITES experts found no evidence of any systematic export market, and suggest that if this occurs it is opportunistic and infrequent, and of a far lesser scale than the domestic trade. Hawksbill sea turtles, recognized for their beautiful gold and brown shells, have been hunted for centuries to create jewellery and other luxury items. As a result, these turtles are now listed as critically endangered. Scientists estimate that hawksbill populations have declined by 90 percent during the past 100 years. While illegal trade is the primary cause of this decline, the demand for shells continues today on the black market. The lack of information about sea turtles leads many tourists to unwittingly support the international trade in these endangered species, including in Madagascar. Buying, selling or importing any sea turtle products in many countries around the world, including Madagascar, is strictly prohibited by law.

? Sea turtle fishing and consumption is widespread in the Madagascar north and north-west. Between 2007 and 2010 it was estimated that more than 40% of the green and hawksbill turtles captured at sea by local fishermen off northern Madagascar villages had been locally consumed or sold. Metcalf et al. (2007) reports mortality events across a collective of 115 km of beach from field surveys completed in three regions in 2000 (903 sea turtles total): Nosy Hara (261 green, 119 hawksbill, 2 olive ridley and 3 loggerhead), Nosy Iranja (30 green, 33 hawksbill) and the Radama Islands (295 green, 157 hawksbill and 3 olive ridley). Whilst the local ethnic group Sakalava and Antakarana have a fady (traditional ban) against consumption of turtle, adherence to tradition has declined. Also, a large number of migrant fishers (from other parts of Madagascar) operate in the region to exploit lucrative fisheries. According to an internal WCS report on the dynamics of fisheries migration in 2019, the existence and importance of migration in Ankivonjy and Ankarea MPAs as well as in the vicinity of Nosy Be is highlighted as a threat. Intentional capture of turtles was recently reported in the far north, in six communities in the Bay of Rigny. Information exists that organized criminal groups are specifically involved in catching sea turtles (up to 150-200 turtles per week) in the island north-east (Analalava, Marovasa Be and Anjajavy areas), transporting them to and selling in Mahajanga. Antananarivo is one of the main trading centers for sea turtle meat too.

? Bycatch during commercial and artisanal fishing: use of non-controlled nets is the key reason of the increased bycatch. Turtle catches in the southwest region of Madagascar have been estimated to be as high as 13,248 turtles per year. Apart from non-destructive fishing practices, sea turtles are affected by the offshore industrial fishery (longline and seine), fishing on the continental shelf, industrial shrimp trawling, fishing nets for shark and the traditional fishery using poison. Industrial trawling for shrimp is also an important cause of accidental turtle catches. However, this threat is likely to have decreased since the last 10 years: Turtle Excluder Devices (TEDs) have been a legal requirement (under Decree 2003-1101 of 23rd November 2003) and this Decree includes the use of Bycatch Reduction Devices (BRDs) that reportedly have resulted in reduced incidental bycatch of marine turtles. TEDs are reported to have reduced the bycatch of turtles in the entire shrimp fleet from 120 turtles from 64 vessels in 2004 to two turtles from 63 vessels in 2005 in Madagascar. In 2007, 20 turtles, mostly green, were reported as bycatch between February and July among five vessels operating off the East coast. However, the TED and BRD legal requirement is only for Malagasy fishing vessels, but not for vessels of other countries (e.g. China and European Union).

? Level of loggerhead turtle by-catch by long lines in the world is estimated in ~200,000/year ? that represents a very serious threat for the species, including in Madagascar waters where long line fishing is significant. Turtle interactions have been shown to be approximately 10 times greater in longline shallow sets versus deep sets . In comparison of long line fishing impact, impact of purse seining is negligible: Clermont et al. (2012) reported a total capture of 415 turtles in >9,000 observed purse seine sets between 1995-2010 .

? Enforcement and patrol of Madagascar's fisheries resources is severely limited given the approximately 5,000 km coastline. Enforcement and patrols can only be covered by three monitoring vessels, eight speedboats, 18 inspectors and 22 observers . This duty falls on behalf of the Centre de Surveillance des P?ches (CSP) whose mandate is to enforce regulations on fisheries and aquaculture, as well as fishing agreements. Commercial vessels are inspected by CSP at the beginning of each season to ensure their equipment complies with regulations, however throughout the fishing season, enforcement and inspections are severely restricted due to both limitations in the financial and human resources of the center. It is believed that due to lack of enforcement and monitoring, many of the shrimp boats sew up the TEDs shortly after their single annual inspection, with the possible exception of the 30% of vessels that carry on-board observers .

? Marine Debris: Over 1 million marine animals (including mammals, fish, sharks, turtles, and birds) are killed each year due to plastic debris in the ocean . More than 80% of this plastic comes from land. As a result, thousands of sea turtles accidentally swallow these plastics, mistaking them for food. Leatherbacks especially, cannot distinguish between floating jellyfish ? a main component of their diet ? and floating plastic bags. If sea turtles ingest these particles, they can become sick or even starve. Turtles are affected to an unknown, but potentially significant degree, by entanglement in persistent marine debris, including discarded or lost fishing gear including steel and monofilament line, synthetic and natural rope, plastic onion sacks and discarded plastic netting materials . For example, the DYMITILE project found a lot of plastic debris in faeces of loggerhead turtles caught by long lines around Reunion island . 100% of loggerhead turtles collected by the sea turtle care center in Kelonia had plastic debris in faeces, and cases of sea turtle deaths by ingestion of plastic debris and ropes are known in Reunion . On the basis of the Reunion data, it is very likely this threat is also significant for sea turtles in Madagascar waters.

? Marine Pollution: Pollution can have serious impacts on both sea turtles and the food they eat. For example, new research suggests that a disease now killing many sea turtles (fibropapillomas) may be linked to pollution in the oceans and in nearshore waters. When pollution contaminates and kills aquatic plant and animal life, it also destroys feeding habitats for sea turtles. Oil spills and urban runoff of chemicals and fertilizers all contribute to water pollution. An estimated 36% of all marine pollution from oil comes through drains and rivers from cities . Seagrass are very sensitive to agriculture and sewage runoff: high level of organic nutrients cause algae blooms that shade the seagrass. Reduction in light decreases seagrass growth and can kill whole populations .

? Climate Change Effects: Because sea turtles use both marine and terrestrial habitats during their life cycles, the effects of climate change are likely to have a devastating impact on these endangered species. By 2065, temperatures in Madagascar are projected to increase between 1.1°C and 2.6°C, with the lowest projected increases along the northern coastal regions (including the project area) and the highest projected increases for the southern part of the country . Shoreline erosion caused by sea level rise is already a significant problem to the coastal beaches of Madagascar. Coastal erosion as measured in 1997 was between 5.71 and 6.54 meters, and this is projected to increase exponentially by 2100 . A rise in the sea level will impact sea turtle nesting beaches. Sea turtles' memories are ?imprinted? with a magnetic map of the sandy beach where they hatch. This gives them the unique ability to return to that same site decades later to repeat their ancient nesting ritual. With melting polar ice caps and rising sea levels, these beaches are beginning to disappear. The direct impacts of sea level rise include losing beaches, ecologically productive wetlands and barrier islands. An increase in nesting beach temperatures will also have an impact on sea turtles. Because sea turtles are reptiles, they rely on the temperature of the sand in which the eggs incubate to determine the gender of the hatchling in a nest. Typically, the eggs in the lower, cooler, part of the nest will become males, while the eggs in the upper,

warmer, part of the nest will become females. With increasing nest temperatures, scientists predict that there will be more female than male hatchlings, creating a significant threat to genetic diversity. Warmer ocean temperatures are also likely to negatively impact food resources for sea turtles, and virtually all marine species. Coral reefs, which are an important food source for sea turtles, are in great danger. As a result of rising temperatures, coral reefs are suffering from a "bleaching" effect that kills off parts of the reef. Coral reefs of the project area (north-west of Madagascar) are likely to be more resilient to the bleaching effect due to cool water currents from nearby deep ocean areas that mitigate the impact of raising water temperature. In addition, the increase in cyclonic phenomena due to global warming leads to the degradation of spawning beaches, as has been observed in Sahamalaza and Nosy Hara.

? A primary effect of increased global temperature on seagrasses will be the alteration of growth rates and other physiological functions of the plants themselves. The distribution of seagrasses will shift as a result of increased temperature stress and changes in the patterns of sexual reproduction. Indirect temperature effects may include plant community changes as a result of increased eutrophication and changes in the frequency and intensity of extreme weather events. The direct effects of sea level rise on the coastal oceans will be to increase water depths, change tidal variation, alter water movement, and increase seawater intrusion into estuaries and rivers. Increased water depth, which reduces the amount of light reaching existing seagrass beds, will directly reduce plant productivity where plants are light limited. Likewise, increases in water motion and tidal circulation will decrease the amount of light reaching the plants by increasing turbidity or by stimulating the growth of epiphytes. Increasing atmospheric carbon dioxide will directly elevate the amount of CO<sub>2</sub> in coastal waters. In areas where seagrasses are carbon limited, this may increase primary production, although whether this increase will be sustained with long-term CO<sub>2</sub> enrichment is uncertain. The impact of increases in CO<sub>2</sub> will vary with species and environmental circumstances, but will likely include species distribution by altering the competition between seagrass species as well as between seagrass and algal populations.

? Sediment runoff due to deforestation leads to seagrass bed burial and suspended sediments also reduce light. The brick-red sediment rivers of Madagascar discharge their waters to Indian Ocean and Mozambique Channel. Once cleared of forest for agriculture, the soil is highly susceptible to erosion by rainwater, especially in mountainous areas and in areas where soil conservation practices are not implemented. As the runoff from rainfall passes across recently cleared fields, it washes away the life-giving soil and carries it to the sea. Additionally, mangrove degradation removes an important barrier of mangrove forest that block significant amount of siltation from running to seagrass and coral reef ecosystems.

? Physical damage of seagrass beds by boating and destructive fishing practices (e.g., trawling and beach seine) directly destroys seagrass beds. For example, Madagascar shrimp fleet operates along the west coast in waters between 5 to 30 m deep and can damage seagrass beds. Beach-seining, in which weighted fishing nets are dragged across the seabed, is causing seagrass to uproot. At low tide, seagrass meadows attract shellfish and octopus collectors, who trample the plants underfoot; shellfish collection like this is noted as a major cause of seagrass loss in parts of East Africa. Overfishing and removal of certain fish species triggers population explosions of sea urchins and epiphytes, both of which damage and destroy seagrass.

? Invasive Species: Rats, feral or unsupervised dogs prey on sea turtles and their eggs and represent a serious threat for sea turtle survival in some areas. In many sites of North and North-West of Madagascar, invasive species refer mainly to cats and rarely dogs, which are "fady" (Taboo). Nest predation can be a very serious threat. In certain "predation hot spots" on nesting beaches in the United States predation can exceed 50% of all nests laid. In Central America, many communities permit their domesticated dogs and cats to run free in coastal villages. These domesticated dogs, left unattended, can dig up several sea turtle nests in one night. With as few as one in 10,000 eggs reaching adulthood, the destruction of only a few nests can have a devastating effect on any sea turtle population. Dogs eat the eggs and hatchlings and, in some cases, can even attack adult females while they nest. While sea turtles have developed special adaptations that allow them to be agile in water, they remain clumsy on land. They are not fast enough, or agile enough to escape these predators. Unable to retract their heads

and flippers into their shell, like land tortoises, sea turtles are very vulnerable to these invasive predators. For example, in September 2010 - August 2011, inspection of fifty beaches in Mayotte carried out every 15 days by the agents of the General Council reported 149 sea turtle nests destroyed by dogs. Dogs predation on sea turtles and eggs was reported for Reunion island as well. Other significant threats: "unsupervised" tourist activities are incompatible with nesting sites, with risks of disrespect and destruction of these sites.

**Table 1.** Magnitude of key threats for sea turtles and seagrass in Madagascar and their root causes

Threats	Threat Magnitude		Root Causes
	Sea Turtles	Seagrass	
Direct harvesting of adults and eggs	Very High	N/A	Traditional consumption by local communities; High demand for sea turtle meat on local markets; Lack of law enforcement; Corruption among law enforcement officers
Bycatch during commercial and artisanal fishing	Very High	N/A	Lack of supervision and law enforcement of commercial fishing practices; Low number and low capacity of law enforcement staff; International ships fishing in Madagascar waters are not subject for TED and BRD regulation
Marine Debris	Medium	N/A	High plastic use and poor waste management
Marine Pollution	Low	Medium	Poor wastewater management and direct discharge of wastewater in rivers and sea
Climate Change Effects	High	High	Anthropogenic increase of carbon dioxide in the atmosphere; Increase of air and water temperature
Sediment runoff due to deforestation	Medium	High	Massive deforestation in Madagascar; Degradation of mangrove forest ecosystems; Lack of soil protection and anti-erosion measures
Physical damage of seagrass beds by boating and destructive fishing practices	N/A	High	Widespread use of trawling and beach sein in coastal waters; Lack of appropriate regulation and law enforcement

Invasive Species: rats, and feral and unsupervised dogs	High	N/A	New and extended human settlements along sea coast; Lack of control and supervision of dogs and cats
---	------	-----	---

**Barriers to address the Direct Threats and Root Causes**

Key barriers to addressing direct threats for sea turtles and seagrass in Madagascar are considered below (see also Fig. 2)

**Barrier 1.** Weak policy, institutional and legal framework for sound management of sea turtles and seagrass habitats. Sea turtles are fully protected from exploitation by national legislation in accordance with international and regional agreements. However, legislation for protection and sustainable management of seagrass is non-existent in Madagascar. A Decree related to the protection of seagrass was drafted in 2018 but has not yet been adopted. Procedures for developing a regulatory text sometimes lack consistency with the local context and realities and there are few (or no) public education and community outreach projects to accompany the process of law development. For example, the measures to protect sea turtles in fishery regulations only take into account industrial fisheries, while the "jarifa" or "rokobe" type gillnets used in the traditional fishery retain sea turtles and the net use is unregulated. However, there is the Order #29 (adopted on the January 11 2018) of the MAEP prohibiting use of beach seines in Madagascar. Dina, or local community legislation, often contradict national legislation and allow, for example, sea turtle harvest in some seasons. Malagasy domestic shrimp fleet is required to have TEDs, however, international vessels do not comply with the national legislation and compliance is rarely monitored. There is no regulations in place to decrease by-catch, including sea turtles, for long-line fishing fleet in Madagascar waters.

? Management and Conservation Plan for Sea Turtles in Madagascar (2011-2022) ? is still not adopted and implemented. The Plan does not include recommendations and obligations from CMS and Nairobi Convention regarding sea turtle conservation. The MEDD Directorate in charge of Green and Blue Economy has drafted a Blue Economy National Strategy, yet to be adopted. The GEF-5 project also drafted a National Policy and Strategy for the conservation and the protection Dugongs and Seagrass that is still not adopted and implemented.

? Neither the Marine Protected Area (MPA) managers nor the LMMA promoters have authority to apply the law and fight illegal consumption of sea turtles and seagrass bed destruction, and that greatly limits law enforcement at sea. Instead, serious infractions require managers to organize and fund field missions by a "mixed brigade", comprising members of the gendarmerie, MEDD agents, local and municipal authorities and members of the protected area management committee. The system is generally functional, but hampered by lack of financial resources and equipment. Enforcement is further hampered by poor knowledge of PA-related legislation, a lack of political will, and an ineffective judiciary that rarely enforces penalties.

? Partly in order to overcome this enforcement vacuum, protected areas legislation permits a second form of regulation "dina" i.e. Social Convention ? to be developed and applied by local community managers. Enforceable at the local level without recourse to any higher authority, dina may also be ratified by a regional court to become legally recognized by-laws, allowing recourse to the judicial system when infractions cannot be resolved. Despite the nominally community-based development of "dina", community members are reluctant to apply rules against members of their own community, as well as powerless to do so against outsiders. For dina to be effective, it needs to be accompanied by government law enforcement, local dina committee (KMD: Komity Mpampihatra ny Dina) and awareness among local community members. A local dina committee "comprising elders, reliable and notorious community representatives" - ensures the application and impartiality of the KMD at village level.

? There are a few local sea turtles and seagrass monitoring projects in Madagascar; there is no national monitoring program for sea turtles and seagrass or national Knowledge Management system for effective sea turtles and seagrass conservation.

? The Sydney Promise Steering Committee in charge of promoting MPA/LMMA integration and the Fisheries-Environment Inter-ministerial Commission (the Commission need to be re-established) are the main mechanisms identified to facilitate cooperative marine resources management planning and monitoring at the national level in Madagascar, including sea turtle and seagrass conservation. In Sofia and Diana Regions, there are regional inter-agency and inter-sectoral collaboration mechanisms that potentially can contribute to sea turtle and seagrass conservation. However, these inter-agency mechanisms are currently ineffective for sea turtle and seagrass conservation and require optimization.

**Barrier 2.** Low law enforcement capacity of government agencies and Protected Areas (PAs) to detect, investigate and prosecute sea turtle poaching and illegal trade and protect marine habitats. As it was mentioned above the MPA managers (in the case of this project areas: MNP, WCS and Blue Ventures) and LMMA currently have no authority to combat sea turtle poaching and illegal trade, and seagrass damage and destruction. Application of dina for community law enforcement is not always effective and has number of limitations. There are a few examples of dina application by local communities to confiscate poacher's equipment and fine them . At the same time, enforcement and patrol of Madagascar's fisheries resources is severely limited given the size of its coastline (approximately 5,000 km). Enforcement and patrols count only with three monitoring vessels, eight speedboats, 18 inspectors and 22 observers . This duty falls on behalf of the Centre de Surveillance des Pêches (CSP) whose mandate is to enforce regulations on fisheries and aquaculture, as well as fishing agreements. Commercial vessels are inspected by CSP at the beginning of each season to ensure their equipment complies with regulations, however throughout the fishing season, enforcement and inspections are severely restricted due to both limitations in the financial and human resources of the center. It is believed that due to lack of enforcement and monitoring, many of the shrimp boats sew up the TEDs shortly after their single annual inspection, with the possible exception of the 30% of vessels (12 out of 39-40 vessels) that carry on-board observers . Additionally, there are currently 140 other vessels in the foreign fleet in Madagascar waters of which only 10% have observers onboard .

? The Director of the Fisheries Surveillance Center (CSP) in Mahajanga reported that the agency detects about six incidents of sea turtle poaching per year in the region, and that approximately 600 kg of turtle meat are confiscated from vendors in markets in Antsaha Bingo, Sotema and near the port. The biggest constraint to enforcement of illegal turtle take is catching fishers in the act of fishing turtles to ensure they can be prosecuted. In 2016 CSP Mahajanga intercepted a shipment of dried turtle meat being sent from Ambanja to Antananarivo with a total weight of 300 kg. The meat was seized, however, the offenders were released . Overall, there are very few cases of successful prosecution of sea turtle poachers and traders in Madagascar: only one case was discovered in 2015-2020 when an offender was sentenced to 5 years in prison for poaching and illegal trade of sea turtles. Often law enforcement officers justify release of offenders saying that they "are very poor and have nothing to eat".

? It has been thoroughly documented that widespread corruption within Madagascar facilitates wildlife crime. For example, turtle meat vendors in Mahavatse, Toliara confirmed police and or other authorities had made site inspections but no actions towards issuing fines or stronger forms of enforcement had been issued. Complacency of officials to act on inspections and enforcing the law with regard to turtle meat vendors in Mahavatse, Toliara is likely to permit somewhere between 400-700 turtles per year to be sold as bushmeat . The widespread trade of the sea turtles is an outcome of a lax enforcement of regulations due to indifference, corruption, and cultural acceptance of the practice, including by law enforcement agents .

? The Aichi targets call for extending protected area status to 10% of marine and coastal tracts. Madagascar is lagging on this front with less than 1% of the total marine area of 1.2 million square kilometers (463,000 square miles) under its jurisdiction currently safeguarded under Malagasy law. Madagascar National Parks (MNP) ? an association governed by the Board and General Assembly -

oversees protected areas, manages an estimated 2,000 km<sup>2</sup> of marine areas, most of which are extensions of terrestrial protected areas. Despite not having large swathes of designated MPAs, Madagascar is seeing a surge in locally managed marine areas (LMMAs). These help to manage the marine resources sustainably for the benefit of communities and create conditions for threatened species to bounce back.

? However, there are concerns about long-term sustainability of LMMAs: many LMMAs are merely "paper parks" and no positive impacts are being delivered on the ground in terms of fisheries management, habitat replenishment and conservation and community engagement in monitoring and management. Local communities are at the forefront of managing their own coastal areas but sadly lack the capacity, infrastructure, and basic services to get engaged in such a task. LMMAs are rather reluctant to apply dina to prosecute offenders of conservation rules and sustainable management of marine resources, especially outsiders, and need support of government law enforcement agencies. At the same time LMMA heavily depend on NGO promoters (e.g., Blue Ventures, WWF, WCS, C3, etc.) for management and funding. The funding for LMMAs mainly comes from donors, not from sustainable management of marine resources and ecotourism.

? There is a clear evidence that LMMAs and Marine Community Rangers can be quite effective for law enforcement of poaching and illegal fishing in Madagascar. For example, in Antongil Bay in northeastern Madagascar Fisheries Surveillance Center (CSP) devolved authority to coastal communities over 50 LMMAs (with assistance of WCS). Within each LMMA, communities have rights to specify and enforce fishing regulations such as no-take zones, temporary closures, and gear restrictions. Today, the Ministry of Fisheries recognizes over 250 unarmed Community Marine Rangers spread along 200 miles of coastline as legitimate LMMA law enforcement agents. Twice a year, the Surveillance Center assists in the destruction of illegal fishing gear seized with LMMAs by local rangers. Hundreds of illegal fishing nets (primarily highly destructive beach seines) have been seized by the local communities and destroyed by government authorities. However, practice of Marine Community Rangers is very limited in Madagascar right now and need to be extended tremendously.

**Barrier 3.** Limited awareness, capacity, and incentives for coastal local communities and private sector to develop and apply sustainable livelihood and business practices inclusive for sea turtle and sea grass conservation. Local communities residing in the Madagascar coastal area greatly rely on marine resources to meet their daily needs. Traditional fishing, which employs approximately 60,000 fishers, is carried out using dugout canoes, oars and sails. Fishers harvest sea turtles, fish, sharks and rays, shrimp, octopus, sea cucumbers, and other products. The collection of nonedible marine products such as aquarium fish and corals for export is increasing. The fishing communities of Madagascar are among the country's most marginalized, with limited access to basic services and infrastructure. Population growth and competition for resources have pushed fishers to expand their catch, leading to overfishing and reduced productivity. As fisheries have diminished, some coastal Malagasy, especially women, have turned to seaweed farming with the support of non-governmental organizations. Seaweed farmers typically earn \$100 per month or less. Poor management of fisheries and coastal resources is predicted to negatively impact Madagascar's revenue, livelihoods, and levels of nutrition. Since 2006, the contribution of the fisheries sector to Madagascar's GDP has decreased from 7 percent to 2 percent.

? High levels of poverty and insufficient/inadequate incentives for participation of local communities in conservation of sea turtles and their habitats exacerbate the lack of the conservation of these. Profits, even illegal, generate more money than protection and conservation actions. Without incentives for communities and a sustainable mechanism to cover local management costs, MPAs/LMMAs face underfunding and continued dependence on external and donor funds. Additionally, current level of community involvement in conservation and monitoring of sea turtles and seagrass is very limited.

? Despite obvious success of some LMMAs and Community-Based Marine Resource Management model (e.g., Velondriake LMMA, Soarikae LMMA/MPA), successful community-based conservation

models are still rare and often not sustainable. If the poverty persists in coastal communities and economic alternatives to traditional exploitation of sea resources remains limited, fishermen are likely to continue exploit sea resources unsustainably. So, viable economic alternatives are needed for sustainability of coastal communities (e.g., ecotourism, souvenir production, gardening, poultry, etc.). Women can play especially important role in establishing economic alternatives in local coastal communities.

? Constant population growth in coastal communities leads to increasing number of fishermen competing for limited marine resources, including sea turtles. The situation gets worse due to migrant flows to the coast, including Madagascar North: the migrants compete with local fishermen for marine resources. Additionally closure of coastal hotels and associated loss of jobs for local people in Madagascar North-West due to COVID-19 pandemic exacerbates the pressure on marine resources. Given lack of educational infrastructure and good educational programs, local people from coastal communities cannot migrate to large cities and find better living there. Improved education can facilitate population outflow to large urban centers and decrease pressure on marine resources.

? Involvement of private sector (commercial fishing, tourism, aquaculture, oil and gas) in conservation of sea turtles, seagrass and other marine resources in Madagascar is almost non-existent, except some cases in Ankazoberavina Island (Ankivonjy MPA), Tsarabanjina Resort (Ankarea MPA), hotel in Sahamalaza. Establishment of mutually beneficial Public-Private Partnerships (PPPs) can potentially bring significant finances for conservation and sustainable management of coastal areas on the island (e.g., partnership of Conservation International with Cerrejon Coal company in Colombia to provide funding for sea turtle conservation through corporate social and environmental program; USAID PPP project to involve private sector in sea turtle conservation in El Salvador). Incentive Payment Models for sea turtles and seagrass conservation based on PPP can be a solution for some coastal communities. Another approach that could be potentially applied for conservation of sea turtles and seagrass with involvement of private sector is the Mitigation Hierarchy (Avoidance, Minimization, Restoration, and Offset) . Madagascar is already involved in the Mitigation hierarchy, through the COMBO (Conservation Mitigation and Biodiversity Offset) project and the NOCAMO (North Mozambique Channel) project.

? Additionally, there is only one ?blue carbon? project in Madagascar ? ?Tahiry Honko? ? led by Blue Ventures that is based on mangroves conservation and restoration by local communities, but it does not include seagrass. The project currently cannot sell carbon credits due to lack of so called REDD+ decree in Madagascar (the decree is going to be adopted in 2021). Development of blue carbon projects in Madagascar (especially in the North-West) including mangroves and seagrass conservation and restoration by local communities is a huge opportunity to generate incentives and income for local communities based on conservation and sustainable use of natural resources, however, this opportunity has not been realized in the country yet.

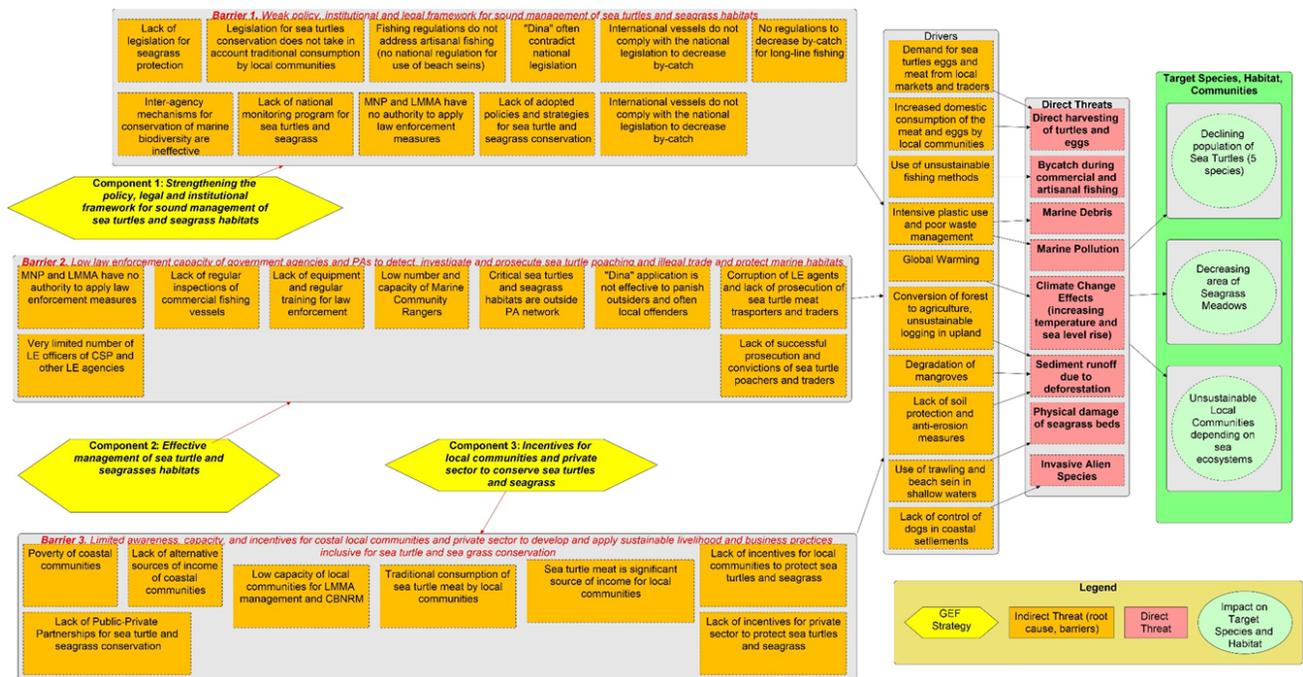


Figure 2. Direct threats to sea turtle and seagrass in Madagascar and the project area; root causes leading to the threats; barriers for sustainable solution; and suggested UNEP/GEF strategies to address the challenges.

## 2) the baseline scenario and any associated baseline initiatives:

Addressing the key threats and barriers is complex and requires inputs from multiple sectors ? government, local communities, NGOs, and private sector. Thus, Madagascar is a signatory to international conventions that directly related to conservation of sea turtles and their habitat, including seagrass ecosystems. *The Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) lists all species of marine turtles on Appendix I and the *Convention on the Conservation of Migratory Species of Wild Animals* (CMS) lists all species found in Madagascar waters on Appendix I and II. These listings oblige Madagascar to: (1) ban international trade in the species and (2) to ban taking of the wild animals for any commercial purposes and reduce threats to the survival of these species, seeking to strengthen international cooperation on protecting them. CITES has been enacted into national legislation through Law 2005-018 on 17th October 2005 and Decree 2006-097 on 31st January 2006 that details the rules for the implementation of Law 2005-018[1]<sup>1</sup> (see below).

For the purpose of enhancing international cooperation, amongst others, the *CMS Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (IOSEA Marine Turtles MoU) was also signed by Madagascar in April 2003. The conservation and Management Plan of the MoU calls upon the Signatories to prohibit the direct harvest (capture or killing) of, and domestic trade in, marine turtles, their eggs, parts or products, whilst allowing exceptions for traditional harvest by communities within each jurisdiction provided that such harvest does not undermine efforts to protect, conserve and recover marine turtle populations and their habitats; and the marine turtle populations in question are able to sustain the harvest[2]<sup>2</sup>.

Since 1998 Madagascar is a signatory of the *Nairobi Convention for the Development, Protection and Management of the Marine and Coastal Environment of the Western Indian Ocean* (Nairobi Convention), that includes programs that strengthen the capacity of member countries to protect, manage and develop coastal and marine environments sustainability. The Convention lists olive ridley, loggerhead and leatherback turtles in Annex II (species of wild fauna requiring special protection); green and hawksbill turtles in Annex III (harvestable species of wild fauna requiring protection); and all five in Annex IV (protected migratory species). However, the Convention's *Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities* has yet to be ratified by Madagascar.[3]<sup>3</sup>

There is relevant legislation in Madagascar to protect sea turtles and their habitat. Thus, *Ordinance no. 93-022 on 4th May 1993* sets out regulations for fishing and aquaculture and prohibits killing, injuring and catching of any endangered species, including all 5 sea turtle species. *Decree no. 94-112 on 18th February 1994* determines the quantity of each species allowed within fishing licenses including restrictions on permissible bycatch that need to be registered, including sea turtles. *Decree no. 2003-1101 on 25th November 2003* requires to have Turtle Excluder Devices (TED) by all shrimp trawlers in Madagascar coastal waters. *Law no. 2005-018 on 17th October 2005* prohibits trade activities for endangered species, including possession, buying, offer to buy, acquisition for commercial use for profit, exposure to public for commercial purposes, sale, detaining for sale, offering for sale or transporting for sale. The law impose six months to ten years imprisonment and a fine of 10 million to 200 million Ariary (the amount of the fine and the size of the penalty is doubled if the species are on CITES Appendix I). *Decree no. 2006-400 on 13th June 2006* clearly states that it is prohibited to hunt, catch or possess a species under category I (all five species of marine turtle found in the Indian Ocean/Madagascar fall under category I ?protected species? which are based on CITES lists). *Order no. 12.666/2014 on 28th March 2014* obligates boat captains take on board, where possible and as soon

---

as possible, any caught/inanimate/inactive turtle during the fishing operation, and do everything possible to release it alive. Additionally, the law requires that boats must have onboard hook-cutters to facilitate quick handling and release of any marine turtles hooked or entangled. This should be done in compliance with the handling guidelines in the identification sheet of marine turtles. Boat captains must record in the fishing logbook all incidents involving marine turtles during fishing operations. This information should include the species, location of capture, conditions, actions taken on board and the place of release. New *Madagascar Fishery and Aquaculture Code* (adopted in 2015) prohibits at any time, any place, fishing, taking, detention and sale of all kinds of protected species including marine turtles. *Decree no. 2010-137 on 23rd March 2010* order that each actor needs to avoid causing irreparable damage to the natural resources and risk to themselves and for future generations. In accordance to the law actors and local authorities must commit to rationally and sustainably manage coastal and marine resources, including seagrass[4]<sup>4</sup>. A specific Decree related to the protection of Seagrass was drafted in 2018 but has not yet been adopted. However, in 2018 a national regulation (*Order #290-2018*) prohibiting use of beach seines in Madagascar that destroy seagrass beds was adopted.

There are several government policies and strategies for conservation and sustainable management of sea turtles, seagrass, and other marine resources in Madagascar. However, almost all of them need to be updated or officially adopted by the Government. *Management and Conservation Plan for Sea Turtles in Madagascar ?* a complex document guiding conservation of sea turtles at national level ? was developed in 2011 and needs to be revised. The *Blue Economy National Strategy* was developed but not yet adopted. *National Policy and Strategy for Conservation and Protection of Dugongs and Seagrass* has been drafted under support of the UNEP/GEF-5 project and needs to be adopted and implemented.

Madagascar has also *dina*, a community law generally communicated through oral tradition but is also written down in some cases. Government can transfer authority to communities for management of natural resources (for example forests, lakes and pastures). Under this transfer, local communities can set up *dina* to regulate and govern the use of natural resources. Although used extensively for terrestrial and mangrove management (as mangroves are considered to be part of forests), it has been only recently applied to the marine environment to ensure the management transfer of marine resources. The content of the *dina* cannot contradict national legislation, only enhance it or validate local customs. Several *dina* exist that mention protection of marine turtles, some of which act as a means to communicate national law, whilst others appear to contravene it (e.g., allow catch of sea turtles with small size or set ?closed? seasons for turtle harvesting). Due to the high cultural value of the turtle fishery in Madagascar, the success of the application of these *dina* has had mixed results. Whilst some may have increased awareness of national legislation, the likelihood of community enforcement of *dina* articles related to turtles is likely to be extremely low[5]<sup>5</sup>. Despite that, there are a number of examples of *dina* application by local communities to confiscate poacher?s equipment and fine them[6]<sup>6</sup>.

Legal structures are in place to protect marine turtles in Madagascar, and while there are legislative instruments that govern the fisheries sectors, these are largely ineffective at managing the small scale fishery sector that is the norm along much of Madagascar?s coastal regions. Coupled with this, a lack of resources, funds and staff means that enforcement is severely lacking, and illegal collection, sale and consumption of marine turtles is rampant[7]<sup>7</sup>. MPA managers and LMMA currently have no authority

---

to fight sea turtle poaching and illegal trade, and seagrass damage and destruction. This duty falls on behalf of the *Centre de Surveillance des Pêches* (CSP) whose mandate is to enforce regulations on fisheries and aquaculture, as well as fishing agreements. Very limited number of CSP officers is supported by 250-300 unarmed Community Marine Rangers. Additionally in accordance with the Decree n° 84-056 of February 8, 1984 (modified by the Decree n° 2002-058 of January 29, 2002), Inter-Agency Law Enforcement Brigade (*Organisme Mixte de Conception*, OMC) operates at national and local levels. The brigades consist from officers of regional administration, prosecutors, Police, Gendarmerie, and Army. So, in case of wildlife and other crimes MPA managers and LMMAs alert OMCs and they implement law enforcement operations.

Now there are 178 Marine Protected Areas (MPAs), mainly small Locally Managed Marine Areas (LMMAs) and three Marine Managed Areas in Madagascar<sup>[8]</sup>. Madagascar National Parks (MNP) manages an estimated 2,000 km<sup>2</sup> of MPAs, most of which are extensions of terrestrial protected areas. Proposals to increase management efforts and plans for an extensive network of MPAs have been developed but implementation has varied in success. MPA management can be best described as a collection of multiple resource-use restrictions and its implementation relies strongly on outside support<sup>[9]</sup>. Currently, MPAs cover less than 1% of the total marine area of 1.2 million square kilometers of Madagascar coastal waters. In November 2014, during the World Parks Congress in Sydney, His Excellency the President of the Republic of Madagascar Hery Rajaonarimampianina announced an ambitious commitment to triple Madagascar's marine protected areas in the next ten years. This presidential engagement forms part of the commitments made by many other countries and stakeholders under the banner of the 'Promise of Sydney'<sup>[10]</sup>. LMMAs are extremely critical for achieving the goal of the Sydney Promise in Madagascar.

Management of marine resources through LMMAs in Madagascar can be implemented through three very distinct legal models: (1) the management of resources through the use of the local convention - *dina*; (2) obtaining status of the New Protected Area (IUCN categories V or VI) as a part of Protected Areas System of Madagascar; or (3) through natural resource management transfers to local communities in the form of contracts such as *Gestion Locale Sécurisée* (GELOSE). Currently three are 178 LMMAs in Madagascar coastal waters, covering about 17,000 km<sup>2</sup>: 64% of them are managed through *dina*, 24% - through GELOSE, and 12% have status of NPAs. 25 NGO partners are involved in the LMMA co-management<sup>[11]</sup>.

MPAs benefit from support from the Madagascar Biodiversity Fund (*Fondation pour les Aires Protégées et la Biodiversité de Madagascar*, or FAPBM). FAPBM was created through an initiative of the Malagasy government, with initial support from Conservation International and WWF. It currently funds more than 40 protected areas with a capital of \$75 million. This support reinforces the funding, mostly international, that their promoters had access to during their implementation and temporary protection between 2006 and 2015. NPA promoters are NGOs that are currently delegated as managers

---

of particular NPAs. The capital of FAPBM is placed on the financial market, from which income is generated[12]<sup>12</sup>.

Since 2003, the LMMA model with coastal communities actively involved in the management of marine resources has become increasingly popular in Madagascar. Local coastal community see LMMAs as a way to protect marine resources, including sea turtles and seagrass, they depend on from commercial fishing companies and outsiders. The LMMAs are actively supported by domestic and international NGOs in Madagascar considering this model as promising approach for protection of marine biodiversity and sustainable use of sea resources. Currently LMMAs greatly depend on external funding and technical support by NGOs, however, the ultimate goal is to make LMMAs fully sustainable self-managed community entities[13]<sup>13</sup>.

### **Baseline situation in the project area and project sites**

The baseline situation in the project area and project sites reflects the national situation described above. The project area is located in the coastal zone of Diana and Sofia Regions in Madagascar North-West and encompass very diverse marine habitats including coral reefs, islands / islets beaches, vast sea-grass fields and mangroves. The area represents one of the richest fishing areas in Madagascar and is part of a migratory route for sea turtles from South Africa, Mayotte and Seychelles. The coast of north-west Madagascar is considered an important nesting and feeding ground for marine turtles, mainly green and hawksbill turtles: a study published in 2007 suggests that at least 100?500 hawksbill and 700?1,200 green turtles may nest annually along the 115 km of coastline surveyed, including Nosy Iranja, the Radama Islands, and the Nosy Hara archipelago[14]<sup>14</sup>. In addition, the north-west coastal zone is an important post-reproductive feeding ground for female green turtles coming from nesting sites from other islands of the Western Indian Ocean, Mozambique, the French Southern and Antarctic Lands (Glorieuses, Mayotte, Tromelin, Europa)[15]<sup>15</sup>. The following 6 project sites have been selected in the project area for key interventions and investments: Nosy Hara National Park, Sahamalaza National Park, Ankarea MPA, Ankivonjy MPA, and Bobaomby and Analalava areas (Fig. 1). All the project sites are used for sea turtle poaching of different intensity targeting the following markets: Antsohihy , Mandritsara , Befandriana Nord, Ambilobe, and Mahajanga.

**Nosy Hara National Park.** The marine part of Nosy Hara National Park covers 125,000 ha and has remarkable diversity of marine ecosystems, including coral reefs, seagrass meadows, and mangrove forests. Several emblematic species like marine mammals, sea turtles, sharks and marine birds inhabit the Park. All five species of Madagascar sea turtles occur in the Park (MNP 2014). Seven of the 12 islets of Nosy Hara Marine Park are nesting grounds for sea turtles. The largest single nesting site, located on Nosy Hara, is thought to support around 500 nests of *C. mydas* (Humber et al. 2017) and around 100 *E. imbricata* nests per year (Metcalf et al. 2007)[16]<sup>16</sup>.

**Sahamalaza National Park.** The marine part of the park covers 26,035 ha and has high diversity of ecosystems, including extensive coral reefs (~12,500 ha), largest mangroves (~10,000 ha), islets/islands, and extensive seagrass habitat (6,456 ha) (MNP 2016). Three species of sea turtles

---

(green, hawksbill and olive riddle turtle) inhabit the park and nest on Nosy Valiha, Nosy Kalakajoro, Nosy Faly islands (area of the Shalamaza Biosphere Reserve). Over 210 species of corals and marine invertebrates can be found in the park with 168 species of fish (Goodman & Benstead, 2003; Obura et al, 2011; WCS, 2002)[17]<sup>17</sup>. The human population of the area consists from two groups: permanent populations of mainly *Sakalava* ethnic origin, who form the majority of the people living on the islands of Nosy Berafia, Nosy Valiha and Nosy Kalakajouro, and the migrant fishermen of mixed ethnicity who primarily base themselves on Nosy Faly (Metcalf et al, 2000)[18]<sup>18</sup>. Impact on marine resources differs significantly between the permanent and migrant populations. The permanent populations have a minimal impact due to fishing being carried out secondarily to agriculture, use of traditional fishing techniques and fish and octopus catches primarily being used for sustenance rather than commercial exploitation (Metcalf et al, 2000). The migrant populations have been shown to use resources in the least sustainable way (Metcalf et al, 2000). Overfishing of sea cucumbers and hunting of sea turtles are one of the key threats for the National Park. There are Chinese traders in the area who collect sea turtle meat and transport it to Mahajanga (the meat is sold between 100,000 Ar and 200,000 Ar). In 2021 3 poachers-fishermen were caught at sea by the CSP with a turtle captured in Nosy Faly: despite the poachers were brought to the court they were finally released. Additionally, several thousand of adult mangrove trees are cut each year due to an increase in charcoal production, wood collection, encroachment of rice cultivation and fishing villagers forming within the mangrove forests[19]<sup>19</sup>. In Sahamalaza marine biodiversity is partially protected by the Protected Area Orientation and Support Committee (COSAP). COSAP has about 300 members that patrol a part of the park in cooperation with CSP and supported by MNP. The Park also has an OMC with 7 officer patrolling area of Nosy Faly, Nosy Valiha, Masiaposa, Anrafiabe, Barangoma. However, many areas of the park do not have any patrolling and protection.

**Ankarea MPA.** This is an IUCN Category V Protected Area covering 137,690 ha and established in 2015. The MPA is managed by Ankarea Association and WCS. The area is inhabited by 4 sea turtle species and encompasses important nesting sites for sea turtles: the islet of Tsarabanjina, the village of Ankarana and Andatsatsa on the Grand Mitsio. Five seagrass species inhabit the MPA: *Halodule uninervis*, *Halophila ovalis*, *Cymodocea rotundata*, *Syringodium isoetifolium* and *Thalassodendron ciliatum*. The MPA also includes rich coral reef, habitats of whale sharks (Jonahson and Harding, 2007) and healthy and abundant populations of small coastal cetaceans (Cerchio et al. 2009)[20]<sup>20</sup> and sharks and rays. The population of Nosy Mitsio amounts to 1,600 inhabitants living in more than twenty-five small settlements (82% of population belong to *Antakarana* ethnic group). Fishing is traditional livelihood activity in the area, and agriculture (mainly rice cultivation) and tourism are secondary activities. The use of destructive fishing practices is one of the key threats for seagrass beds in the MPA. Sea turtles are practically safe in the area due to lack of poaching and cultural taboos (local prohibition to eat sea turtle meat)[21]<sup>21</sup>.

**Ankivonjy MPA.** This is an IUCN Category V Protected Area covering 139,409 ha and established in 2015. The MPA is managed by the Ankivonjy Association and WCS. The MPA includes islets and islands namely Nosy Iranja, Nosy Ankazoberavina, Nosy Ankivonjy, Nosimborona and Nosy Ankisomany. Ankivonjy is distinguished by its rich biodiversity including 5 species of sea turtles and 9 of 12 species of seagrass. The MPA is a breeding site for the green turtle and the hawksbill turtle and has five nesting sites: Nosy Iranja Be, Nosy Iranja Kely, Solony and Angodroga near Marotogny, and Ankazoberavina. The area also has coral reefs and mangrove forest. Ankivonjy has 6 villages with total

---

population of 3,700 people (mainly *Sakalava*) making living through fishing, agriculture (rice cultivation), and tourism (souvenir production and groceries). Due to protection regime in Ankivonjy the sea turtle population there remains stable: all five nesting sites remain intact and host both species - green turtle and hawksbill turtle - from November to March. Mangroves deforestation rate is relatively low in the area ? 2.2 ha/year in average (2012-2015). Poaching for sea turtles still occurs at the boundaries of Ankivonjy MPA[22]<sup>22</sup>, in the Southern part ? between Ankivonjy MPA and Sahamalaza National Park.

**Bobaomby area.** Bobaomby is the area (~60,000 ha) on the most northern tip of Madagascar adjacent to the Nosy Hara Marine Park. The area is inhabited by 5 sea turtle species and has five key nesting sites: Ankatafa/Cap d'Ambre, Ankarafabe, Ampombofofo, Lavaloha, and Antaly. Bobaomby area has seagrass fields and coral reefs as feeding habitats for the sea turtles and a significant area of mangroves. Bobaomby has 30 villages in 9 *fokontany*: Andranovondronina, Izeigny, Bedarabe, Anjiabe, Morafeno, Andohazompona, Antsiskala, Vohilava and Baie de Courier with total 6,546 people, including 1,000 women (Rural Commune of Andranovondroniny/Bobaomby data). Bobaomby is a very popular tourist destination with a lot of natural attractions like bays, beaches, and coral reefs. The key threat for the area's biodiversity is a local poaching for nesting turtles. There are plans to establish a LMMA in Bobaomby with total area of ~36,000 ha.

**Analalava area.** Analalava has 4 sea turtle nesting sites: Nosy Faho, Nosy Lagna, Ampasindavakely, and Ampasimbe. Similar to Sahamalaza National Park the area has high diversity of ecosystems, including extensive coral reefs, mangroves, islets/islands, and seagrass beds. Local poaching of nesting female turtles on the islets of Analalava to supply the turtle meat to the Antsohihy market is one of the key threats for the sea turtles in the area. Some poachers use nets and motorized boats and come in the area from Mahajanga (a city south of Analalava). Thus, in May 2013 police discovered 70 green turtles kept in small pen in the village of Belalanda; during the same period 20 sea turtles were released by police in the village of Amboloboza. Key poacher camps are located on Nosy Lava island. Another threat in Analalava is use of beach seining that is destructive for seagrass meadows. The area has 13 rural communes inhabited by 9,484 people, including 1,214 women (Data DRS Antsohihy). In Analalava marine resources are managed by the *Komity Mpanantanteraka ny Dina* (KMD), a local enforcement committee. The association of fishermen of Analalava received an initial LMMA training from MIHARI Network and proposed establishment of a LMMA on the area of 173,300 ha. MEDD has been planning an MPA in the area, but had no resources to establish it.

#### **Key baseline initiatives in the project area and entire Madagascar**

There is a number of ongoing and planned projects and programs in Madagascar that form a baseline for this GEF project. These programs and projects address issues similar to the GEF project, namely sea turtle/seagrass conservation, sustainable use of marine resources, effective management of MPAs, and sustainable livelihood of local coastal communities. However, there are remaining thematic gaps that can be effectively covered by this GEF project in collaboration and coordination with ongoing initiatives (see Table below).

---

**Baseline initiatives targeting sea turtles and seagrass conservation, and coastal local communities in the project area and entire Madagascar and remaining gaps that can be covered by the GEF 7 project; and key project partnerships and linkages with other projects**

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
GEF Financed Projects			

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>UNEP/GEF project ?Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean from land-based sources and activities (WIO-SAP)?, US\$ 10,867,000, 2016-2021</p>	<p>The project addresses land-based activities and sources of degradation of the coastal and marine ecosystems, including physical alteration and destruction of habitats; water and sediment quality deterioration due to pollution; and the alteration of river freshwater flows and sediment loads.</p> <p><b>Component A:</b> Sustainable management of critical habitats focuses on the protection, restoration and management of critical coastal habitats and ecosystems recognizing the enormous value of healthy critical coastal and marine habitats for the future well-being of people in the WIO region;</p> <p><b>Component B:</b> Improved water quality focuses on the need for the WIO Region?s water quality to attain international standards by the year 2035;</p> <p><b>Component C:</b> Sustainable management of river flows aims at promoting wise management of river basins in the region through implementation of a suite of activities aimed at building the capacity for environmental flows assessment and application in river basins of the region;</p> <p><b>Component D:</b> Governance and regional collaboration focuses on strengthening</p>	<p>? The project does not directly target conservation of sea turtles and seagrass;</p> <p>? No project activities in the GEF project area</p>	<p>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities (project Outputs 1.1-1.3)</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>UNDP/GEF ?The Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonisation and Institutional Reforms? (WIO LME SAPPHERE), US\$ 8,766,500, 2017-2023</p>	<p><b>Objective:</b> To achieve effective long-term ecosystem management in the Western Indian Ocean LMEs in line with the Strategic Action Programme as endorsed by the participating countries.</p> <p><b>Component 1:</b> Supporting Policy Harmonization and Management Reforms towards improved ocean governance;</p> <p><b>Component 2:</b> Stress Reduction through Community Engagement and Empowerment in Sustainable Resources Management;</p> <p><b>Component 3:</b> Stress Reduction through Private Sector/Industry Commitment to transformations in their operations and management practices;</p> <p><b>Component 4:</b> Delivering best practices and lessons through innovative ocean governance demonstration;</p> <p><b>Component 5:</b> Capacity Development to Realize improved ocean governance in the WIO region.</p> <p>Madagascar is one of the project countries</p>	<p>? The project does not directly target conservation of sea turtles and seagrass;</p> <p>? No project activities in the GEF project area</p>	<p>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities (Outputs 1.1-1.3, 3.1-3.2)</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>WB/MAEP/GEF Project ?Second South West Indian Ocean Fisheries Governance and Shared Growth Project? (SWIOFish2), US\$ 6,422,018, 2017-2023</p>	<p><b>Objective:</b> Improving the Governance of Priority Fisheries and Promoting Involvement of Target Communities to the Management of Fisheries / Promotion of Alternative Activities</p> <p><b>Component 2:</b> Improved governance of priority fisheries (national activity);</p> <p><b>Component 3:</b> Supporting target communities for sustainable management of target fisheries/ Promoting alternative activities (local activity)</p> <p>One of the project areas is the Bay of Ambaro-Tsimipaïke-Ampasindava-Nosy Be, District Ambanja, Diana Region</p>	<p>? The project is implemented outside the GEF project sites;</p> <p>? The project does not target conservation of sea turtles and seagrass</p>	<p>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities (Outputs 1.1-1.2, 3.1);</p> <p>? Lessons learning and sharing between the projects to develop effective conservation strategies;</p> <p>? Participation of in the monitoring and evaluation of the GEF project</p>
<p>UNDP/GEF5 Project ?A Landscape Approach to conserving and managing threatened Biodiversity in Madagascar with a focus on the Atsimo Andrefana Spiny and Dry Forest Landscape?, US\$ 5,329,452, 2015-2021.</p>	<p>The project is building an Observatory for Regional Biodiversity and Ecosystems (ORBE) to perform monitoring and surveillance of Protected Areas. The proposed project will build on ORBE's approach to develop a sea turtle and seagrass observatory to be integrated in the MEDD monitoring system for sea turtles and seagrass.</p>	<p>? The project provide a model for monitoring of terrestrial ecosystems, but not marine ones</p>	<p>? Lessons learning and sharing between the projects to develop an effective Knowledge Management and data storing strategies for sea turtles and seagrass monitoring system (Output 1.3)</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>WWF/MEDD/GEF Project Expanding and Consolidating Madagascar's Marine Protected Areas Network, US\$6,284,404, 2019-2024</p>	<p><b>Objective:</b> to ensure Madagascar's marine biodiversity and productivity are effectively managed through a sustainable, resilient national network of MPAs</p> <p><b>Component 1:</b> Establishing an extended, representative and sustainable network of coastal and marine protected areas and LMMAs;</p> <p><b>Component 2:</b> Building a robust enabling environment for MPAs/LMMAs;</p> <p><b>Component 3:</b> Enhancing management effectiveness and contributions to sustainable development through MPAs and LMMAs at site level;</p> <p><b>Component 4:</b> Knowledge management, monitoring and evaluation</p>	<p>? The project does not target establishment of Bobaomby and Analalava LMMAs;</p> <p>? The project targets conservation of sea turtles and seagrass through establishment of LMMAs and MPAs, but not through capacity building for law enforcement agencies</p>	<p>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities;</p> <p>? Direct collaboration with the project to achieve expected Outcomes of the GEF project (under Outputs 1.1-1.2, 2.1-2.3);</p> <p>? Lessons learning and sharing between the projects to develop effective conservation strategies;</p> <p>? Participation of in the monitoring and evaluation of the GEF project.</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>WWF/GEF Project ?Coral Reef Rescue: Resilient Coral Reefs, Resilient Communities?, US\$ 7,000,000; 2022-2026</p>	<p><b>Objective:</b> To build capacity and solutions to ensure the long term survival of climate resilient coral reef ecosystems, thereby supporting the blue economies and communities dependent on these reefs</p> <p><b>Project Components:</b></p> <ol style="list-style-type: none"> <li>1) Global knowledge and capacity building networks for resilient coral reefs;</li> <li>2) Planning for resilient Coral Reef Rescue at the national level;</li> <li>3) Financial solutions for resilient Coral Reef Rescue; and</li> <li>4) Knowledge Management and Monitoring and Evaluation.</li> </ol>	<p>? The project does not directly target conservation of sea turtles and seagrass;</p> <p>? No project activities in the GEF project area</p>	<p>? Lessons learning and sharing between the projects to develop effective conservation strategies;</p>
<p><b>Non-Government Organizations</b></p>			

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>WCS/Blue Action Fund Project  ?Creating a network of resilient MPAs in globally significant areas of the Western Indian Ocean?, US\$ 4,687,690, 2019-2023</p>	<p><b>Objective:</b> expanding and improving a network of climate resilient, sustainable and effectively managed MPAs in the Western Indian Ocean, and ensuring their associated sustainable use zones are conserved. WCS will design and revise management plans for a total of 6,040km2 of MPAs, including 2,950 km2 of new or expanded protected areas, and provide resources, instruments, and capacities to implement the plans in Kenya, Tanzania and Madagascar. The project will enhance the community management of sustainable small-scale fisheries and work towards reducing post-harvest losses and improving marine-related supply chains. The project will thus contribute to maintaining the critical ecosystems in the region and ensuring sustainable livelihoods for coastal communities. One of the project area is the North-West Madagascar.</p>	<p>? The project does not target establishment of Bobaomby and Analalava LMMAs;  ? The project targets conservation of sea turtles and seagrass through development of management plans for MPAs, but not through capacity building for law enforcement agencies;  ? Development of sea turtle/seagrass national monitoring system is not covered by the project</p>	<p>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities;  ? Direct collaboration with the project to achieve expected Outcomes of the GEF project (Outputs 2.1-2.3, 3.1-3.2);  ? Lessons learning and sharing between the projects to develop effective conservation strategies;  ? Participation of in the monitoring and evaluation of the GEF project.</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
<p>WCS/John D and Catherine C. MacArthur Foundation ?Sustainable marine resource management in Ankarea, Ankivonjy and Soariake Marine Prtoteded Area?, US\$750,000, 2018-2021</p>	<p>This award supports marine resource management in the three largest marine protected areas on the western coast of Madagascar: Ankarea and Ankivonjy in the northwest and Soariake in the southwest. The project aims to reinforce measures to improve marine resource management, build capacity of local stakeholders, and ensure economic benefits for local communities by developing sustainable financial mechanisms that support long-term management needs.</p>	<p>? The project has same project sites as the GEF project but will be completed in June 2022 before the GEF project start</p>	<p>? Lessons learning and sharing between the projects to develop effective conservation strategies (mainly for delivery of the project Outputs 2.1-2.3, 3.1-3.2)</p>
<p>WCS MPA Fund Project ?Expending Marine Protected Area in Madagascar?, US\$ 50,000, 2017-2021</p>	<p>The project is establishing three new MPAs to cover a total surface of 18,000 km<sup>2</sup>, including the Tandavandriva new MPA in the northwest, covering 2,000 km<sup>2</sup>. Sea turtle are among conservation target of this new MPA.</p>	<p>? The project does not target selected project sites for the GEF project; and will be completed by June 2022 before GEF project start.</p>	<p>? Lessons learning and sharing between the projects to develop effective conservation strategies (for delivery of the project Outputs 2.1-2.2)</p>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
Blue Ventures Program in Velondriaka LMMA, since 2003	Monitoring seagrasses with communities and conducting social marketing campaign to reduce destructive fishing practices. The valorisation of the results can contribute to improve the knowledge of the baseline seagrass surveys and the community's perceptions on threats to seagrass habitat, and on beach seine fishing and other destructive fishing practices used in seagrass areas.	? The project is implemented outside the GEF project area	? Lessons learning and sharing between the projects to develop effective conservation strategies (for delivery of the project Outputs 3.1-3.2)
Blue Ventures ?Turtle nesting monitoring? and ?Seagrass assessment? projects, ongoing	Monitoring key and icon marine species to improve related management measures, and to map marine habitats with local communities in the Melaky Region (west coast, Iles Barren)	? The project is implemented outside the GEF project area	? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities; ? Direct collaboration with the project to achieve expected Outcomes of the GEF project (Output 1.3); ? Lessons learning and sharing between the projects to develop effective conservation strategies; ? Participation of in the monitoring and evaluation of the GEF project.

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
Blue Ventures program in Ambanja (Diana Region)	Supports local communities to protect and sustainably use mangrove and seagrass. The project has carried out mangrove carbon analysis with WCS and the University of Stockholm.	? The project is implemented outside the GEF project sites	<ul style="list-style-type: none"> <li>? Consultations and joint planning to achieve synergies and complementarities between the projects, and avoid duplications and double-funding of the same activities;</li> <li>? Direct collaboration with the project to achieve expected Outcomes of the GEF project (Outputs 3.1-3.2);</li> <li>? Lessons learning and sharing between the projects to develop effective conservation strategies;</li> <li>? Participation of in the monitoring and evaluation of the GEF project.</li> </ul>
Blue Ventures Tahiry Honko Community Mangrove Project, Southwest Madagascar, 2019 - ongoing	The aim of this project is to establish a sustainable, long-term mangrove payment for ecosystem services (PES) scheme which will reduce deforestation and degradation and restore mangroves in the Bay of Assassins, southwest Madagascar. This project aims to provide a new source of long-term income for the residents of the Bay of Assassins through the sale of Plan Vivo certificates. Carbon credits generated by conserving and restoring mangrove ecosystems will make an important contribution to poverty alleviation and biodiversity conservation in the area.	? The project is implemented outside the GEF project area	<ul style="list-style-type: none"> <li>? Direct collaboration with the project to achieve expected Outcomes of the GEF project (Output 3.1);</li> <li>? Lessons learning and sharing between the projects to develop effective conservation strategies;</li> </ul>

Name of programme/project, years of implementation	Programme/project objectives and targets	Thematic/Geographic Gaps that will be covered by the GEF7 Sea Turtles/Seagrass Project	How the UNEP/GEF project will collaborate with the programme/project
C3/EU Project "Sustainable management of small-scale coastal fisheries in Northern Madagascar", 2020-2024, US\$ 750,000	The project is implemented in Diana Region (Nosy Hara, Baie de Rigny and Est d'Antsiranana) Project in progress, financed by the European Union for \$USD 750,000. The project objectives are: ? to identify the level of exploitation of fish product stocks within each intervention site; ? to put in place effective management measures to facilitate their implementation in each intervention site.	? The project does not target conservation of sea turtles and seagrass	? Direct collaboration with the project to achieve expected Outcomes of the GEF project (Outputs 2.1-2.3, 3.1-3.2); ? Lessons learning and sharing between the projects to develop effective conservation strategies;

**3) the proposed alternative scenario with a description of outcomes and components of the project:**

The Project Objective is *to adopt integrated approaches for inclusive conservation of sea turtles and seagrasses and the sustainable management of their habitats in North-West Madagascar*. The Objective will be achieved through implementation of three project strategies (components):

- **Component 1:** *Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats;*
- **Component 2:** *Effective management of sea turtle and seagrasses habitats;*
- **Component 3:** *Incentives for local communities and private sector to conserve sea turtles and seagrass.*
- **Component 4.** *Knowledge Management, Gender Empowerment, and Monitoring&Evaluation.*

*Monitoring & Evaluation (M&E) and Knowledge Management (KM)* will be integrated across project Components to ensure effective lesson learning and participatory M&E approach. Lessons learned from the project will be used to improve implementation of the Components 1-3 via adaptive management and also be shared with other national and international projects, including the GEF funded Global Wildlife Programme (GWP), using South-South Cooperation and other relevant approaches. The project will establish an effective Grievance Redress Mechanism (GRM) to inform and guide project implementation in a socially acceptable and beneficial way for local communities. The M&E and KM approach will contribute to removal of all three barriers indicated in the Development Challenge section via increasing of the effectiveness of the project strategies through learning and adaptive management, and dissemination of successful practices in Madagascar for further implications.

All three Components are designed as interconnected strategies to target key threats for sea turtles and seagrass, mangroves, coral reefs, and communities in the project areas. The suggested strategies have significant flexibility to deliver the project Outputs effectively including under conditions related to the COVID-19 pandemic.

**The project area** is located in the coastal zone of Diana and Sofia Regions in the Madagascar North-West and encompass very diverse marine habitats including coral reefs, islands/islets, beaches, vast sea-grass fields and mangroves. The area represents one of the richest fishing areas in Madagascar and is part of a migratory route for sea turtles from South Africa, Mayotte and Seychelles. The coast of north-west Madagascar is considered an important nesting and feeding ground for marine turtles, mainly green and hawksbill turtles: a study published in 2007 suggests that at least 100?500 hawksbill and 700?1,200 green turtles may nest annually along the 115 km of coastline surveyed, including Nosy Iranja, the Radama Islands, and the Nosy Hara archipelago[23]<sup>23</sup>. In addition, the north-west coastal zone is an important post-reproductive feeding ground for female green turtles coming from nesting sites from other islands of the Western Indian Ocean, Mozambique, the French Southern and Antarctic Lands (Glorieuses, Mayotte, Tromelin, Europa)[24]<sup>24</sup>. The following 6 project sites have been selected in the project area for key interventions and investments: Nosy Hara National Park, Sahamalaza National Park, Ankarea MPA, Ankivonjy MPA, and Bobaomby and Analalava areas. All the project sites are used for sea turtle poaching of different intensity targeting the following markets: Antsohihy , Mandritsara , Befandriana Nord, Ambilobe, and Mahajanga.

The project is designed to achieve following **Long-Term Impacts** (Global Environmental Benefits):

**Stable or increasing nesting populations of the green turtle and hawksbill turtle in the project sites:**

- **Green Turtle:** Nosy Hara NP - 656 nests; Ankarea MPA ? 30; Ankivonjy MPA= 79; Sahamalaza NP - 80; Analalava ? baseline to be established on the Year 1; Bobaomby ? baseline to be established on the Year 1[25]<sup>25</sup>; population is at least stable by the end of the project (>= baseline);

- **Hawksbill Turtle:** Nosy Hara NP - 43 nests; Ankarea MPA ? 30; Ankivonjy MPA - 79; Sahamalaza NP - 48[26]<sup>26</sup>; Analalava ? baseline to be established on the Year 1; Bobaomby ? baseline to be established on the Year 1; population is at least stable by the end of the project (>= baseline)

**Stable area of seagrass fields in the project sites:**

- **Total area of seagrass cover:** baseline to be established in the first year of the project; no decline from the baseline by the end of the project, ha;

The Long-Term impacts will be achieved via attainment of the **Mid-Term Impact** (direct threat reduction):

**Decreased poaching for sea turtles:**

- Annual number of discovered sea turtle poaching cases in the project sites: baseline - 26 (2020); 50% decrease by the end of the project;

---

To ensure the Mid-Term Impact the project will achieve the following **Outcomes**:

**Outcome 1:** The effective policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats are implemented

- Total number of policies/strategies/frameworks for conservation of sea turtles and seagrass developed by the project and endorsed/implemented by the Government of Madagascar: baseline ? 0;  $\geq 4$  by the end of the project[27]<sup>27</sup>;
- Total number of inter-agency and intersectoral mechanisms for conservation of sea turtles and seagrass developed and functional at national and provincial levels: baseline ? 0;  $\geq 1$  by the end of the project

**Outcome 2:** Improved management of marine turtle and seagrass habitats in the project sites

- Total area of established and operationalized LMMAs/MPAs[28]<sup>28</sup>, ha: baseline ? 0; by the end of the project - 209,000 ha[29]<sup>29</sup>;
- METT score for 4 target PAs:
  - ? Nosy Hara NP: baseline ? 79; by the end of the project -  $\geq 95$ ;
  - ? Sahamalaza NP: baseline ? 73; by the end of the project -  $\geq 92$ ;
  - ? Ankarea MPA: baseline ? 70; by the end of the project -  $\geq 90$ ;
  - ? Ankivonjy MPA: baseline ? 71; by the end of the project -  $\geq 90$ .
- Averaged capacity of CSP, OMCs, MEDD investigators, Police, Gendarmerie, and Judiciary in Sofia and Diana Regions to investigate and prosecute crime against sea turtles and other marine species (Capacity Assessment Scorecard for Law Enforcement Agencies)[30]<sup>30</sup>: baseline - 36%; by the end of the project - 60%;
- 

**Outcome 3:** Local communities and private sector adopt sustainable livelihood and business practices that address sea turtle and seagrass conservation

- Total area of community-based Blue Carbon project for conservation of mangroves and seagrass, ha: baseline ? 0; by the end of the project -  $\geq 1,000$ [31]<sup>31</sup>;

---

- Total number of people producing food and income from CBNRM and alternative livelihood options provided by the project: baseline ? 0; >=3,000 (30% are females)[32]<sup>32</sup> by the end of the project;
- Total number of private sector entities that introduced sea turtle and seagrass conservation in their business practices as a result of the project: baseline ? 0; >= 5 by the end of the project[33]<sup>33</sup>.

The project Outcomes will be achieved through delivery of specific project Outputs (project?s products and services):

**Outcome 1:** The effective policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats are implemented

**Output 1.1:** Policy/Strategy/Legal documents for conservation of sea turtles and seagrass are drafted/amended, endorsed by the Madagascar Government

Based on existing gaps in conservation of sea turtles and seagrass in Madagascar, the project will develop and update the following policy, strategic and legislation documents (5-6 legal documents[34]<sup>34</sup>):

? **National Sea Turtle Conservation Plan 2022-2032.** The Plan will be developed based on review of results of the previous National Sea Turtle Conservation Plan produced in 2011. So, the new plan will be drafted to guide conservation priorities for sea turtles in the next decade with key focus on protection of sea turtle nesting sites, fighting illegal trade in sea turtle meat and eggs, and adaptation measures to the negative effects of climate change on sea turtle populations and habitat. The Plan will include assessment of required funds and other resources for conservation of sea turtles in Madagascar. The Plan will be officially adopted by MEDD for implementation. As soon as the Plan is approved, it will serve as key strategic document for the target and other NPs and MPAs on protection of key sea turtle and seagrass habitat (Outputs 2.1-2.3 and 3.1 -3.2);

? **The Nationally Determined Contributions (NDC).** The NDC-Madagascar will be updated to include seagrass potential to absorb and store carbon that exceeds that of forest ecosystems[35]<sup>35</sup>. To update the NDC with the seagrass contribution the project under Output 1.3 will map seagrass distribution in the coastal waters of Madagascar and calculate estimates of carbon stocks stored in the seagrass beds. The updated NDC will be officially approved by MEDD. Updated NDC will serve as legal basis for development of Blue Carbon projects inclusive of seagrass in Madagascar (including a Blue Carbon project under Output 3.1);

---

? **A decree to allow selling of seagrass carbon credits in Madagascar.** This legal document will be complementary to the proposed REDD Decree in Madagascar that is going to be adopted at the end of 2021[36]<sup>36</sup>. The seagrass decree will provide necessary basis for Blue Carbon projects based on seagrass conservation by local communities in Madagascar coastal waters (including the project under Output 3.1). Currently there is only one Blue Carbon project in Madagascar (the Blue Ventures? Tahiry Honko Community Mangrove Project), but it is based on mangroves and does not include seagrass. The seagrass decree after its development will be submitted for approval of the National Assembly;

? **Legal guide on development of *dina* for sea turtle/seagrass conservation:** *Dina* (local law) is an effective tool for sea turtle, seagrass and other endangered marine species and ecosystem conservation applied by local communities in Madagascar, including fast growing network of LMMA. However, many *dina* are not in line with national legislation and sometimes even contradict national laws. Thus, to cover this gap the project will produce a legal guide for LMMA and promoters on development of *dina* for conservation of marine biological resources (including sea turtles and seagrass) in line with national legislation, a step by step instruction on development *dina* by local communities, process of *dina* approval by local courts, and enforcement of *dina* by community members (e.g. Marine Community Rangers) in cooperation with law enforcement agencies. The guide will be published and distributed among LMMAs, MPAs, and marine NPs across Madagascar, but mainly in Sofia and Diana Region. The legal guide will also directly contribute to delivery of Output 2.1-2.2 in the project sites;

? **Legal guide on investigation and prosecution of sea turtle poaching and trade, and other crimes against marine biological resources:** Law enforcement agencies in Madagascar have very low capacity to investigate and prosecute crimes against sea turtles and other endangered marine species. To partially cover this gap the project will produce a special guide for law enforcement agencies and judiciary on investigation and prosecution of that kind of crimes. To develop such a legal guide in Madagascar, examples of recommendations for wildlife crime investigation and prosecution in Uganda can be used as an example: *Wildlife Offences in Uganda: ?Points to Prove? ? a Guide for Prosecutors and Investigators including Sample Charges and Standard Operating Procedures* <https://spaceforgiants.org/wp-content/uploads/2018/10/Final-2018-RRG-Uganda.pdf>. The guide will be officially approved by the Ministry of Justice, published and distributed among law enforcement agencies across Madagascar, but mainly in Sofia and Diana Region (DREDD, PSC, OMCs, Police, Gendarmerie, and Judiciary). The guide will directly contribute to delivery of Output 2.3 as an additional legal resource for law enforcement officers in the project sites and other areas of Madagascar;

? **A law governing marine protected resources, with a special focus on sea turtles and seagrass beds.** The law will define clear penalties for crimes against sea turtles and seagrass in

---

Madagascar that will be mandatory for implementation by all judiciary. Thus, this law will contribute to delivery of the Output 2.3.

All the documents above will be developed under the MEDD leadership with the project technical support in a fully open and participatory process with involvement of all interested stakeholders.

**Project Partners for Output 1.1:** DREDD, MNP, MPEB, MESupReS, Ministry of Justice, PSC, Integrated Coastal Zone Management (ICZM) Inter-Ministerial Committee, WWF, WCS, C3, Blue Ventures, MAD.

**Budget for Output 1.1:** US\$ 200,000

**Output 1.2.** Fisheries-Environment Inter-Ministerial Commission and Regional Environmental Units (*Cellule R?gionale Environnementale*) are established and functional to coordinate national and regional efforts for marine resources conservation and sustainable management, including sea turtles and seagrass

The Fisheries-Environment Inter-Ministerial Commission (FEIMC) was created by the Madagascar Government decree of January 14, 2005, and was co-chaired by the Minister of the Environment, Water and Forests, and the Minister of Agriculture, Livestock and Fisheries and brought together all stakeholders working fisheries and marine resources from the public and private sectors, NGOs and associations. The main objective of the Commission was to ensure better synergy and complementarity between the Fisheries sector and the Environment sector for the management of fishery resources and marine and coastal ecosystems (e.g., identification of marine conservation sites, development of the guide on the procedures for the creation of Marine Protected Areas, support to MPA and LMMA establishment). The Commission played important role in conservation and sustainable use of marine species and ecosystems, including sea turtles and seagrass, **as a national platform for inter-sectoral collaboration on marine resource policies**. However, the Commission was liquidated due to political reasons. FEIMC needs to be re-established as the key national inter-agency platform for coordination of sustainable use of marine resources in Madagascar, including sea turtles and seagrass.

National Committee for Integrated Coastal Zone Management (NC-ICZM) and its members - Regional Committees for Integrated Coastal Zone Management (RC-ICZM) - is an inter-ministerial committee headed by the Prime Minister's Office (Decree No. 2010-137 of 23 March 2010 regulating the integrated management of Madagascar's coastal and marine areas). The main mission of the NC-ICZM and RC-ICZM is to promote the integrated and sustainable management of coastal zones through multi-stakeholder participation approach. Part of the RC-ICZM - the Regional Environment Committees (*Cellules Environnementales R?gionales*) ? that are responsible for conservation and management of marine resources, including sea turtles and seagrass, are still need to be established and operationalized in Sofia and Diana Regions. So, ICZM operates mainly **on the regional level through inter-agency collaboration providing direct technical support to regional administrations on sustainable development of coastal zones**.

So, under this Output MEDD, with the project support in cooperation with MPEB, will develop Terms of Reference, List of participating agencies and organizations, draft of inter-agency agreements, draft of the Government decree to re-establish the FEIMC and establish Regional Environment Committees

in Sofia and Diana Regions; and will submit the document packages for approval to the National Assembly. This will be followed by an inception meetings of the Commission and Regional Environment Committees and development of their workplans for the next 5 years with focus on conservation and sustainable management of coastal resources (including conservation of sea turtles and seagrass), collaboration with local communities and private sector, and building capacity of law enforcement to protect marine species and ecosystems. The Commission and Regional Environment Committees will meet every 6 months and will provide political support as well as inter-agency and inter-sectoral coordination for the successful delivery of the project Outputs 1.1, 1.3, 2.1-2.3, and 3.1-3.2. As soon as FEIMS and Regional Environment Committees are established and operationalized, necessary (modest) funding for their regular meeting and decision making will be provided by participating agencies from their annual budgets for meetings. FEIMS and Regional Environment Committees in Diana and Sofia Regions will be coordinated by MEDD and MPEB to work at national and regional levels to provide policy and direct technical support to the project Outputs and other conservation and sustainable development activities after the project is over.

**Project Partners for Output 1.2:** MEDD, MPEB, National Assembly, DREDD, DRPEB, PSC, MNP, Coastal Zone Management (ICZM) Inter-Ministerial Committee, NGOs, Private Sector

**Budget for Output 1.2:** US 71,000

**Output 1.3.** National sea turtles and seagrass monitoring and Knowledge Management system is developed and operationalized by MEDD

Despite multiple research and local sea turtle and seagrass monitoring programs, the national programs for sea turtle and seagrass monitoring are still lacking in Madagascar. Such programs accompanied with Knowledge Management databases are the key to see dynamics of nesting sea turtle populations and area covered by seagrass. So under this Output the project will develop:

- ? National Seagrass Monitoring Program; and
- ? National Sea Turtle Monitoring Program.

Both monitoring programs will be accompanied with GIS databases (can be developed based on free software, e.g., QGIS) that will be regularly updated. The program will describe (1) key monitoring sites; (2) monitoring approaches, including special technical (e.g., analysis of remote sensed data) and simple participatory (e.g., simple counts of sea turtle females and tracks during nesting season and on the ground validation of area covered by seagrass; (3) seasons and frequency of data collection; (4) data analysis and storing; (5) organizational structure of the monitoring and organizations responsible for data collection in the key monitoring sites; (6) structure of regular national reports on sea turtle populations and seagrass coverage in Madagascar waters; (7) necessary resources, budget and sources of funding for implementation of the program. The national reports produced by the monitoring programs will provide necessary information and recommendations for governmental decision making and prioritization of conservation actions for sea turtles and seagrass in Madagascar waters.

The monitoring programs will be developed and discussed with key stakeholders and officially adopted by the MEDD for implementation. The six project sites will serve as basis for the development and

testing ground for the programs with special sea turtle and seagrass surveys conducted on the Year 1 (baseline surveys of nesting populations of Green Turtle and Hawksbill Turtle, and area of seagrass cover), Year 3, and Year 5 of the project. The data provided by the National monitoring programs will be directly used for the project monitoring. Under this Output the project will provide training to selected community members in six project sites on data collection for sea turtle and seagrass monitoring with supervision by national research organizations (e.g. CNRO and CNRE).

**Project Partners for Output 1.3:** National Centre for Applied Oceanographic Research (CNRO), National Environmental Research Centre (CNRE), Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy Association, Babaomby and Analalava communities, C3, Seagrass Watch, WCS, MAD, COSAP Sahamalaza Miaro Dugong.

**Budget for Output 1.3:** US\$ 404,000

## **Outcome 2: Improved management of marine turtle and seagrass habitats in target areas**

**Output 2.1.** New LMMAs/MPAs (Bobaomby and Analalava,) are established in the key sea turtles and seagrass habitats and operationalized

Under this Output, the project will establish and operationalize two new LMMAs ? Bobaomby (~36,000 ha) and Analalava (~173,000 ha) ? to protect nesting sea turtle populations, strategic seagrass beds, mangroves and coral reefs through the following activities:

- ? Organize consultations with local communities in both project LMMAs to define their boundaries and management approach in cooperation with local communities and associations (COSAP Sahamalaza Miaro Dugong, Analalava Tia Fandrosoana, and Fishers Associations);
- ? Conduct a rapid assessment of the marine ecosystems and resources for both LMMAs;
- ? Produce necessary documentation for official establishment of the LMMAs and submit them for approval to the Administrations of Sofia and Diana Regions;
- ? Select and train the Orientation and Support Committees for both LMMAs as the government bodies for the community-based management;
- ? Establish and train Community Marine Rangers for patrolling and protection of the LMMAs, including control of feral dogs and cats in sea turtle nesting habitat (at least 100 community rangers should be trained in each LMMA, with a target that at least 15% of them are women). Best community trainees will serve as trainers for new and existing rangers to ensure sufficient enforcement capacity is maintained at each LMMA;
- ? Develop Marine Natural Resources Management Plans (for 5 years) with sea turtle and seagrass as the key conservation targets and develop zoning for both LMMAs. The Management Plans will include analysis of necessary resources, annual budget, and sources of funding for each LMMA;
- ? Develop and approve at courts necessary *dina* for effective law enforcement of protection regime of the LMMA by communities (using the *Legal guide on development of dina for sea turtle/seagrass conservation* produced under Output 1.1);

- ? Develop and sign cooperation agreements with law enforcement agencies (DREDD, DRPEB, CSP, OMCs, Police) to provide necessary support to the LMMAs when *dina* do not work (e.g., in case of law enforcement of migrant poachers);
- ? Demarcate the LMMAs areas and provide necessary equipment for their protection and management (e.g., motor boats, binoculars, SMART navigators, field equipment for community rangers, etc.);
- ? Train local communities on sustainable use of marine resources, monitoring and conservation of sea turtles, seagrass, and other marine species and ecosystems;
- ? Organize learning trips for representatives of Bobaomby and Analalava LMMAs to other successful LMMAs of Madagascar North-West and beyond.
- ? Develop mutually beneficial cooperation of LMMAs with private sector entities (e.g., tourist and aquaculture companies) and donors to ensure their sustainability.

**Project Partners for Output 2.1:** Administrations of Sofia and Diana Regions, COSAP Sahamalaza Miaro Dugong, Analalava Tia Fandrosoana, Fishers Associations in Babaomby, MAD, Blue Ventures, WWF, WCS, C3, MIHARI Association.

**Budget for Output 2.1:** US\$ 370,000

**Output 2.2.** Capacity of Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs for protection of sea turtles and seagrass is improved through systematic training programs, equipment, and management support

Under this Output the project will provide targeted support to Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs to strengthen their capacity to protect sea turtles and seagrass, specifically:

- ? Strengthening COSAPs managing and protecting the NPs and MPAs: at least 300 additional Community Marine Rangers (with a target that at least 15% of them are women) will be trained on patrolling and anti-poaching techniques to fight sea turtle and seagrass related crimes, control of feral dogs and cats in sea turtle nesting habitat, and provided with essential equipment (e.g., binoculars, photo-cameras, GPSs, smartphones with SMART App, VHF radios, field equipment). Best community trainees will serve as trainers for new and existing rangers to ensure sufficient enforcement capacity is maintained at each target PA. Additionally, selected Community Rangers will be trained on sea turtle and seagrass monitoring under Output 1.3;
- ? Providing at least 4 OMCs working in the project sites with necessary equipment, including motor boats, binoculars, photo-cameras, VHF radios, SMART smartphones, etc) to enforce poaching, illegal trade and other crimes against sea turtles, seagrass and other endangered species, including on the local markets in Diana and Sofia Regions. Additionally, the OMCs will be provided with wildlife crime investigation and prosecution training under Output 2.3;

? Provide technical assistance to COSAPs in the target NPs and MPAs to develop new *dina* targeting conservation of sea turtles and seagrass and bring existing conservation *dina* in full compliance with national legislation (using the *Legal guide on development of dina for sea turtle/seagrass conservation* produced under Output 1.1); develop and sign cooperation agreements between COSAPs, OMCs, and other law enforcement agencies to fight sea turtle poaching and illegal trade and destructive practices for seagrass and other marine ecosystems (mangroves and coral reefs); update Marine Natural Resources Management Plans with targeted activities for sea turtle and seagrass conservation.

Operational expenses for Community Marine Rangers and OMCs will be provided by MEDD, DREDD, DRPEB, CSP, MNP, WWF, WCS in framework of the project co-financing.

**Project Partners for Output 2.2:** Madagascar National Parks Nosy Hara and Sahamalaza National Parks), and Ankarea and Ankivonjy MPAs), DRPEB, OMCs, CSP, WWF, WCS, C3

**Budget for Output 2.2:** US\$ 585,000

**Output 2.3.** Capacity of law enforcement agencies to protect sea turtles and seagrass in the project area is strengthened through trainings on environmental crime investigation and prosecution

As many stakeholders noted during PPG phase, the county's capacity to combat sea turtle poaching and trade is very weak. Under this Output, the project will provide repetitive trainings on environmental crime investigation and prosecution to DREDD, DRPEB, CSP, OMCs, Police, Gendarmerie, and Judiciary in Sofia and Diana Regions (mainly in the six project sites). The trainings will specifically focus on crimes against sea turtles, seagrass and other endangered species. Overall, on the Year 1 and 2 the project will provide 4-5 trainings (each 4-5 days long) with a target to train 50-60 Judicial Police Officers (OPJs) and judges in Sofia and Diana Regions (with a target that at least 15% of them are women) working on marine environmental crimes. The key focus of the training will be on the following:

- ? Key national legislation protecting sea turtles, seagrass, endangered species and ecosystems;
- ? Illegal activities and practices in relations to sea turtles, seagrass, endangered species and ecosystems and penalties for the crimes;
- ? Impact sea turtle poaching and illegal trade as well as other illegal activities on local communities, safety, local and national economy;
- ? Investigative Interviewing Techniques;
- ? Wildlife Crime Intelligence Analysis;
- ? Undercover Operations and Informants Networks for Wildlife Crime Investigation;
- ? Wildlife Supply Chain Analysis based on local examples;
- ? Crime Scene Analysis and Evidence Collection;
- ? Chain of Custody & Evidence in Wildlife Crime Investigation;

- ? Prosecution of Environmental Crime Cases (tasks and timeframe);
- ? Human Rights in investigation and prosecution.

As a result of the trainings the selected investigators, prosecutors, and judiciary in the project area will develop basic skills to professionally work on sea turtle, seagrass, and other environmental crime cases and will serve as trainers/mentors for other investigative and prosecution staff working on wildlife crime issues in Sofia and Diana Regions. The selected trainers will receive trainer certificates from MINJUS or MEDD. Additionally, the training programs will be suggested to SCP, DREDD, and DRPEB for integration into the agencies' capacity building curriculums.

**Project Partners for Output 2.3:** DREDD, DRPEB, CSP, OMCs, Police, Gendarmerie, and Judiciary in Sofia and Diana Regions; MINJUS; Grace Farms Foundation (provides strong wildlife crime investigation and prosecution trainings worldwide); UNODC (wildlife crime program); TRAFFIC (wildlife crime program); WWF, WCS.

**Budget for Output 2.3:** US\$ 120,000

### **Outcome 3: Local communities and private sector adopt sustainable livelihood and business practices that address sea turtle and seagrass conservation**

**Output 3.1.** Pilot community livelihood projects targeting conservation of sea turtles, seagrass and mangroves are developed and implemented through Blue Carbon and other mechanisms

The project under this Output will invest in development, validation and implementation of a community-based mangroves and seagrass conservation initiative using Blue Carbon mechanism on ~1,000 ha in one of the project sites. To develop the Blue Carbon project, the GEF project team and partners will apply the Guiding Principles for Delivering Coastal Wetland Carbon Projects (UNEP 2014) and will use experience of the similar project in Kwale County, Kenya, and Blue Ventures' Tahiry Honko Community Mangrove Project in Madagascar. For baseline blue carbon research of mangroves and seagrass in the selected project site, the GEF project will work with Kenya Marine and Fisheries Research Institute (developed Kwale County project) and national research entities - National Centre for Applied Oceanographic Research (CNRO), National Environment Research Centre (CNRE). Local communities, Regional Administration, and MEDD's BNCCREDD+ will be involved in consultations during the Blue Carbon project development. As soon as the project is developed, it will be submitted for validation by Voluntary Carbon Market verification agencies (e.g., Plan Vivo or VERRA). After successful validation the project will establish relationships with buyers of the generated blue carbon credits on the Voluntary Carbon Market (organizations, companies or individuals who want to offset their carbon emissions) via a broker (e.g., the Association for Coastal Ecosystem Services in the UK<sup>[37]</sup>) or independently. The Blue Carbon project is planned to be fully developed and operationalized on the Years 1-4 of the project. A special decree that allow to sell carbon credits from seagrass in Madagascar (see Output 1.1) is expected to be adopted by that time to launch the pilot project. Part of the project income from selling of blue carbon credits is planned to be used for protection of the sea turtle nesting sites in the Blue Carbon project site. This pilot project is

inclusive of mangroves and seagrass and will establish a precedent of sustainable ecosystem conservation in Madagascar coastal waters. It will serve as a functional model for other Blue Carbon projects in the country, and also will make a pathway for development of a Green Climate Fund (GCF) National Project for Madagascar coastal areas.

Additionally, under this Output, the project will invest in sustainable community livelihood projects inclusive of sea turtle and seagrass conservation in the project sites (via grants), e.g:

- ? Fishing and collection of sea products approaches that are friendly for sea turtles, seagrass, mangroves, and coral reefs;
- ? Community-based ecotourism initiatives in cooperation with local tourist companies that includes monitoring of sea turtles and seagrass;
- ? Incentives payments from donors to local community guards for protection of sea turtles and their nests from poachers;
- ? Alternative income projects, e.g., innovative rice farming approaches, to decrease local people dependency on fish and sea products, including sea turtles.

The pilot livelihood projects will be selected through community-led process facilitated by experienced partners (e.g. Blue Ventures, WCS, or WWF). While the six sites fulfill basic criteria for the implementation of the identified livelihood activities, a final assessment in the field is required to analyze the profitability and technical requirement for the suitable industry. This kind of 'bottom up' community-led process (a feasibility assessment driven by communities themselves) will provide basis for pilot sustainable development, community conservation, and alternative livelihood projects mentioned above. The pilot projects will also include necessary trainings for the communities on selected options. Selected community representatives in the project sites will select pilot projects for the GEF funding through transparent selective process based on clear selection criteria (e.g., alignment with priorities of the GEF project, potential economic and food security impact of the project, number of people involved, impact on NPA species and ecosystems, etc). Implementation and effectiveness of the community pilot projects will monitored and validated quarterly to make sure they provide sufficient benefits to local communities.

It is expected that through the Blue Carbon and pilot projects at least 3,000 local people ( $\geq 30\%$  are female) in the project sites will directly benefit and improve their livelihoods. Each of the supported pilot projects will provide an implementation/completion report. The best options and models will be communicated by the project to other local communities in the project area and abroad.

**Project Partners for Output 3.1:** BNCCREDD+, CNRO, CNRE, KMFRI, Blue Ventures, WWF, WCS, MAD, Local Communities, Fishers Associations, Voluntary Carbon Market verification agencies and brokers.

**Budget for Output 3.1:** US\$ 803,000, including Blue Carbon Project (Contractual Services): \$400,000; and Grants to local communities for pilot livelihood projects (\$403,000).

---

**Output 3.2.** Sustainable practices and mechanisms incorporating sea turtle and sea grass conservation are introduced to private sector in the project area

---

Madagascar's North-West has remarkable albeit rare examples of private sector involvement in conservation of sea turtles, seagrass, coral reefs, and mangroves; mainly tourist companies. Ecotourism activities, such as sea turtle watching, diving in coral reefs and seagrass fields, excursions to mangrove forests are growing in popularity around tropical waters, including in Madagascar. Some tourist lodges and hotels (e.g., in Nosy Sakatia) actively protect sea turtle feeding and nesting areas in cooperation with local communities as attractions for tourists. This positive experience will be documented by the GEF project and introduced to other tourist enterprises in the project sites. The project will work with tourist hotels and lodges (e.g. Nosy Faly, Hotel Anjajavy, Nosy Saba, Nosy Kalakajoro, Nosy Iranja, and others) to develop and strengthen their corporate conservation programs through trainings and direct technical assistance provided by the private sector leaders in this field, NGOs and the project staff.

Additionally, the project will provide trainings to interested fishing and aquaculture companies working in the project areas to decrease bycatch of sea turtles by long liners and trawlers and avoid damage to seagrass beds. The trainings will be based on the best practices for that developed all around the globe. The project will also encourage the companies to introduce sea turtle and seagrass conservation principles in their Standard Operating Procedures and Social and Environmental Responsibility programs.

It is planned that the project will work directly with at least 20 private sector companies in the project area and at least 5 of them will develop and implement business practices inclusive of sea turtle and seagrass conservation.

**Project Partners for Output 3.2:** Tourist operators, long liner and trawling companies and their associations in the project area; Blue Ventures, C3, WWF, WCS, MAD, target NPs and LMMAs, Fishers Associations in Babaomby, COSAP Sahamalaza, Analalava Tia Fandrosoana.

**Budget for Output 3.2:** US\$ 120,000

---

**Output 3.3:** Project gender mainstreaming strategy is developed and implemented

---

The GEF project will build on the work of gender-oriented organizations' experience to develop and implement an effective Gender Mainstreaming Strategy (as a part of ESMP) to guide the project implementation to:

? Build project partner capacity to mainstream gender and bring along with it globally tested approaches in Women Economic Empowerment strategies that empower women as agents rather than as victims of habitat degradation and climate change;

? Facilitate a multi-stakeholder analysis of the gender issues in all the different components of the programme that will inform the gender strategy and action planning with a clear set of measurable gender indicators.

The project Gender Mainstreaming Strategy should include the following core components (also indicated in the Appendix 19. Gender Analysis and Mainstreaming Plan):

? Gender Analysis and Action Planning;

- ? Gender Mainstreaming Capacity Building in Implementing Partners, Stakeholder and the Community;
- ? Gender Mainstreaming Knowledge and Evidence Generation for Policy Influencing;
- ? Operational Monitoring, Evaluation, and Learning.

The Strategy will be used quarterly to track performance on gender equality in the annual Project Implementation Report (PIR), and to identify adaptive measures if performance is weak. In line with the findings of the PIR, the Gender Mainstreaming Strategy will be reviewed and updated annually to ensure that it remains responsive to emerging issues and opportunities. The PIR will include at least one gender mainstreaming 'case study' or story per year. The Gender Mainstreaming Strategy will also provide a high-level framework for ensuring that all project planning is fully gender inclusive. With regard to all community planning and workplans for implementation at specific sites (Outputs 3.1-3.2), it will be necessary to set clear activity-level targets for representation of women and other marginalized groups. The gender data collected by the project will provide valuable information at the local level that can be incorporated into the national gender strategy review process.

**Key partners for the Output delivery:** all partners participating in the project implementation.

**Output Budget:** \$ 20,000

**4) alignment with GEF focal area and/or impact program strategies:**

The project strategies (components) outlined above are aligned with the following GEF Focal Areas:

GEF Focal Area	Relevant Project Component
<p><b>BD-1-1:</b> Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors</p>	<p><b>Component 1:</b> Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats. The Component will contribute to BD-1-1 through (1) development/update of inter-sectoral policy, strategic and legislation documents for conservation of sea turtles and seagrass at the national and provincial levels; and (2) reestablishment of the Fisheries-Environment Commission as the inter-agency and inter-sectoral collaboration mechanism for sustainable management of mangroves, sea turtles and seagrass at national level and strengthening the roles of the NC-ICZM (National Committee for Integrated Coastal Zone Management) and its members RC-ICZM (Regional Committee for Integrated Coastal Zone Management), through reviving the Regional Environment Committees (Cellules Environnementales R?gionales).</p> <p><b>Component 3:</b> Incentives for local communities and private sector to conserve sea turtles and seagrasses. Component will contribute to BD-1-1 through (1) assistance to local communities in the project sites to develop community-based projects targeting conservation of sea turtles, seagrass and mangroves through Blue Carbon mechanisms and other sustainable livelihood approaches; and (2) cooperation with a private sector (hotels, tourist companies, fishery product collectors, and fishing companies) to integrate sustainable practices and mechanisms incorporating sea turtle and sea grass conservation into business practices in the project area.</p>

<p><b>BD-1-5</b> - Mainstream biodiversity across sectors as well as landscapes and seascapes through inclusive conservation</p>	<p><b>Component 3:</b> Incentives for local communities and private sector to conserve sea turtles and seagrasses. The Component will also contribute to BD-1-5 through full involvement of local coastal communities in establishment of sustainable livelihood and income generated models based on biodiversity/ecosystem conservation and sustainable use.</p>
<p><b>BD-2-7</b> - Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate</p>	<p><b>Component 2:</b> Effective management of sea turtle and seagrasses habitats. The Component will contribute to BD-2-7 through (1) establishment and operationalization of two new MPAs/LMMAs in the sea turtle and seagrass habitat ? Bobaomby and Analalava; and (2) improvement of the management of Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs through systematic training programs, equipment, support, and operationalized community-based monitoring and patrolling with focus on sea turtles and seagrass conservation.</p>

**5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing:**

The project is built on a relatively strong financial foundation: total co-financing for the project is US\$ 19,367,189 with GEF contribution of US\$ 3,370,320, or 15% of the total project budget. Details of the project co-financing are described in the sub-section 7.2 of the project document. The project has significant level of investments at national level (under Component 1: US\$ 776,000) to provide strong policy, institutional, and monitoring foundation for implementation of Components 2 and 3. At the same time Components 2 and 3 (joined GEF budget is \$2,209,000) fully focus on the area of 640,000 ha: overall investment level of \$345/km<sup>2</sup>. These sufficient levels of investment will allow to achieve real and lasting change in the target MPA management and livelihood of local communities. Project investments in equipment and light infrastructure for the MPAs (\$460,000) will be able to support them operational for at least 5-10 years.

The incremental value of this GEF project is explained in the table below.

GEF incremental contribution as per component of the project

<p><b>Baseline Scenario</b> (Business as Usual)</p>	<p><b>GEF Incremental Contribution</b> (what the GEF project will contribute)</p>	<p><b>Key Outcomes and GEBs</b> expected with the Alternative Scenario</p>
		<p>Component 1: Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats</p>

Despite Madagascar government commitments to address sea turtle poaching and illegal trade and seagrass and mangroves degradation, the country still does not have sufficient policy, strategies, legislation and monitoring framework to address these serious issues. In particular the country does not have an officially adopted and implemented the National Sea Turtle Conservation Plan (the current plan is outdated and not officially approved); the country does not officially recognize considerable seagrass potential for carbon dioxide absorption and does not use these potential for development of blue carbon projects; Integrated Coastal Zone Management Plans do not incorporate sea turtles

GEF funding will proactively address this gap and support development of the updated National Sea Turtle Conservation Plan 2022-2032 that will be officially adopted and implemented; develop proposals to include seagrass into the Nationally Determined Contributions (NDC); update the legislation to allow selling of blue carbon credits from seagrass in Madagascar;; develop National Monitoring Programs for sea turtles and seagrass; support capacity building for inter-agency and inter-sectoral bodies with focus on conservation and sustainable management of sea turtle, seagrass, mangroves, and other marine species and habitats. All that will allow the country to prioritize measures to address threats for sea turtles and seagrass as a set of complex measures with clear roles of different actors from government agencies to local communities and private sector and effectively measure the progress in sea turtle and seagrass conservation in the Madagascar waters.

The likely outcomes/national benefits/GEBs of the project Component 1 are the following:

- ? Sea turtle and seagrass conservation are officially recognized as national priorities and supported with appropriate Government input, including effective law enforcement;
- ? Sea turtle and seagrass conservation is mainstreamed in the country's socio-economic development at national, provincial, and local levels;
- ? Effective Blue Carbon trade legal and procedural mechanism based on seagrass and mangroves is established and widely implemented in Madagascar;
- ? The country has a robust monitoring system to assess national progress in sea turtles and seagrass conservation

**Component 2. Effective management of sea turtle and seagrasses habitats**

<p>Current capacity of marine NPs, LMMAs, law enforcement agencies and communities to protect sea turtles and seagrass in Madagascar is very low. Many LMMAs remain so called "paper park" and lack even minimal management capacity to protect sea turtles, seagrass and other marine resources and use them sustainably. Total area of MPAs remain very low in Madagascar and does not exceed 1% of the total marine area of 1.2 million square kilometers. As a result this situation is not expected to change significantly in the nearest 5-7 years without special interventions.</p>	<p>GEF project approach will allow to establish and fully operationalize two new LMMAs (Bobaomby and Analalava) in the strategic habitats for sea turtles and seagrass in the North-West Madagascar; additionally it will significantly improve management and law enforcement capacity (through trainings and equipment) of existing marine PAs (Nosy Hara NP, Sahamalaza NP, Ankarea MPA and Ankivonjy MPA) to protect local populations of sea turtles and seagrass. The project will train and mentor the law enforcement agencies in Diana and Sofia Regions to investigate and prosecute poaching and illegal trade in relations to sea turtles and other marine endangered species.</p>	<p>The GEF intervention are expected to lead to:</p> <ul style="list-style-type: none"> <li>? Establishment and full operationalization of 2 LMMAs with total area of 209,000 ha;</li> <li>? Improvement of sea turtle and seagrass protection in 2 marine NPs and 2 LMMAs on the total area of 428,134 ha;</li> <li>? 50-60 law enforcement officers and 200-300 Community Marine Rangers trained and mentored on law enforcement of crime against sea turtle and seagrass, and other marine species;</li> <li>? Increase of sea turtle seizures, arrests and successful prosecution of offenders in the project area;</li> <li>? Decrease of sea turtle poaching, mangrove deforestation, and seagrass degradation in the project sites;</li> </ul>
--	--	---

**Component 3: Incentives for local communities and the private sector to conserve sea turtles and seagrass**

Local communities residing in the project area greatly rely on marine biological resources to meet their daily needs. To survive local people in the project sites are often involved in sea turtle and other marine species poaching and illegal trade, illegal logging of mangroves, and unsustainable fishing activities degrading seagrass beds. However, these mainly destructive activities are often inefficient to provide even basic food security and minimal income. Under this scenario the marine ecosystems in the project areas will continue deteriorate making target communities more insecure, more vulnerable to climate change, and poorer. Poverty and food insecurity in the project area may be

The GEF increment will allow to bring innovative community-led livelihood models in the project area that proved to be successful in other parts of the Madagascar and West Indian Ocean. In particular the project will introduce a community based conservation model for mangroves and seagrass based on Blue Carbon. Additionally, the project will provide funding for community-led pilot projects to develop sustainable models of CBNRM and other forms of alternative income complementary to marine biodiversity and habitat conservation, including sea turtles and seagrass. The project will also work with private sector (tourism, fishing, and aquaculture companies) to introduce measures to protect sea turtles and seagrass in their business practices in the project area.

The GEF input under this Component is expected to lead to:

- ? Estimated 3,000 local people (30% are women) producing food and income from CBNRM and alternative livelihood options provided by the project;
- ? Estimated 1,000 ha of seagrass and mangroves under developed and approved Blue Carbon project;
- ? Increased food security and income for local communities through sustainable practices;
- ? At least 5 private sector entities that introduced sea turtle and seagrass conservation in their business practices as a result of the project;
- ? Innovative sustainable marine NRM models that can be replicated outside of the project area;
- ? Decreased seagrass degradation and mangrove deforestation rate in the project area;
- ? Increased resilience and adaptability of local coastal communities to climate change.

6) **global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF):**

The following Global Environmental Benefits will be delivered by the project:

- ? Two new MPAs/LMMAs established for conservation of sea turtles and seagrass: Bobaomby and Analalava, with **total area 209,000 ha**;
- ? Improved protection and management of two National Parks (Nosy Hara and Sahamalaza) and two MPAs (Ankarea and Ankivonjy) that have good nesting and feeding habitat for sea turtles and large cover of seagrass and mangroves: **total area of 428,134 ha**;
- ? Stable area of sea grass fields in the project sites;
- ? Stable area of mangroves in the project sites;
- ? Stable nesting populations of green turtle and hawksbill turtle in the project sites;
- ? ~ 13,000 (at least 30% are women) direct project beneficiaries, 98% of those are local people in the project sites.

7) **innovativeness, sustainability and potential for scaling up:**

*Innovativeness and potential for scaling up.* Innovation for development is about identifying more effective solutions that add value for the people affected by development challenges ? people and their governments, our users and clients[38]<sup>38</sup>. In accordance with this definition the project suggests a few innovative tools that can be potentially replicated by other projects in Madagascar and other countries:

- ? Inclusion of seagrass into the Nationally Determined Contributions (NDC) as an innovative approach to recognize extremely high carbon sequestration value of seagrass fields;
- ? Development and introduction of national sea turtle and seagrass monitoring system as an innovative model for Madagascar;
- ? Development and validation of a blue carbon project inclusive of seagrass and mangroves as an innovative approach for Madagascar that can be replicated by other countries;
- ? Introduction of sea turtle and seagrass conservation in business practices and local community livelihoods is still unusual model for Madagascar and the world;
- ? Introduction of the legal guide on investigation and prosecution of sea turtle poaching and trade, and other crimes against marine biological resources and training programs on law enforcement of marine environmental crime is an another innovative approach in Madagascar worth replicating nationwide.

The development and implementation of these innovative mechanisms as well as other successful project practices can be replicated in Madagascar as well as other countries of Africa and Asia. To make this possible the project will:

---

- Conduct quarterly lessons learning session to systemize positive and negative experience from the project implementation and identify best practices for potential replication;
- Develop detailed algorithm for each of the best practice models generated by the project with consideration of factors contributing to the practice success and failure;
- Disseminate best practice models among national and international stakeholders through different communication channels and assist them in their replication providing on demand technical support to interested parties.

**Sustainability.** The project will ensure the sustainability of the Outcomes through a number of means integrated in the delivery of the project Outputs.

*Financial and institutional sustainability* will be achieved by (i) involving key partners and donors with a long-term presence in the country and in the project area (e.g., MNP, WWF, WCS, MAD, Blue Ventures, C3, etc.); (ii) ensuring ownership of the project results by the government agencies (e.g., via inclusion of sea turtle and seagrass conservation priorities into official government strategy, policy, and development plans; establishment of the MEDD-based national monitoring system for sea turtles and seagrass that includes analysis of technical and financial resources and their sources required for smooth implementation of the monitoring programs; and integration of sea turtle crime investigation and prosecution training and mentoring in the institutional capacity building programs of relevant agencies) and local communities (e.g. through community-led and inclusive process to establish new MPAs/LMMAs, improve community-based management of existing NPs and MPAs/LMMAs, development of a community-based blue carbon project and other sustainable livelihood initiatives); (ii) careful financial planning and budget sources analysis integrated in the management planning for newly established MPAs/LMMAs and community pilot projects in the project area (the MPAs/LMMA Management Plans will include analysis of necessary funding for different activities, sources of the funding that are available for their implementation, and identification of effective markets and value chains for community products and services); (iii) development of collaboration mechanisms for new MPAs/LMMAs management based on community participation; (iv) development of sustainable and efficient CBNRM and alternative income models (including blue carbon project) for local communities that allow long-term community investment in the NRM and ownership of natural resources in the project area; (v) considerable investments in the NPs and MPAs/LMMAs equipment as well as community pilot projects that should be sufficient for next 5-10 years after the end of the project; (vi) collaboration with other sustainable development and conservation projects in the project area and leveraging of their resources to support and multiply the GEF project results.

*Environmental sustainability* will be achieved through the implementation of all project Outputs that aim to improve sea turtle and seagrass strategy and policy, monitoring, law enforcement, and protection, including management of marine PAs (NPs and MPAs/LMMAs) and sustainable CBNRM and business practices inclusive for sea turtles and seagrass. The achievement of the project Outcomes is expected to lead to reduction of poaching for sea turtles and destructive practices for seagrass, and IWT in the project area and finally to stabilizing of the sea turtle populations and area of seagrass beds, increasing ecosystem health. Additionally, the project will practice climate-smart approaches taking in

consideration potential consequences of the sea level rise and other climate impacts that can influence effectiveness and sustainability of sustainable livelihood models introduced by the project, including community-based blue carbon project.

*Socio-political sustainability.* The social and political sustainability of the project will be achieved mainly through alignment of the project with national political and development priorities and the direct participation of the government agencies and local communities in planning and implementation of the project activities, as well as through the long-lasting direct and indirect project economic and social benefits (e.g., through economic benefits of seagrass and mangroves conservation as basis for blue carbon projects across the country coastal waters; economic benefits of sea turtle and their habitat conservation as attractions for tourists; increased sustainability of business practices incorporating sea turtle and seagrass conservation and potential competitive advantage of such models on the international market).

---

[1] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp.

[2] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp.

[3] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp.

[4] Humber et al. 2015. Endangered, essential and exploited: How extant laws are not enough to protect marine megafauna in Madagascar. *Marine Policy* 60, 70-83

[5] Humber et al. 2015. Endangered, essential and exploited: How extant laws are not enough to protect marine megafauna in Madagascar. *Marine Policy* 60, 70-83

[6] <http://www.dugongconservation.org/news/poachers-madagascar-caught-punished-local-community-dina-violations/>

[7] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp.

[8] <https://mihari-network.org/fr/base-de-donnees/public-dashboard/>

[9] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp.

[10] <https://mihari-network.org/news/lmmas-key-madagascar-delivering-promise-sydney/>

- [11] <https://mihari-network.org/fr/base-de-donnees/public-dashboard/>
- [12] COVID-19 will hurt Madagascar's conservation funding: Q&A with Minister Vahinala Raharinirina <https://news.mongabay.com/2020/04/covid-19-will-hurt-madagascars-conservation-funding-qa-with-minister-vahinala-rahamiririna/>
- [13] <https://mihari-network.org/news/biggest-ever-meeting-of-madagascar-fishers/>
- [14] Metcalf et al. 2007. The importance of north-west Madagascar for marine turtle conservation. *Oryx* Vol 41 No 2 April 2007
- [15] Bourjea J, Ciccione S & M Dalleau. 2013. DYNAMIQUE MIGRATOIRES DES TORTUES MARINES NIDIFIANT DANS LES ILES DE L'OCEAN INDIEN. Rapport Ifremer RST-DOI/2013-02
- [16] Cited from Walker et al. Sea Turtles (in press), in the Goodman, S. M. (ed.). The new natural history of Madagascar. Princeton, Princeton University Press
- [17] C3 2012. Training of Madagascar National Parks Rangers and Reconnaissance Surveys at Sahamalaza ? Iles Radama National Park. Final Report
- [18] C3 2012. Training of Madagascar National Parks Rangers and Reconnaissance Surveys at Sahamalaza ? Iles Radama National Park. Final Report
- [19] C3 2012. Training of Madagascar National Parks Rangers and Reconnaissance Surveys at Sahamalaza ? Iles Radama National Park. Final Report
- [20] NOSYnak? (Sahamalaza, Nosy Hara, Nosy Tanikely, Lokobe, Ambodivahibe, Ankarea, Ankivonjy) <https://whc.unesco.org/flistesindicatives/state=mg>
- [21] Development and Management Plan for Ankarea MPA 2019-2023
- [22] Development and Management Plan for Akivonjy MPA 2019-2023
- [23] Metcalf et al. 2007. The importance of north-west Madagascar for marine turtle conservation. *Oryx* Vol 41 No 2 April 2007
- [24] Bourjea J, Ciccione S & M Dalleau. 2013. DYNAMIQUE MIGRATOIRES DES TORTUES MARINES NIDIFIANT DANS LES ILES DE L'OCEAN INDIEN. Rapport Ifremer RST-DOI/2013-02
- [25]
- 
- [27] National Sea Turtle Conservation Plan 2022-2032; updated Nationally Determined Contributions (NDC) with included seagrass input; a decree to allow selling of seagrass carbon credits in Madagascar; National monitoring programs for sea turtles and seagrass
- [28] The newly established LMMAs have full set of mandatory plans and documents, functional zoning with legal land tenure, management body and staff
- [29] Total area of the Bobaomby and Analalava LMMAs
- [30] See Capacity Assessment Scorecard for Law Enforcement Agencies in the Appendix 16

[31] Verified and approved by the Plan Vivo

[32] This target is set up based on the Blue Ventures experience in similar projects

[33] Our assumption based on the situation analysis in the project area

[34] The list of the proposed legal documents should be revised at the project inception phase and adjusted in response to potential political and legal changes in the country

[35] One hectare of seagrass can store as much carbon as 10-40 ha of dry-land forest.

<https://www.smithsonianmag.com/science-nature/underwater-meadows-seagrass-could-be-ideal-carbon-sinks-180970686/>

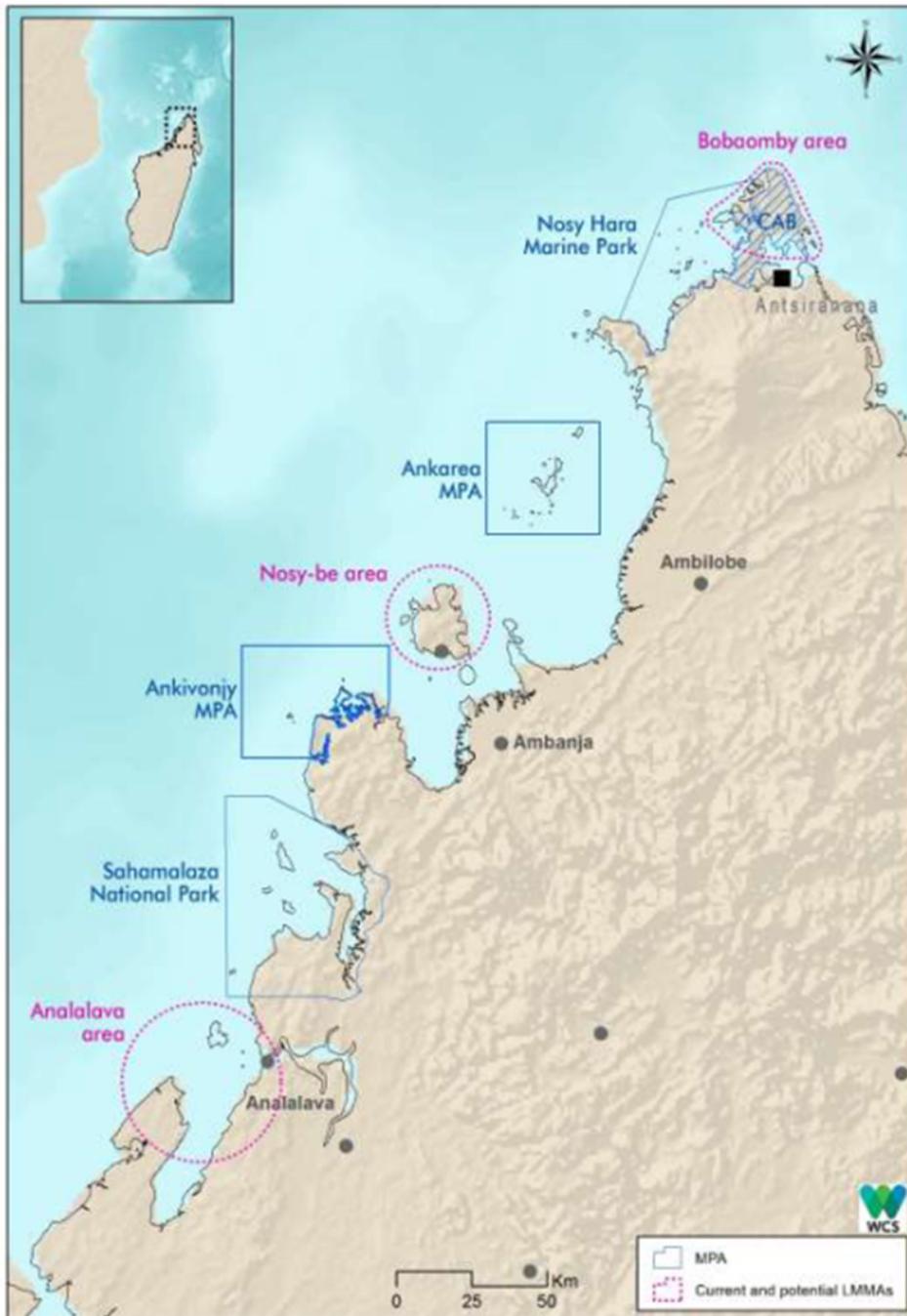
[36] REDD Decree allows to sell carbon credits in Madagascar from forests and mangroves, but does not include seagrass.

[37] The Association is a charity and do not charge a brokerage fee

[38] <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/partnerships/sdg-finance--private-sector/innovation.html>

#### **1b. Project Map and Coordinates**

**Please provide geo-referenced information and map where the project interventions will take place.**



**Figure 1.** Location of the Nosy Hara National Park, Sahamalaza National Park, Ankarea LMMA, Ankivonjy LMMA, and Bobaombo and Analalava sites in the project area[1]

Coordinates of the project sites? centres

<b>MPA</b>	<b>Longitude</b>	<b>Latitude</b>
Nosy Hara National Park	E 49.051966?	S 12.165907?
Sahamalaza National Park	E 47.846949?	S 14.020205?
Ankarea LMMA	E 48.602259?	S 12.855813?
Ankivonjy LMMA	E 47.820319?	S 13.577994?
Bobaomby	E 49.277186?	S 12.211243?
Analalava	E 47.553457?	S 14.581049?

[1] Disclaimer: The designations employed and the presentation of material on this map do not imply any opinion whatsoever on the part of the Secretariat of the United Nations or UNEP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

#### **1c. Child Project?**

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

This UNEP-GEF project in Madagascar is not a child project for any program.

#### **2. Stakeholders**

**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities** Yes

**Private Sector Entities** Yes

**If none of the above, please explain why:**

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

This project was developed using a transparent, open, and fully participatory approach with the involvement of all groups of relevant stakeholders (government organizations, multilateral and bilateral agencies, NGOs, local communities, and the private sector) at national and project area levels. More than 50 individual and focus group consultations (including remote on-line meetings) were conducted in Antananarivo, and at local level in Diana and Sofia Regions. Special consultations and meetings were conducted with MEDD, MPEB, MINJUS, MESupRES, MNP, Administrations of Sofia and Diana Regions, WWF, WCS, Blue Ventures, C3, MAD, local small business entities, and local communities in the project sites. E-mail communication and Skype calls took a significant part of the consultative process with national and international stakeholders due to the COVID-19 pandemic and relevant travel restrictions. The key objectives of consultative process were the following:

- ? Inform all group of stakeholders on the project preparation and allow them to participate in the project development and share their concerns about the project proposed implementation;
- ? Evaluate current level of key threats for sea turtles, seagrass, and coastal communities at the national level and in the project area and identify obvious barriers on the way of to remove or mitigate the threats;
- ? Collect information on baseline programmes and projects related to the project objective;
- ? Understand local, cultural and political context in the country and the project area;
- ? Assess current capacity of government agencies and local communities to combat wildlife crime and manage natural resources sustainably;
- ? Develop relevant project Outputs based on key national and project area needs and make sure they are complementary to other ongoing and planned projects;
- ? Conduct Safeguard Risk Identification and rate key social and environmental risks the project may produce directly or indirectly;
- ? Identify key risks for the project implementation and sustainability of the key results, and develop appropriate risk management measures;
- ? Clearly define the project area for interventions and collect information on Outcome and Impact Indicators; and
- ? Identify potential project partners and clarify stakeholder roles in the project implementation.

A total of 195 stakeholders were consulted (29% females and 71% males). Based on our observations during the stakeholder engagement exercise, we noted the need to deliberately focus on women as key stakeholders in order to amplify their voices, especially in the project area (see section 3.11 Environmental and social safeguards of the ProDoc and Appendix 19. Gender Analysis and Mainstreaming Plan). Additionally, stakeholder consultations at local level (Diana and Sofia Regions and in the project sites) demonstrated high level of support to the project among local communities as well as their willingness to participate in the project activities; relatively rich experience of local communities and community associations in participation in other similar projects conducted by NGOs in the project area; high interest of local communities in establishment of MPAs/LMMAs as a form of active protection and ownership of coastal resources by communities; and necessity to establish local inter-sectoral structures for the project implementation (e.g., Technical Working Committees at Regional level). As a result of the Stakeholder Analysis, the following groups of project stakeholders were identified for the project implementation (see Table 1):

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

**Table 1.** Key project stakeholders and their roles in the project implementation

Stakeholder	Mandate/Current projects	Potential role in the GEF Project
<b>Government Agencies and Inter-Agency Bodies</b>		
Ministry of Environment and Sustainable Development (MEDD)	<p>Promotes and ensures the sustainable, responsible, rational and ethical use of natural resources, and of the environment that sustains them.</p> <p>A Decree related to the protection of Seagrass was drafted in 2018 but has not yet been adopted</p> <p>National Policy and Strategy for the conservation and the protection Dugongs and Seagrass has been drafted;</p> <p>Blue Economy National Strategy has been drafted, yet to be adopted</p>	Project Implementation; Project Co-financing; Charing of the Project Steering Committee; Coordination between other GEF and non-GEF projects in the coastal waters.
Ministry of Fisheries and Blue Economy (MPEB)	<p>Formulates, implements, and coordinates policy concerning marine resources and fisheries for sustainable development.</p> <p>Coordination in the context of the child GEF-6 funded projects (WWF on MPAs and World Bank SWIOFish2)</p>	Participation in the project development; Member of the Project Steering Committee; Project Co-financing Coordination with GEF and non-GEF project implemented by MPEB; Project Partner for Outcomes 1-3; Participation in the project M&E

Ministry of Justice (MINJUS)	Responsible for law enforcement in Madagascar and for controlling the compliance of <i>dina</i> with existing laws	Participation in the project development; Project Partner for Outcomes 1-2; Participation in the project M&E
Ministry of Population	Social development at national and local levels	Project Partner for Outcomes 3; Participation in the project M&E
The Sydney Promise Steering Committee	Is composed of representatives from all ministries concerned with marine resources such as MEDD, MRHP, Ministry in charge of Petroleum, Ministry in charge of land use planning, Ministry of Tourism, Ministry of Transport. The three main NGOs involved in marine conservation are also members of this committee: Blue Ventures, WCS and WWF. With the dismantling of SEMer, it is anticipated that the leadership of this committee will be taken over by the MEDD.	Participation in the project development; Member of the Project Steering Committee; Participation in the project M&E;
Fisheries-Environment Inter-Ministerial Commission	The Commission is not active now. It was created by decree of January 14 2005 and was co-chaired by the Minister of the Environment, Water and Forests, and the Minister of Agriculture, Livestock and Fisheries and brought together all stakeholders working fisheries and marine resources from the public and private sectors, NGOs and associations. The main objective of the Commission was to ensure better synergy and complementarity between the Fisheries sector and the Environment sector for the management of fishery resources and marine and coastal ecosystems (e.g., identification of marine conservation sites, development of the guide on the procedures for the creation of Marine Protected Areas, support to MPA and LMMA establishment).	The Commission is planned to be re-established by the project (Output 1.2)

<p>Integrated Coastal Zone Management (ICZM) Inter-Ministerial Committee</p>	<p>Established in 2009. The Mandate of the Committee is to ensure coordination and promotion of integrated coastal zone management including the implementation of the objectives of the Action Plan. The Committee is subdivided into three thematic Groups ? ICZM Development and Integration; Pollution and Degradation; and Ecosystem Management and Socio-economic and Social Development.</p> <p><b>Priorities:</b></p> <ol style="list-style-type: none"> <li>1. Harmonization of existing laws and policies to improve and reduce fragmentation;</li> <li>2. Amendments to fisheries legislation to allow greater community involvement in designation and management of marine resource;</li> <li>3. Adoption of comprehensive legislation on ICZM;</li> <li>4. Strengthening local capacity for good governance;</li> <li>5. Update the legislation on all relevant sectors so as to address the emerging issues;</li> <li>6. Application of science-based Governance so as to improve decision-taking</li> <li>7. Human resources capacity building especially on judiciary and surveillance</li> </ol>	<p>Participation in the project development;</p> <p>Potential member of the Project Steering Committee;</p> <p>Project Partner for Outcomes 1-3;</p> <p>Participation in the project M&amp;E</p> <p>Project co-financing</p>
<p>Inter-Ministerial Commission on Protected Areas</p>	<p>Established in 2010. Includes MEDD, MPEB, MESupRES, Ministry of Transport, Ministry of Mining, Ministry of Energy, Ministry of Interior and Decentralization, Ministry of Tourism and Craftsmanship, and Ministry of Livestock.</p> <p>Functions:</p> <ul style="list-style-type: none"> <li>- Facilitation of PA establishment in Madagascar, including NPAs;</li> <li>- Coordination of Conservation and Development Goals in relation to PAs;</li> <li>- Assistance in PA management.</li> </ul>	<p>Participation in the project development;</p> <p>Project Partner for Outcome 2;</p> <p>Participation in the project M&amp;E</p>
<p>Inter-Agency Law Enforcement Brigades (<i>Organisme Mixte de Conception</i>, OMC)</p>	<p>Operate at national and local levels. The brigades consist from officers of regional administration, prosecutors, Police, Gendarmerie, and Army. In case of wildlife and other crimes MNP and LMMAs alert OMCs and they implement law enforcement operations</p>	<p>Project Partner for Outcome 2;</p> <p>Project Beneficiaries (law enforcement trainings and equipment) in Diana and Sofia regions;</p> <p>Participation in the project M&amp;E.</p>

<p>Bureau National de Coordination REDD+ Madagascar</p>	<p>Piloting and coordinating all initiatives on REDD+ as well as forest carbon projects in general, in particular that relating to the implementation of Madagascar's preparation for REDD+</p>	<p>? Assistance in development of a blue carbon decree to allow selling seagrass carbon credits (Outcome 1)  ? Assistance to the project on development of ?blue carbon? project in Madagascar North-West (Outcome 3);</p>
<p>Administrations of Sofia and Diana Regions: Regional Directorates in charge of the Environment</p>	<p>Addressing illegal trafficking and enabling regional regulatory policies and frameworks (law enforcement of sea turtle poaching and trafficking and seagrass destruction in the target regions). In the context of decentralization, Regions can request resources from central government.</p> <p>Participation in the fight against species trafficking including collaboration with the Unit to combat Corruption within MEDD (Unit? de Lutte Contre la Corruption)</p> <p><i>Direction R?gionale de l'Environnement et du D?veloppement Durable (DREDD) for Sofia and Diana Regions lead collaboration platforms that deal with conservation issues, including sea turtles and seagrass (e.g., plateforme des acteurs des aires prot?g?es, Protected Area Council)</i></p>	<p>Participation in the project development;  Members of the Project Steering Committee;  Project Co-financing  Project Partners for Outcomes 1-3;  Project Beneficiaries  Participation in the project M&amp;E</p>

<p>Centre de Surveillance des Pêches (CSP)</p>	<p>Its mandate is to enforce regulations on fisheries and aquaculture, as well as fishing agreements, including inspection of commercial fishing vessels, investigation and prosecution of poaching and illegal trade on marine species. The CSP has only three monitoring vessels, eight speedboats, 18 inspectors and 22 observers[1].</p>	<p>Participation in the project development;</p> <p>Members of the Project Steering Committee;</p> <p>Project Partner for Outcome 2 (law enforcement trainings and trainings of Marine Community Rangers);</p> <p>Project Beneficiary;</p> <p>Participation in the project M&amp;E</p>
<p>Madagascar National Parks:  ? Nosy Hara National Park  ? Sahamalaza National Park</p>	<p>Ecological monitoring and reporting to the MEDD. Facilitate sensitization campaign &amp; participate in law enforcement, promote local communities? sustainable development in order to reduce threats on sea turtles &amp; seagrass; Management of Marine National Parks</p>	<p>Participation in the project development;</p> <p>Member of the Project Steering Committee;</p> <p>Project Co-financing;</p> <p>Project Partner for Outcomes 1-3;</p> <p>Project Beneficiary;</p> <p>Participation in the project M&amp;E</p>
<p>Judges and Courts of Diana and Sofia Regions</p>	<p>Conviction of offenders involved in poaching and IWT</p>	<p>Project Partners and Beneficiaries for Outcome 2 (law enforcement trainings and awareness);</p> <p>Participation in the project M&amp;E</p>

National Police/Gendarmerie of Diana and Sofia Regions	Control of illegal activities, including poaching and IWT	Project Partners and Beneficiaries for Outcome 2 (law enforcement trainings and awareness);  Participation in the project M&E
The Orientation and Evaluation Committee ( <i>Le Comité d'orientation et d'évaluation</i> (COE))	COE is established by the decree of temporary protection. Its members are appointed by ministerial or joint decision of a few Ministries. COE deals with the following issues: ? Environment, Forests, and Tourism; ? Agriculture, Livestock and Fisheries; ? Energy and Mines; ? Municipalities and private owners; ? any other natural or legal issues  COE is responsible for implementation of a temporary protection order on a newly established PA, including stakeholder consultations.	Project Partners for Outcome 2 (establishment of new LMMAs)
<b>Inter-Governmental Bodies and International Development Organizations</b>		
The Nairobi Convention Secretariat	Partnership between governments, civil society and the private sector, working towards a prosperous Western Indian Ocean Region with healthy rivers, coasts and oceans. It pursues this vision by providing a mechanism for regional cooperation, coordination and collaborative actions; it enables the Contracting Parties to harness resources and expertise from a wide range of stakeholders and interest groups; and in this way it helps solve inter-linked problems of the region's coastal and marine environment. <a href="https://www.unep.org/nairobiconvention/who-we-are">https://www.unep.org/nairobiconvention/who-we-are</a>	? Coordination of collaboration with GEF projects implemented by Nairobi Convention;  ? Consultations to MEDD and PMU on Outcome 1
KfW Development Bank	Advises and finances Madagascar National Parks (MNP) and FAPBM. KfW supports Nosy Hara and Sahamalaza National Parks. KfW also supports the PCD I project	? Project co-financing;  ? Coordination of conservation and capacity building activities in the NPs

World Bank	<p>GEF-6 funded project ?Second South West Indian Ocean Fisheries Governance and Shared Growth Project? (SWIOFish2) is managed under the auspices of the MPEB to improve the management of selected fisheries at regional, national and community levels and to increase access by targeted fishers to alternative livelihood activities (6,422,018 USD 2017-2023).</p> <p>One of the project areas is the Bay of Ambaro-Tsimipaïke-Ampasindava-Nosy Be, District Ambanja, Diana Region</p>	? Coordination of collaboration with WB?s implemented projects implemented;
FAO	SmartFish Program (Sustainable fishing and aquaculture) in Madagascar, including in the project area	? Coordination of collaboration with FAO projects in Madagascar waters;  ? Potential Partner for Outcome 3 (livelihood options for local coastal communities in the project sites)
USAID	A member of the Technical and Financial Partners Group of Madagascar?s MEDD and the Environmental Donors Group (an informal group of bilateral and multilateral donors working with various ministries on biodiversity, combating wildlife trafficking, climate change, land tenure, and related concerns).	? Coordination of collaboration with USAID projects in Madagascar waters
US Fish and Wildlife Service	<p>US Fish and Wildlife is not present in Madagascar but is providing support to formulate a comprehensive assessment of the current state of wildlife trafficking in Madagascar, as required by the Elimination, Suppression and Disruption of Wildlife Trafficking Act of 2016</p> <p><a href="https://www.usaid.gov/madagascar/environment/wildlifetrafficking">https://www.usaid.gov/madagascar/environment/wildlifetrafficking</a></p>	? Coordination of collaboration with US FWS projects in Madagascar waters
<b>Non-Government Organizations</b>		
Madagascar Biodiversity and Protected Areas Trust Fund (FAPBM)	Provides funding for protected area management, currently to Sahamalaza National Park and Ankivonjy MPA. Raises funds for MPA and LMMA management.	? Project co-financing

<p>Local associations  ? Ankarea;  ? Ankivonjy</p>	<p>Association Ankarea and Association Ankivonjy co-manage Ankarea and Ankivonjy MPAs with WCS: running community patrol based on MPAs regulations including <i>Dina</i>, supporting seagrass and sea turtle monitoring, catch monitoring.</p>	<p>? Participation in the project development;  ? Project Beneficiaries and Partners (Outcomes 2 and 3);  ? Participation in the project M&amp;E</p>
<p>Orientation and Monitoring Committee of Sahamalaza Protected Area (COSAP Sahamalaza)</p>	<p>COSAP Sahamalaza is one of the structures attached to the Sahamalaza Marine Park, specializing in different areas of its conservation and management. COSAP have been put in place by PA managers, in order to ensure the effectiveness of collaborative management, including local communities? patrols and conservation infrastructures building. COSAP focuses on conservation of dugong, seagrass, sea turtles, and mangroves, including organization of Local Park Committees for patrolling of the Sahamalaza NP.</p>	<p>? Participation in the project development;  ? Project Beneficiaries and Partners (Outcomes 2 and 3);  ? Participation in the project M&amp;E</p>

<p>Madagascar Locally Managed Marine Area Network (MIHARI)</p>	<p>MIHARI is Madagascar's national LMMA network, established in June 2012, bringing together local management associations and their supporting NGOs to share experiences. MIHARI is an acronym for MITantana HAREna Ranomasina avy eny Ifotony, which translates as "marine resource management at the local level". MIHARI organises learning exchanges and regular forums at regional and national levels, providing invaluable opportunities for LMMA managers to explore common issues and develop collaborative solutions face-to-face. The network is kindly supported by the MacArthur Foundation. The MIHARI network supports Madagascar's LMMA managers by:</p> <ul style="list-style-type: none"> <li>? Facilitate networking and learning exchanges between LMMA associations</li> <li>? Pursue relevant opportunities to build community capacity and local leadership</li> <li>? Make the voices of fishers heard by policy makers</li> <li>? Engage closely with the Government of Madagascar to ensure a strong and supportive legal framework for local marine management</li> <li>? Develop simple systems for tracking and monitoring progress of LMMAs across Madagascar</li> <li>? Explore options for securing the financial sustainability of LMMAs and the MIHARI network</li> <li>? Communicate the impact of LMMAs in Madagascar to key stakeholders</li> <li>? Share learning with LMMA movements in other countries</li> <li>? <a href="https://mihari-network.org/">https://mihari-network.org/</a></li> </ul>	<ul style="list-style-type: none"> <li>? Participation in the project development;</li> <li>? Project Partners (Outcomes 2 and 3);</li> <li>? Participation in the project M&amp;E</li> </ul>
<p>Wildlife Conservation Society (WCS)</p>	<p>Co-manages sites in Antongil Bay, the Northwest in the Diana Region and in the Atsimo Andrefana Region in the Southwest. WCS is currently working in three land and seascapes including the Northwest seascape where WCS co-manages Ankarea MPA and Ankivonjy MPA. Sea turtles are among conservation target species within these two MPA. Moreover, WCS is leading the promotion of SMART (Spatial Monitoring and Reporting Tool) within PAs in Madagascar as an innovative tool to better support on ground conservation activities mainly for control and surveillance components to ensure on time, localized reporting. WCS promotes also seagrass monitoring, with local communities in the Ankivonjy and Ankarea MPA, and Seagrass Watch. The Dina for both MPA has been amended to include specific attention to seagrass protection.</p> <p>In 2015 WCS and CSP signed a cooperation protocol "on strengthening of fisheries control and surveillance in WCS intervention sites: Ankarea MPA, Ankivonjy MPA, Soariake MPA and LMMAs in Antongil Bay".</p>	<ul style="list-style-type: none"> <li>Participation in the project development;</li> <li>Member of the Project Steering Committee;</li> <li>Project Co-financing;</li> <li>Project Partner for Outcomes 1-3;</li> <li>Participation in the project M&amp;E</li> <li>Coordination with other WCS projects</li> </ul>

WWF	<p>In 2019-2024, WWF in collaboration with the Ministry of Environment and Sustainable Development, is implementing the project "Expanding and consolidating Madagascar's marine protected area network" (USD 6,284,404, 5 years). It is a child project under the program "Sustainable Management of Madagascar's Marine Resources" funded by GEF through the International Waters and Biodiversity focal areas. The project will contribute to the expansion of coverage and the improvement of the management effectiveness of the MPA/LMMA network. Its objective is to ensure "Madagascar's marine biodiversity and productivity are effectively managed through a sustainable, resilient national network of MPAs."</p> <p>WWF also a co-coordinator of the <b>Northern Mozambique Channel Initiative</b>.</p>	<p>Participation in the project development;</p> <p>Member of the Project Stearing Committee;</p> <p>Project Co-financing;</p> <p>Project Partner for Outcomes 1-3;</p> <p>Coordination with other WWF projects;</p> <p>Participation in the project M&amp;E</p>
Madagascar Action Development (MAD)	<p>Madagascar Action Development (MAD) is an association specializing in the management of marine species. It has sea turtle conservation experience in the Diana region, including Bobaomby area. MAD association was officially established in 2016. MAD works to safeguard the terrestrial and marine biodiversity and natural environment, and to promote women and children health, and the good governance. In 2015-2016 MAD in cooperation with C3 implemented the USFWS project "Enhancing the Conservation of Threatened Sea Turtles through Integrated Approaches in Nosy Hara Marine Park in North West Madagascar"</p>	<p>Participation in the project development;</p> <p>Member of the Project Stearing Committee;</p> <p>Project Partner for Outcomes 2 and 3 (establishment and capacity building of LMMA in Bobaomby area);</p> <p>Participation in the project M&amp;E;</p> <p>Project co-financing</p>
MadagasikaraVoakajy	<p>MadagasikaraVoakajy is a Malagasy Association working in the conservation and sustainable management of endemic and threatened biodiversity by and for the benefits of Malagasy people. Establishment and management of the Terrestrial Protected Area called Bobaomby Complex.</p>	<p>Project Partner for Outcomes 1-3;</p> <p>Participation in the project M&amp;E;</p> <p>Project co-financing</p>

Blue Ventures	Blue Ventures has long invested in MPA and LMMA development. It helps to comanage sites in the Melaky, Menabe, Diana and Atsimo Andrefana Regions. Blue Ventures has conducted several key research initiatives related to biodiversity and/or MPA management. It pioneered temporary and permanent fisheries reserves to increase productivity and generate improved revenues for local communities. Run projects on conservation and monitoring of sea grass and sea turtles nesting sites	Participation in the project development;  Project Partner for Outcomes 1-3;  Participation in the project M&E;  Coordination with other projects implemented by Blue Ventures;  Project Co-Financing
C3 Madagascar	C3 has focused on sea turtle research and conservation actions since 2009 in the far north, identifying remaining nesting hotspots for Green and Hawksbill sea turtles, strengthening community patrols, establishing LMMAs and monitoring seagrass habitat. Studies of cultural issues associated with sea turtles (fady/taboo/beliefs) and market studies in addition to nest and carapace surveys. Capacity building of students at the University of Antsiranana in the far north in sea turtle ecology and conservation actions.  Current activity of C3 in the project area: Sustainable management of small-scale coastal fisheries in Northern Madagascar, Nosy Hara, Baie de Rigny and East Antsiranana zones. C3 has been one of MNP's partners in the North Madagascar since 2009	Participation in the project development;  Project Partner for Outcomes 1-3;  Participation in the project M&E;  Coordination with other projects implemented by C3;  Project Co-Financing
Conservation International (CI)	In Madagascar, the Government has delegated the management of certain sites to CI, including the marine protected area at Ambodivahibe, in the North-East (Diana Region), one of the most important nesting areas with high levels of sea turtle poaching. CI is interested in sharing experiences and their approach with the proposed project. Conservation International plans to either extend coverage of an existing MPA in Northeastern Madagascar, Ambodivahibe, or support establishment of a new MPA in the same area.	Exchange of lessons learned between the projects;

Seagrass-Watch	<p>Long-term monitoring of seagrass fields. Establishing a network of monitoring sites in Madagascar provides valuable information on temporal trends in the health status of seagrass meadows in the region and provides a tool for decision-makers in adopting protective measures. It encourages local communities to become involved in seagrass management and protection. Working with both scientists and local stakeholders, this approach is designed to draw attention to the many local anthropogenic impacts on seagrass meadows which degrade coastal ecosystems and decrease their yield of natural resources. Monitoring sites in Madagascar:</p> <ul style="list-style-type: none"> <li>? Nosy Mitsio; / Ankarea MPA</li> <li>? Nosy Sakatia;</li> <li>? Ankivonjy MPA;</li> <li>? Andravona is part of Soariake MPA;</li> <li>? Soariake MPA</li> </ul>	Project Partner for Outcome 1 (development of national monitoring system for seagrass)
Réseau des Acteurs de la Sauvegarde des Tortues Marines en Afrique Centrale (RASTOMA)	The Rastoma network was created in 2012. It brings together the actors involved in the protection of sea turtles in the 6 Central African countries that have a coastline on the Atlantic Ocean: Cameroon, Equatorial Guinea, Sao Tome and Principe, Gabon, the Republic of Congo and the Democratic Republic of Congo.	Exchange of lessons learned between the projects;
<b>Local Communities</b>		
Local Communities of Babaomby, Analalava	<p><b>Analalava:</b> A project to establish a LMMA was planned but due to lack of funding it has not been realized. There is the Analalava Tia Fandrosoana (ATP) ? a platform that includes six associations of fishermen from the six islands (Nosy Lava, Nosy Ifaho, Nosy Lagna, Nosy Moritsa, Nosy Komandjary and Antetikirija).</p> <p><b>Babaomby:</b> There are a few fishermen associations in the area that may be interested in establishment of a LMMA (Fokontany Andranovondronina, Fokontany Izegnity, Fokontany Bedarabe, Fokontany Anjiabe, Fokontany Morafeno, Fokontany Andohazompona, Fokontany Baie de courier).</p>	<p>Participation in the project development;</p> <p>Project Partner for Outcome 2 (establishment and management of LMMAs in Bobaomby and Analalava);</p> <p>Project Beneficiaries (Outcomes 2 and 3);</p> <p>Participation in the project M&amp;E;</p> <p>Project co-financing</p>

<p>Local communities of Ankarea and Ankivonjy LMMAs, and Nosy Hara and Sahamalaza National Parks</p>	<p>Participation in sustainable management and protection of LMMAs and NPs</p>	<p>Participation in the project development;</p> <p>Project Partner for Outcome 2 and 3 (participation in anti-poaching and development of livelihood options);</p> <p>Project Beneficiaries (Outcomes 2 and 3);</p> <p>Participation in the project M&amp;E</p>
<p>Komity Mpanatanteraka Dina (KMD)</p>	<p>Law enforcement of <i>dina</i> at local level by communities in the project sites</p>	<p>Participation in the project development;</p> <p>Project Partner for Outcome 2 (participation in establishment of LMMA and anti-poaching);</p> <p>Participation in the project M&amp;E</p>
<p><b>Research Organizations</b></p>		
<p>Centre National de Recherches sur l'Environnement (CNRE)</p>	<p>National Focal point for CMS Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA Marine Turtles MoU). Member of WIOSAP Saphir (Strategic Action Plan for Harmonization of Institutions and Regulations). CNRE is attached to the Ministry of Scientific Research.</p>	<p>Project Partner for Outcome 1 and 3 (development of the national sea turtles and seagrass monitoring system and blue carbon project);</p> <p>Participation in the project M&amp;E</p> <p>Project co-financing</p>

National Centre for applied Oceanographic Research (CNRO)	The National Center for Oceanographic Research located in Nosy Be, is attached to the Ministry of Scientific Research. It participates in the elaboration of the national research policy and ensures the exercise of research concerning the blue sustainable economy of the sea. Member of WIOSAP Saphir (Strategic Action Plan for Harmonization of Institutions and Regulations).	Project Partner for Outcome 1 and 3 (development of the national sea turtles and seagrass monitoring system and blue carbon project);  Participation in the project M&E;  Project co-financing
Department of Natural Sciences and Environment, Faculty of Sciences, University of Antsirana	Research of marine and terrestrial ecosystems Conservation and valorisation of renewable and non-renewable natural resources in northern Madagascar	Project Partner for Outcome 1 and 2  Member of the Project Steering Committee
Kenya Marine and Fisheries Research Institute (KMFRI)	? Conduct multidisciplinary and collaborative research on fish ecology, population dynamics, stock assessment and general aquatic ecology;  ? Collect and disseminate scientific information on fisheries and other aquatic resources and related natural products;  ? Study and identify suitable species for culture including development, adoption and transfer of rearing technology and procedure;	Project Partner for Outcome 3 (development of a blue carbon project in the project area)
<b>Private Sector and Business Associations</b>		
Compagnie Salini?re de Madagascar	Salt production in Bobaomby area	Potential cooperation with the project on development of alternative livelihood options in Bobaomby area (Outcome 3)
Poissonnerie Joreda	Fish shop in Bobaomby area	Potential cooperation with the project on development of alternative livelihood options in Bobaomby area (Outcome 3)

<p>Tourist companies/Hotels at the coast in the project area: Nosy Faly (hotel run by people from Reunion), Hotel Anjajavy (5 stars hotel in Analalava); Nosy Saba (4 stars hotel); Nosy Kalakajoro; Nosy Iranja, Tsarabanjina</p>	<p>The northwest coast of Madagascar is a popular tourist destination; there are several hotels and touristic companies located in the project area: Some of the hotels already collaborate with MNP, communities, and NGOs to protect sea turtles and seagrass.</p>	<p>Potential cooperation with the project on development of alternative livelihood options and sustainable business practices in the project sites (Outcome 3)</p>
<p>Tuna purse seines companies in the project area</p>	<p>Big tuna vessels landing at Antsiranana</p>	<p>Potential cooperation with the project on development of sustainable business practices in the project area (Outcome 3)</p>
<p>Long-line fishing companies in the project area</p>	<p>Long-line fishing in the coastal waters of the North-West Madagascar</p>	<p>Potential cooperation with the project on development of sustainable business practices in the project area (Outcome 3)</p>
<p>Aquaculture companies in the project area</p>	<p>LGA (Les Gambas de l'Ankarana) is the only shrimp aquaculture company established in the project area</p>	<p>Potential cooperation with the project on development of alternative livelihood options and sustainable business practices in the project sites (Outcome 3)</p>

Other sea food companies operating in the project area	Pêche et Froid Océan Indien (PFOI) is the only company with a factory located in Antsiranana and processing the catches of tuna vessels.	Potential cooperation with the project on development of alternative livelihood options and sustainable business practices in the project sites (Outcome 3)
Traders that sell sea turtle meat and eggs in the project area	As the sales of sea turtle meat are illegal, so the traders are still unknown (to be identified), but sea turtle meat is sold in the markets of the big cities, e.g. Antsohihy, Analalava, Mahajanga (Humbert et al.2011, Razafindrakoto personal observation)	Project targets for law enforcement and awareness (Outcome 2)
Groupement des Aquaculteurs et Pêcheurs de Crevettes ? Madagascar	<p>Objectives:</p> <ul style="list-style-type: none"> <li>? To develop proposals for the implementation of a reasoned policy for the management of shrimp activity in all its aspects, including: resource monitoring, fishing effort, regulation, quality, control and monitoring...</li> <li>? To be the representative interlocutor of the profession with the administration as part of the new policy for the management of the shrimp sector.</li> <li>? To defend the interests common to all its members or to one of the two divisions of the Group.</li> <li>? To represent its members in existing and future national, international, governmental and professional bodies.</li> <li>? To inform its members on all matters of general interest.</li> </ul>	Potential cooperation with the project on development of alternative livelihood options and sustainable business practices in the project sites (Outcome 3)
EU commercial fishing fleet in Madagascar waters.	Fishing boats work on the basis of a fishing agreement signed between Madagascar and the European Union, without a specific representative (otherwise the head of the Fisheries sector of the Representation office)	Potential cooperation with the project on development of sustainable business practices in the project area (Outcome 3)

Asian commercial fishing fleet in Madagascar waters (China, South Korea, Japan)	Fishing boats work on the basis of a Fishing Agreement signed between Madagascar and their country (China, Vietnam Korea)	Potential cooperation with the project on development of sustainable business practices in the project area (Outcome 3)
---	---	---

[1] Williams JL & NJ Pilcher, 2018. Assessment of the status, scope and trends of the legal and illegal international trade in marine turtles, its conservation impacts, management options and mitigation priorities in Madagascar. Report to the CITES Secretariat Project S-527. SSFA/2018/DKA. 72pp

**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;** Yes

**Co-financier;** Yes

**Member of project steering committee or equivalent decision-making body;** Yes

**Executor or co-executor;**

**Other (Please explain)** Yes

Contracted service providers

**3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

Madagascar is committed to gender equality and developed its National Policy for the Promotion of Women (PNPF) in 1995, which has been under implementation since 2000. In 2001, the Malagasy Government developed a strategy for integration of gender into all projects and programs at each institution, and a National Gender and Development Action Plan (PANAGED) was developed in 2003. Further, in 2007, several national laws were revised to reflect national commitment to gender equality.

According to the Gender Development Index (GDI), Madagascar had a GDI of 0.952 in 2019 (Group 2). Despite that, inequalities persist in Malagasy society and this impacts on women's economic and

social wellbeing. Traditional practices and poor access to education are the main obstacles to gender equality in Madagascar. These inequalities between men and women are also visible in terms of natural resource management. Cultural aspects, which are strong in the Sofia and Diana Regions, play an important role in how natural resources are utilized. Taking care of the family home and children, as well as participating in agricultural practices, women often remain dependent on their husbands who produce the main income and lead households. In the past, polygamy was accepted by the coastal communities in the project area (e.g., by *Antakarana*), but now this practice is no longer accepted. As for separation or divorce, the couple normally distributes the property according to the owners (man or woman) unless a couple has a contract, which should in principle last at least one year: the one who committed the fault will receive nothing. In addition, it happens that if a man abandons his wife and children he leaves almost everything to his wife. According to Malagasy customary law a woman can inherit a land from her parents but usually much smaller portion than her brothers. If a woman carries out income-generating work of her own, such as market activity and crafts, she has her own income and account at a bank. In general, a woman should always inform her husbands about her own income. Women can now participate in community meetings convened by local authorities or those organized by development projects and express their opinions at the meetings, however, their opinions are often not taken for decision-making.

The PPG gender analysis (Appendix 19) clearly demonstrated that all three gender gaps identified by the GEF Gender Implementation Strategy (2018) are relevant for this particular project:

- ? Unequal access to and control of natural resources;
- ? Unbalanced participation and decision making in environmental planning and governance at all levels;
- ? Uneven access to socio-economic benefits and services.

To improve this situation and address the gaps in the context of the GEF project, appropriate gender and social measures have been fully considered in the project design, and gender accountability is a cross-cutting issue that will be tracked as part of the project M&E system (see Table 9 below of the project document and Appendix 19 for details). During the project development, the PPG team tried to involve as many women as possible in the consultation process. However, overall women's participation was much lower than men's (29% only) due to traditional male dominance in anti-poaching, wildlife and environmental management issues at the national level and in the project area.

To implement gender mainstreaming, the project will develop and implement an effective Gender Mainstreaming Strategy (Output 3.3) as a part of the ESMP. The strategy will guide the project implementation to build project partner capacity to mainstream gender and bring along strategies that empower women as agents rather than as victims of wildlife and forest depletion, habitat degradation, and climate change. This strategy will also facilitate a multi-stakeholder analysis of the gender issues with a clear set of measurable gender indicators.

The key guidelines for the strategy are outlined below:

- The project will promote gender parity in the Project Steering Committee and in the PMU. Project interventions will seek a greater and more even gender representation with the potential for gender

mainstreaming-related activities at the national level and in the project area. Furthermore, relevant gender representation will be pursued in the project implementation. All project staff recruitment shall be specifically undertaken inviting and encouraging women applicants. The TORs for key project staff all incorporate gender mainstreaming related responsibilities.

- The project will adopt the following principles in the day to day management: (i) gender stereotypes will not be perpetuated; (i) women and other vulnerable groups (marginalized poor local communities in the project area) will be actively and demonstrably included in project activities and management whenever possible, and (iii) derogatory language or behaviour will not be tolerated.

- The project will promote gender mainstreaming and capacity building within its project staff to improve understanding of gender issues, and will have an appointed KM and Communication Officer who will serve as a focal point for gender issues to support development, implementation, monitoring and strategy on gender mainstreaming internally and externally. This will include facilitating gender equality in capacity development and women's empowerment and participation in the project activities. The project will also work with UNEP experts in gender issues to utilize their expertise in gender mainstreaming. These requirements will be monitored by the UNEP during project implementation.

- The project has gender disaggregated indicators in the PRF for regular monitoring and evaluation of the project progress and reporting, and will facilitate involvement of women in the M&E and Grievance Redress Mechanism implementation (see Table 9 of the project document and Appendix 19. Gender Analysis and Mainstreaming Plan).

**Table 9 of PRODOC. Proposed gender mainstreaming activities in the project Components**

<b>Project Components</b>	<b>Measures relating to gender mainstreaming</b>
<p><b>Component 1:</b> Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats</p>	<p>? Active outreach to women and women's groups (at least 40% among all participating stakeholders) to participate in development of the national strategies, policies, and legislation for conservation of sea turtles and seagrass (Output 1.1);</p> <p>? Promotion of women participation (at least 40% among all participating stakeholders) in the inter-agency and inter-sectoral collaboration mechanisms for sustainable management of sea turtles and sea grass (Output 1.2) and development and testing of the national sea turtle and seagrass monitoring program (Output 1.3);</p>
<p><b>Component 2:</b> Effective management of sea turtle and seagrasses habitats</p>	<p>? Active involvement of women (at least 30% among all participating stakeholders) in the process of new LMMAs (Bobaomby and Analalava) establishment (Output 2.1) and capacity building trainings for Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy MPAs (Output 2.2);</p> <p>? Ensure participation of at least 15% of women in the various law enforcement training sessions organized by the project (Outputs 2.3);</p> <p>? Promotion of potential involvement of women (at least 15% among all participating stakeholders) in the law enforcement staff of the law enforcement agencies in the project area</p>

<p><b>Component 3: Incentives for local communities and private sector to conserve sea turtles and seagrass</b></p>	<p>? Gender sensitive consultations (at least 30% among all participating stakeholders) on development and implementation of community sustainable livelihood projects, including Blue Carbon project in the project area (Output 3.1);</p> <p>? Through a 50/50 policy for training, provide women friendly training facilities to increase their capacity in CBNRM, and alternative income livelihoods in the project area (Output 3.1);</p> <p>? Active involvement of women in the planning and implementation of pilot projects on CBNRM and activities that foster alternative livelihood income sources and value-chains for local communities in the project area (Output 3.1); at least 60% of projects involves women);</p> <p>? Develop fair rules for distribution of the project community-based initiatives benefits to women and marginalized groups in the target communities (Output 3.1);</p> <p>? Increase the focus of interventions on female-headed households as beneficiaries of the projects (Output 3.1);</p> <p>? Active women involvement (at least 30% among all participating stakeholders) in development and implementation of private sector sustainable business practices related to sea turtle and seagrass conservation (Output 3.2);</p> <p>? Develop and implement a project gender action plan through all project Outputs, Management, and M&amp;E (Output 3.3);</p>
<p><b>Monitoring&amp;Evaluation, and Knowledge Management</b></p>	<p>? Apply gender-specific consultations for ESIA and ESMP development;</p> <p>? Apply gender specific analysis in the project M&amp;E;</p> <p>? Ensure easy access of local women to GRM;</p> <p>? Active involvement of women in the project M&amp;E processes (at least 30% among all participating stakeholders);</p> <p>? Incorporate gender issues in the process of lessons learning and involve women and women organizations in generation of gender lessons;</p> <p>? Consider gender related reporting in KM and Lessons Learnt reports;</p>

<b>Project Management</b>	<p>? Ensure that both men and women are visible and inclusive in the project documents;</p> <p>? Collect gender-sensitive data (age, ethnicity, income, education) for reporting and planning;</p> <p>? Apply gender clause to human resource recruitment, encouraging the applications from women candidates and their hiring;</p> <p>? At inception: gender screening of the project design and workplan;</p> <p>? TORs of all staff to include specific responsibilities, which support mainstreaming of gender throughout project implementation;</p> <p>? Encourage 50/50 female/male ration in the PMU, PSC, and Technical Committees</p>
---------------------------	---

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;** Yes

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women** Yes

**Does the project's results framework or logical framework include gender-sensitive indicators?**

Yes

#### 4. Private sector engagement

**Elaborate on the private sector's engagement in the project, if any.**

The project is planning some limited private sector involvement to deliver the following project Outputs:

•**Output 1.2.** Fisheries-Environment Inter-Ministerial Commission and Regional Environmental Units (Cellule Régionale Environnementale) are established and functional to coordinate national and regional efforts for marine resources conservation and sustainable management, including sea turtles and seagrass (both mechanisms will include representatives of private sector ? tourist companies, fishing and aquaculture companies);

•**Output 2.1.** *New LMMAs/MPAs (Bobaomby and Analalava,)* are established in the key sea turtles and seagrass habitats and operationalized (may consider some involvement of private sector entities in the MPA co-management, e.g., tourism enterprises);

•**Output 3.1.** *Pilot community livelihood projects targeting conservation of sea turtles, seagrass and mangroves are developed and implemented through Blue Carbon and other mechanisms* (the Output will consider involvement of private sector, e.g., buyers of Blue Carbon credits, tourist and retailer entities, fishing and aquaculture companies in realization of community Blue Carbon and pilot projects on CBNRM and alternative sources of income to ensure sustainability);

•**Output 3.2.** *Sustainable practices and mechanisms incorporating sea turtle and sea grass conservation are introduced to private sector in the project area* (will work with tourist hotels and lodges (e.g. Nosy Faly, Hotel Anjajavy, Nosy Saba, Nosy Kalakajoro, Nosy Iranja, and others) to develop and strengthen their corporate conservation programs through trainings and direct technical assistance provided by the private sector leaders in this field, NGOs and the project staff. Additionally,

the project will provide trainings to interested fishing and aquaculture companies working in the project areas to decrease bycatch of sea turtles by long liners and trawlers and avoid damage to seagrass beds).

All prospective private sector partners will be expected to comply with the requirements of UNEP's Partnership Policy and Procedures (2018). Private Sector partners will also be expected to uphold the principles and standards of UNEP's Environmental and Social Sustainability Framework (2020) and comply with all safeguards risk management plans included in the project's Environmental and Social Management Plan (ESMP).

**5. Risks to Achieving Project Objectives**

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**

During the PPG process and ESSF assessment, a set of key project risks was identified (see Table below). The risks are divided in two categories: (1) the external and internal risks to the project implementation, achievement and sustainability of the project results; and (2) the risks that can be produced by the project itself in social and environmental spheres (ESSF risks) at national and/or project area levels. The project will monitor both categories of risks quarterly and report on the status of the risks to the UNEP. Management responses to High risks will also be reported to the GEF in the annual PIRs.

**Project Risks and Risk Management Measures**

Risk Description	Impact (I), Probability (P) and Risk Level (RL)	Risk Management Measures
<b>Risks to the project implementation, achievement, and sustainability of the project results</b>		

<p>Covid-19 pandemic may disrupt and delay the project implementation due to travel and meeting restrictions.</p>	<p>I=3 P=3 RL=9</p> <p><b>Moderate</b></p>	<p>This threat already impacted the project development (PPG phase), but it likely to decrease as vaccination in the country has started (currently 0.4% of Madagascar population is fully vaccinated[1]). To mitigate this threat a lot of project stakeholder consultations were conducted remotely through email, phone, skype, and other means. All in person consultations were conducted with recommended protective measures. To mitigate the risks during the project implementation the following measures will be used:</p> <ul style="list-style-type: none"> <li>? PMU will monitor Covid-19 situation at national level and in the project area;</li> <li>? MEDD and PMU will explore options for to conduct the Inception Workshop, Project Steering Committee, and other stakeholder meetings, events, and trainings remotely through on-line platforms and/or with limited number of participants practicing protective measures;</li> <li>? The project is designed on the partnerships with organizations mainly located in Madagascar that will limit the needs of international travel to implement the project;</li> <li>? Part of the project Outputs (e.g., for Component 1) can be delivered remotely via on-line tools, if necessary;</li> <li>? Some of the project activities can be reasonably delayed until restrictions are over in the framework of adaptive management and later fast-tracked for implementation;</li> <li>? The GEF will be informed in case of delays and the project can request a reasonable extension to deliver all Outputs;</li> <li>? See Appendix 26. COVID-19 Analysis and Recommended Measures for further details</li> </ul>
<p>Covid-19 pandemic may continue to disrupt the country's economy and may negatively impact Government co-financing commitments to the project</p>	<p>I=3 P=3 RL=9</p> <p><b>Moderate</b></p>	<p>This risk can negatively influence the project implementation through insufficient co-financing. To mitigate the risk the PMU will implement the following measures:</p> <ul style="list-style-type: none"> <li>? Review and prioritizing of the project activities to ensure GEF funding and co-financing is sufficient for the most important of them;</li> <li>? Leverage additional resources from international donors, NGOs, and private sector to mitigate impact of insufficient government co-financing;</li> <li>? See Appendix 26. COVID-19 Analysis and Recommended Measures for further details</li> </ul>

<p>Low MEDD capacity for effective project management may result in implementation delays and incomplete achievement of project Outcomes</p>	<p>I= 4 P=2 RL=8</p> <p><b>Moderate</b></p>	<p>UNDP HACT Assessment of MEDD as the project Executing Agency in 2020 demonstrated overall significant risk and low capacity for the project management. To mitigate this risk the following measures will be implemented:</p> <p>? UNEP (FMO and GEF Task Manager) will provide MEDD with comprehensive capacity building and project management program that will be completed before the project will start (will be covered from the GEF Agency fee);</p> <p>? The project document defines key partners for implementation of the project Outputs as a guidance to the PMU procurement process;</p> <p>? PMU will have a sufficient staff with clear responsibilities and will be provided with training on the Results-Based Management (RBM), project planning, reporting, implementation, and monitoring process by UNEP;</p> <p>? PMU will have an experienced Project Technical Advisor (International Consultant) working part-time to guide the PMU through UNEP project planning, reporting, implementation, and monitoring process.</p>
<p>Insufficient national and local capacity for complete delivery of the project Outputs and sustainability of the project Outcomes.</p>	<p>I= 3 P=2 RL=6</p> <p><b>Moderate</b></p>	<p>Despite relatively high political commitment of the Madagascar government to protect sea turtles and seagrass as well as other marine endangered species and habitats, capacity of the government agencies (MEDD/DREDD, MNP, CSP, OMCs, Police, Gendarmerie, and Judiciary) to fight sea turtle poaching and manage marine PAs (NPs and LMMAs) remains low (agencies are understaffed, level of skills and knowledge is insufficient, necessary equipment is lacking, funding is limited). At the same time local communities in the project area have low capacity for sustainable natural resource management and limited experience (participation in protection of sea turtles and seagrass, marine PAs co-management and alternative livelihood options). To mitigate the risk the project will:</p> <p>? Invest considerable resources in capacity building of the law enforcement agencies, NPs and LMMAs, and local communities to protect, manage and monitor sea turtles and seagrass; manage NPs and LMMAs, and implement sustainable NRM under all three project components;</p> <p>? Involve a wide range of experienced international partners and consultants in the project implementation that have significant experience in Madagascar and abroad as well as capacity to ensure delivery of the project outputs in cooperation with local stakeholders in time and with high quality;</p> <p>? Incorporate financial planning in the NP and LMMAs management plans, identification of markets for communal production and services, including blue carbon market; and financial and resource planning for sea turtle and seagrass monitoring programs;</p> <p>? Cooperate with other projects to build strong partnerships and sustain the GEF project results over 5-10 years via leveraging additional financial resources and expertise.</p>

<p>Mal-governance and endemic corruption at national and local levels can undermine achievement of the project Outcomes</p>	<p>I=3 P=3 RL=9</p> <p><b>Moderate</b></p>	<p>Addressing mal-governance and corruption requires considerable high-level political support and commitments. Reducing corruption's impact can be addressed through proactive project management and effective project monitoring and evaluation that highlight when inappropriate action is being taken. The project will use following means to address corruption and mal-governance:</p> <ul style="list-style-type: none"> <li>? National Sea Turtle Conservation Plan for 2022-2032 (Output 1.1) will include block of activities to fight corruption in enforcement of crime against sea turtles;</li> <li>? Wildlife crime investigation and prosecution training and mentoring (Output 2.3) will include a block on anti-corruption and anti-money laundering practices;</li> <li>? Procurement of equipment for the newly established and existing marine PAs (Output 2.1 and 2.2) and OMCs (Output 2.3) will be done in accordance with UNEP rules to prevent corruption and mal-use of procured items. Strict M&amp;E and project oversight will be essential for the use of the project funds and equipment, including vehicles;</li> <li>? Additionally, GRM in the project area will be used to report cases of the project related corruption and mal-governance;</li> <li>? Selection and funding of community pilot project (Output 3.1) will be done through transparent process led by community associations and supervised by the PMU and project partners;</li> <li>? Collaboration with other internationally funded high-profile projects in Madagascar will further stimulate the government's efforts to fight corruption and mal-practice in the project implementation.</li> </ul>
---	--	---

<p>Benefits provided by the project to local communities through NPA co-management and sustainable livelihood may be insufficient to draw them from sea turtle poaching, illegal wildlife trade and other destructive practices</p>	<p>I=3 P=3 RL = 9</p> <p><b>Moderate</b></p>	<p>The project will address this risk through the following measures:</p> <ul style="list-style-type: none"> <li>? Operationalization new LMMAs and capacity building of existing NPs and LMMAs as well as wildlife crime enforcement capacity building in the project area will increase level of the sea turtle and seagrass protection and create significant disincentives for illegal activities (Outputs 2.1-2.3);</li> <li>? The project will assist local communities to obtain rights on the marine resource management to ensure ownership of natural resources and effective co-management of the LMMAs and NPs (Outputs 2.1-2.2);</li> <li>? Under Outcome 3 the project will invest significant resources (\$824,000) in the development of sustainable NRM and alternative sources of income for local communities in the project sites, including Blue Carbon project, based on decision and choice of local communities;</li> <li>? The project will use already proved and tested models to deliver Output 3.1 to make sure they will work in the project area (e.g., the Guiding Principles for Delivering Coastal Wetland Carbon Projects (UNEP 2014) and experience of the similar Blue Carbon project in Kwale County, Kenya, and Blue Ventures? Tahiry Honko Community Mangrove Project in Madagascar; sustainable fishing and collection of sea products approaches that are friendly for sea turtles, seagrass, mangroves, and coral reefs; and community-based ecotourism initiatives in cooperation with local tourist companies that includes monitoring of sea turtles and seagrass based on the successful experience of Blue Ventures, C3, WWF and WCS in the project area and other parts of Madagascar);</li> <li>? The project will collaborate with other projects and private sector to attract additional investments in sustainable livelihood in the project area and find appropriate markets for community production and services;</li> <li>? Quarterly monitoring of development/implementation of the community Blue Carbon and community livelihood projects to make sure they can provide sufficient benefits to local communities</li> </ul>
<p>Community associations will not be able to obtain TGRN agreement to participate in the LMMA management due to competing land use priorities, insufficient local governance capacities, and lengthy bureaucratic procedures.</p>	<p>I=4 P=2 RL = 8</p> <p><b>Moderate</b></p>	<p>Land tenure uncertainty in the new PA landscape could impact on project efforts to conserve biodiversity and ensure sustainable livelihoods. To address this risk the project will:</p> <ul style="list-style-type: none"> <li>? Assist target community associations to obtain TGRN agreements for LMMAs and facilitate the process in cooperation with local government and MEDD (Output 2.1);</li> <li>? Work with local government to develop appropriate functional zoning for the LMMAs to allow management both for conservation and development based on balanced trade-off approach (Output 2.1);</li> <li>? Build community association capacity for effective LMMA and NPs co-management and sustainable NRM (Outputs 2.1 and 2.2)</li> </ul>

<p>Conservation targets and sustainable livelihood models introduced by the project in the project sites may be negatively affected by the effect of climate change (mainly by sea level rise and increasing temperature). See brief analysis of climate change impact on the project conservation targets and results under the table</p>	<p>I=3 P=4 RL=12  <b>Moderate</b></p>	<p>Both sea turtle population and seagrass beds can be negatively impacted by climate change (mainly by sea level rise, increasing temperature, increasing magnitude of storms). Additionally, mangroves and coral reef might be severely impacted by climate change effects. The likelihood that climate change effects significantly affect project results in the project lifetime is low, however, they can affect sustainability of the models introduced by the project in the long-term. To mitigate the risk the project will:</p> <ul style="list-style-type: none"> <li>? Introduce climate change projections and habitat models for the project sites and climate-smart approaches in the LMMAs and NPs management plans (Outputs 2.1-2.2);</li> <li>? Reduce non-climate threats for the project area (poaching, seagrass degradation, and mangrove deforestation) that are likely to be exacerbated by the climate change (Output s2.1-2.3, 3.1-3.2);</li> <li>? Develop Blue Carbon project in the area that has more adaptability for rising sea level and allow shift of mangrove forests and seagrass fields in response to rising water level (Output 3.1);</li> <li>? Develop livelihood options for local communities with capacity to adapt to climate change effects (Output 3.1).</li> </ul>
<p><b>Social and Environmental (SES) Risks that may be triggered by the project</b></p>		
<p>Multiple moderate social project risks can have significant negative impact on local communities in the project area</p>	<p>I= 3 L=3 RL=9  <b>Moderate</b></p>	<p>See risk descriptions in the Appendix 17. UNEP Safeguard Risk Identification Form (SRIF) and management measures in the sub-section 3.11. The project will quarterly monitor SES risks during implementation of the project activities. Additionally, the project will establish a Grievance Redress Mechanism in the project sites to allow local communities file complains about the project negative impact if any.</p>

**Climate Change Effects projected in the project area and entire Madagascar coastal waters:** Because sea turtles use both marine and terrestrial habitats during their life cycles, the effects of climate change are likely to have a devastating impact on these endangered species. By 2065, temperatures in Madagascar are projected to increase between 1.1°C and 2.6°C, with the lowest projected increases along the northern coastal regions (including the project area) and the highest projected increases for the southern part of the country[2]. Shoreline erosion caused by sea level rise is already a significant problem to the coastal beaches of Madagascar. Coastal erosion as measured in 1997 was between 5.71 and 6.54 meters, and this is projected to increase exponentially by 2100[3]. A rise in the sea level will impact sea turtle nesting beaches. Sea turtles' memories are 'imprinted' with a magnetic map of the sandy beach where they hatch. This gives them the unique ability to return to that same site decades later to repeat their ancient nesting ritual. With melting polar ice caps and rising sea levels, these beaches are beginning to disappear. The direct impacts of sea level rise include losing beaches, ecologically productive wetlands and barrier islands. An increase in nesting beach temperatures will also have an impact on sea turtles. Because sea turtles are reptiles, they rely on the temperature of the sand in which the eggs incubate to determine the gender of the

hatchling in a nest. Typically, the eggs in the lower, cooler, part of the nest will become males, while the eggs in the upper, warmer, part of the nest will become females. With increasing nest temperatures, scientists predict that there will be more female than male hatchlings, creating a significant threat to genetic diversity. Warmer ocean temperatures are also likely to negatively impact food resources for sea turtles, and virtually all marine species. Coral reefs, which are an important food source for sea turtles, are in great danger. As a result of rising temperatures, coral reefs are suffering from a 'bleaching' effect that kills off parts of the reef. Coral reefs of the project area (north-west of Madagascar) are likely to be more resilient to the bleaching effect due to cool water currents from nearby deep ocean areas that mitigate the impact of raising water temperature[4]. In addition, the increase in cyclonic phenomena due to global warming leads to the degradation of spawning beaches, as has been observed in Sahamalaza and Nosy Hara.

A primary effect of increased global temperature on seagrasses will be the alteration of growth rates and other physiological functions of the plants themselves. The distribution of seagrasses will shift as a result of increased temperature stress and changes in the patterns of sexual reproduction. Indirect temperature effects may include plant community changes as a result of increased eutrophication and changes in the frequency and intensity of extreme weather events. The direct effects of sea level rise on the coastal oceans will be to increase water depths, change tidal variation, alter water movement, and increase seawater intrusion into estuaries and rivers. Increased water depth, which reduces the amount of light reaching existing seagrass beds, will directly reduce plant productivity where plants are light limited. Likewise, increases in water motion and tidal circulation will decrease the amount of light reaching the plants by increasing turbidity or by stimulating the growth of epiphytes. Increasing atmospheric carbon dioxide will directly elevate the amount of CO<sub>2</sub> in coastal waters. In areas where seagrasses are carbon limited, this may increase primary production, although whether this increase will be sustained with long-term CO<sub>2</sub> enrichment is uncertain. The impact of increases in CO<sub>2</sub> will vary with species and environmental circumstances, but will likely include species distribution by altering the competition between seagrass species as well as between seagrass and algal populations[5].

---

[1] Data of September 5 2021

[2] World Bank's Climate Change Knowledge Portal  
<https://climateknowledgeportal.worldbank.org/country/madagascar/climate-data-projections>

[3] World Bank's Climate Change Knowledge Portal  
<https://climateknowledgeportal.worldbank.org/country/madagascar/climate-data-projections>

[4] <https://news.mongabay.com/2006/10/massive-coral-bleaching-in-madagascar/>

[5] Short and Neckles, 1999. The effects of global climate change on seagrasses. Aquatic Botany Volume 63, Issues 3-4, 1 April 1999, Pages 169-196

## **6. Institutional Arrangement and Coordination**

**Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

**Project Implementing Agency** ? The United Nations Environment Programme (UNEP) is the GEF's Implementing Agency for this project. UNEP will implement the project through its Ecosystems Division and will be responsible for overall project supervision. UNEP will also monitor implementation of the activities undertaken during the execution of the project and will provide the overall coordination and to ensure that the project is in line with UNEP's Medium-Term Strategy and its Program of Work (PoW). Project supervision is entrusted to the UNEP/GEF Task Manager (TM) and Fund Management Officer (FMO). UNEP will bring to bear its vast scientific and empirical experience of critical relevance to the objectives of the project through sharing experiences of its other projects being supported by GEF or other agencies. Other specific Implementing Agency responsibilities include ensuring compliance with GEF policies and standards for results-based M&E, fiduciary oversight, safeguards compliance, project budget approvals, technical guidance and oversight of project outputs, approval of Project Implementation Reports (PIRs), participation in the project's superior governance structure, preparation of the project's Terminal Evaluation.

The **Project Executing Agency** for this project is the Ministry of Environment and Sustainable Development of Madagascar (MEDD). The Executing Agency is the entity to which the UNEP has entrusted the implementation of the GEF assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of GEF resources and the delivery of outputs, as set forth in this document. The Executing Agency is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, implementation, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Executing Agency will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems;
- Risk management as outlined in this Project Document;
- Procurement of goods and services, including human resources;
- Financial management, including overseeing financial expenditures against project budgets;
- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

The **Project Steering Committee (PSC)** is the project's superior governing body responsible for taking corrective action as needed to ensure the project achieves the desired results. The PSC will be chaired by the Secretary General, MEDD, and will consist of the representatives of MEDD, MPEB, Ministry of Population, MNP, WCS, WWF, National Focal Point for Sea Turtle Conservation, CMS National Focal Point, and GEF Operational Focal Point (the PSC will be formed during the project inception phase). The PSC will meet at least once per year. Specific responsibilities of the PSC include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- ? Address project issues as raised by the Project Manager **and Policy Coordinator (PM)**;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Advise on major and minor amendments to the project within the parameters set by UNEP-GEF;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;

- Review combined delivery reports prior to certification by the Executing Agency;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest;
- Review of the grievances related to the project via GRM Sub-Committee of the PSC.

The **Technical Working Committees** in the Sofia and Diana Regions will ensure project coordination among all local stakeholders and their involvement in the participatory project M&E and management under PMU guidance; the Committees will directly ensure access of local community to GRM channels. The Technical Committees' recommendations will be reviewed and taken into consideration by the PSC at its meetings as well as by the PMU. The Committees will meet at least four times a year or as often as necessary to provide technical advice to project implementation activities, including the review of reports to be submitted to PSC and UNEP. The locations of Technical Committees' meetings will be determined during the project implementation in the project area. The Technical Committees will consist from representatives of the MEDD (central and regional offices in the Sofia and Diana Regions), MPEB (central and regional offices in the Sofia and Diana Regions), Ministry of Population, CNRE, CNRO, CN-GIZC, CR-GIZC, IHSM, WCS, WWF, Blue Ventures, FAPBM, CI, MAD, Cosap Sahamalaza, C3, R?seau MIHARI, Madagasikara Voakajy, Facult? des Sciences Universit? Antsiranana, target MPAs, and local communities.

**Project Management Unit (PMU):** The Project Management Unit will be located in Antananarivo at the MEDD headquarter (DGDD) and consist from the following staff: Project Manager; Technical Assistant; two Regional Coordinators (in Sofia and Diana Regions); E&M, KM and Communication Officer, Finance & Administration Assistant, and Public Procurement Officer. All Project Management Unit staff will be appointed by the MEDD.

? **Project Manager and Policy Coordinator (or PM in short)** (full time, based in Antananarivo) will lead the PMU and will have the authority to run the project on a day-to-day basis on behalf of the Executing Agency. The Executing Agency appoints the Project Manager, who must be different from the Executing Agency's representative on the PSC. The Project Manager's primary responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The Project Manager and Policy Coordinator will inform the PSC and the UNEP of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted. The Project Manager and Policy Coordinator will remain on contract until the Terminal Evaluation report and the corresponding management response have been finalized and the required tasks for operational closure and transfer of assets are fully completed. The Project Manager and Policy Coordinator will be directly responsible for timely development of the project Annual Work Plans, organization of the PSC meeting, timely and effective delivery of the project Outputs, project M&E and KM, quarterly and annual reporting of the project results, procurement of the required goods and services. The Project Manager and Policy Coordinator will work 36% of his time on the project management. The other 64% of the Project Manager and Policy Coordinator time will be used to ensure delivery of project Outcome 1. Specifically, he/she will work directly with different partners and stakeholders to develop Annual Work Plan activities and activity budgets for the Outputs under Outcome 1; procure required services and goods to deliver Outputs under the Outcome; monitor the Outputs delivery; develop quarterly and annual reports for the Outcome 1; participate in obtaining GEF, PRF, and

ESMP indicator values; doing project risk assessment and implementation of the risk management measures related to the Outcome 1; report to the PSC on the Output delivery for the Outcome 1; organize in cooperation with key partners of the Outcome 1 events and participate in the Outcome 1 communication activities. See specific tasks of the Project Manager and Policy Coordinator in the Appendix 9.

? **Technical Assistant** (full time, based in Antananarivo) will be responsible for high quality assistance to the Project Manager and Policy Coordinator and other PMU staff to manage the project (28% of the work time) and deliver Outputs under Outcome 1 (24% of the work time), Outcome 2 (24% of the work time), and Outcome 3 (24% of the work time). The officers will be appointed by the Executing Agency and will provide technical advice to the PMU staff on the project management and delivery of the project Outputs. The Technical Assistant will be also responsible for development of Terms of Reference and Agreements for the project consultants and Responsible Parties (organizations).

? **Regional Coordinators** (2 officers, full time, based in Sofia and Diana Regions) will be directly responsible for timely and high quality delivery of the project Outputs under Outcomes 2 and 3. The officers will spend 23% of work time on the project management, 39% - on the technical support of activities under Outcome 2, and 38% - on the technical support of activities under Outcome 3. The officers will be appointed by the Executing Agency and will work directly with different partners and stakeholders in the project area to develop a multi-year and Annual Work Plan activities and activity budgets for the Outputs under Outcomes 2 and 3; procure required services and goods to deliver Outputs under the Outcomes; monitor the Outputs delivery; develop quarterly and annual reports for the Outcomes 2 and 3; organize meetings of the Technical Working Committees in the project area; participate in collection of the GEF and PRF indicator values for the project Objective and Outcomes 2 and 3; assist the Project Manager and Policy Coordinator in project risk assessment and implementation of the risk management and ESMP measures in relation to the Outcomes 2 and 3; monitor access of local communities to the GRM; report to the PSC on the Output delivery for Outcomes 2 and 3; organize in cooperation with key partners the Outcomes 2 and 3 events and participate in the Outcomes 2 and 3 communication activities. See specific tasks of the Regional Coordinators in the Appendix 9.

? **M&E, KM and Communication Officer** (full time, based in Antananarivo) will be directly responsible for timely and high quality delivery of the project activities for the M&E, KM, and communication. The officer will spend 9% of the work time on the project management, 20% - on the direct support of the Outcome 1, 40% - direct support of the Outcome 2, and 31% - direct support of the Outcome 3. The officer will be appointed by the Executing Agency and will work directly with the PMU staff, different partners and stakeholders in the project area to develop a multi-year and Annual Work Plan activities and activity budgets for the M&E, KM, and communication; procure required services and goods for the M&E, KM, and communication; monitor delivery of the M&E, KM, and communication activities; develop quarterly and annual reports for the project M&E, KM, and communication; annually update Gender action plan, Stakeholder Engagement Plan, ESMP and ensure their implementation through delivery of all project Outputs; lead on obtaining GEF and PRF indicator values for the project Objective and Outcomes with support from other PMU staff; advise the Project Manager and Policy Coordinator on project risk assessment and implementation of the risk management and ESMP measures on quarterly basis; report to the PSC on the project M&E, KM, and communication; organize in cooperation with key

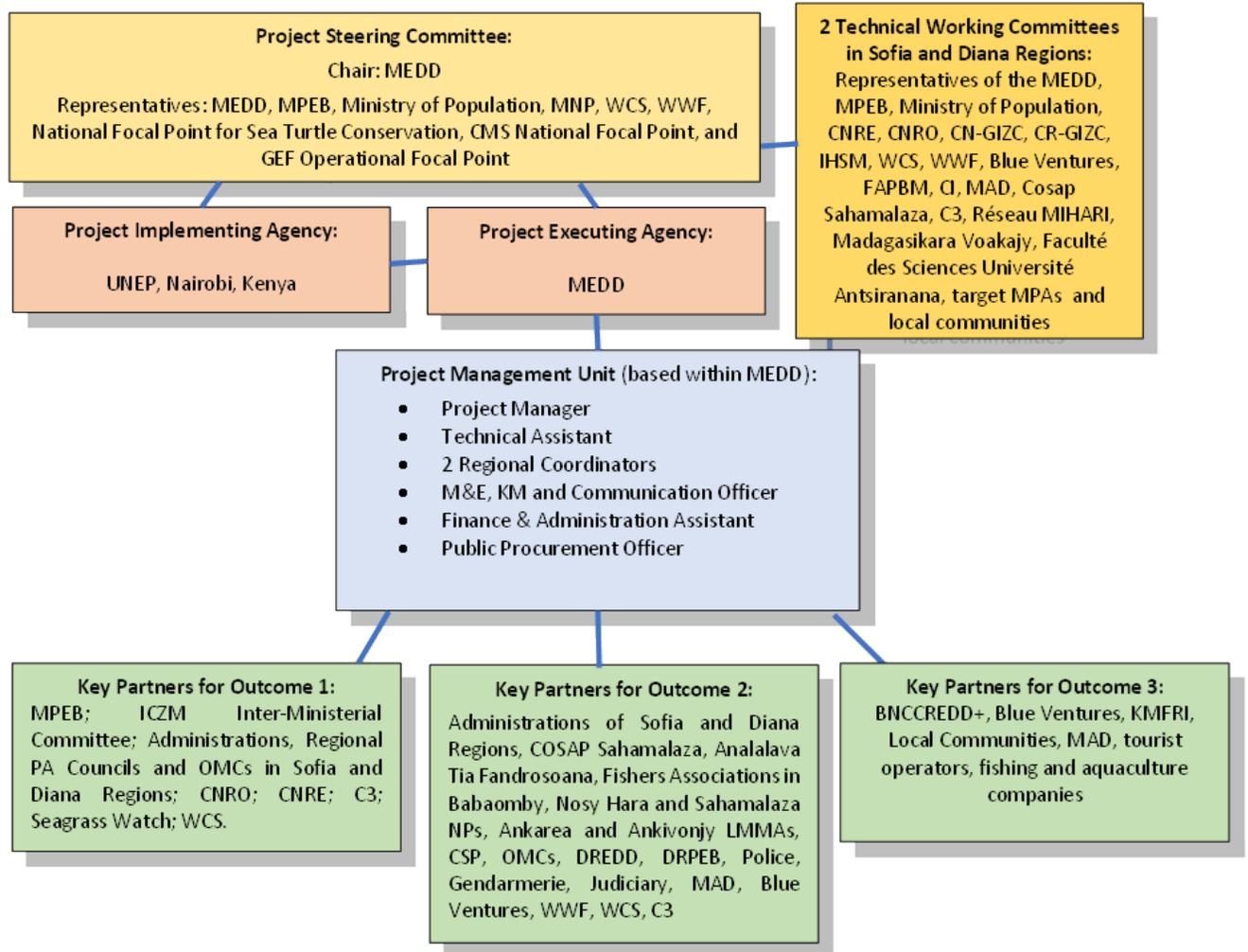
partners KM and communication events; organize and lead on the project communication activities. See specific tasks of the KM and Communication Officer in the Appendix 9.

? **Finance & Administration Assistant** (full-time, based in Antananarivo) will be appointed by the Executing Agency and will assist the Project Manager **and Policy Coordinator** and other PMU staff to set up the project annual work plans (AWP) in relevant operating systems; track and monitor the use of allocations, track approval of budget revisions and their uploading; create e-requisitions, check budget for accuracy, and do receipts for payments; generate financial reports and prepare monthly delivery monitoring tables for the assigned project, check for correctness, identify issues, contribute to development of solutions; support project management in performing budget cycle: planning, preparation, revisions, and budget execution; process all types of payment requests for settlement purposes including quarterly advances to the partners upon joint review; monitor budget expenditures, ensuring that no expenditure is incurred before it has been authorized and maintain a proper record of commitments and planned expenditures; ensure that contractual processes follow the stipulated UNEP and GEF procedures (100% of work time on the project management). See specific tasks of the Finance & Administration Assistant in the Appendix 9.

? **Public Procurement Officer** (part time, based in Antananarivo) will be appointed by the Executing Agency from the MEDD staff to assist the PMU in procurement of project goods and services. The Officer will be paid from the MEDD co-financing to the project.

? The PMU will directly work with **project partners (Responsible Parties) and stakeholders** for each project Outcome to deliver the project Outputs. Selected by PMU and MEDD Responsible Parties will be responsible for delivery of the key project Outputs or particular Activities via contractual agreements with PMU. The full project implementation diagram is shown in Figure 2.

**Figure 2.** Project Management Arrangements



## 7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is fully aligned with national priorities. It will directly contribute to implementing the National Biodiversity Strategy and Action Plan 2015-2025, the Law on the Environment Charter and Protected Areas Management Code (COAP), National Spatial Planning (NSP) (with the perspective scheme of Protected Areas for the nearest 30 years). The project is in line with Madagascar's obligations to the Convention on Biological Diversity (CBD) and CITES and will directly contribute to the improvement of national CITES legislation and implementation of the Durban Declaration.

The project is also consistent with the Madagascar Environmental Plan for Sustainable Development (PEDD). PEDD is intended as a strategic reference document for Madagascar for environmental management and sustainable development. The goals have been identified in the context of the PEDD that

align closely with this project, namely: (i) the implementation of PEDD will contribute to a systematic decentralization and local development to increase the responsibility of collectivities and communities in the governance of the natural resources in their territory; (ii) economic productivity and growth based on the valuation of the natural capital; and (iii) an equitable sharing of the benefits of nature for equitable and sustainable development in all territories.

The CITES Strategic Vision 2021-2030 emphasizes the importance of national commitment to implementation of the Convention and its principles. The project will support compliance through development of national and local capacity to effectively address wildlife crime via legislative, capacity building, and direct law enforcement initiatives and contribute to the Strategic Vision's **Goal 1: Trade in CITES-listed species is conducted in full compliance with the Convention in order to achieve their conservation and sustainable use; Goal 3: Parties (individually and collectively) have the tools, resources and capacity to effectively implement and enforce the Convention, contributing to the conservation, sustainable use and the reduction of illegal trade in CITES-listed wildlife species; and Goal 5: Delivery of the CITES Strategic Vision is improved through collaboration.**

The project additionally contributes to the national implementation of the *Convention on the Conservation of Migratory Species of Wild Animals* (CMS) (lists all species of sea turtles found in Madagascar waters on Appendix I and II); the *CMS Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (IOSEA Marine Turtles MoU) signed by Madagascar in April 2003; the *Nairobi Convention for the Development, Protection and Management of the Marine and Coastal Environment of the Western Indian Ocean* (Nairobi Convention), including Convention's *Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities*.

Madagascar is among the more than 150 countries that at the United Nations Sustainable Development Summit on 25 September 2015, adopted the new 2030 Agenda for Sustainable Development, including the Sustainable Development Goals (SDGs). Thus, via managing the development challenges described above (sea turtle poaching and illegal trade, seagrass fields and mangroves degradation, climate change) the project will directly contribute towards the attainment of the country's SDGs such as **Goal 1 No Poverty** (Indicator 1.2.1. Proportion of population living below the national poverty line, by sex and age) and **Goal 2 Zero Hunger** (Indicator 2.1.1 Prevalence of undernourishment) - via addressing continuous degradation of marine resources, seagrass degradation, mangrove deforestation and climate change, and development opportunities for their sustainable use by local communities; **Goal 5 Gender Equality** (Indicator 5.5.1 Proportion of seats held by women in national parliaments and local governments and Indicator 5.5.2 Proportion of women in managerial positions), **Goal 8 Decent Work and Economic Growth** (Indicator 8.5.2 Unemployment rate, by sex, age and persons with disabilities), and **Goal 10 Reduced Inequalities** (Indicator 10.2.1 Proportion of people living below 50% of median income, by age, sex and persons with disabilities) - for building opportunities for women and youth for employment in sustainable marine resources and marine PA management; **Goal 13 Climate Action** (Indicator 13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized Communities) and **Goal 14 Life below Water** (Indicator 14.5.1 Coverage of protected areas in relation to marine areas) - via protection of sea turtles, seagrass, and mangroves, as well as **Goal 16 Peace, Justice and Strong Institutions** (Indicator 16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months) - via effective governance of NPs and LMMAs as well as via addressing poaching and IWT of sea turtles and other marine species. The project is designed to contribute to the Madagascar's **United Nations Development Assistance Framework (UNDAF) 2021-2023** Outcome 1.1: *By 2030, national institutions are effective, accountable, transparent and act within a constitutional and legal framework, in the observance of the rule of law and respect for human rights, gender equality, environmental sustainability in order to ensure foundation of political legitimacy.*

The project is consistent with the Aichi Biodiversity Targets and will contribute to their achievement, particularly **Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use,**

**Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced; and under **Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services, Target 11:** By 2020, at least 17% terrestrial and inland waters and 10% of coastal areas, and marine areas, particularly areas of particular importance for biodiversity and ecosystem services, are conserved through protected area systems that are managed in an efficient and equitable manner, are ecologically representative and well-connected, and through other conservation measures. area-based, and integrated with seascapes and the wider landscape, **Target 12:** By 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, **Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable; and **Target 15:** By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

## **8. Knowledge Management**

### **Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

The project has dedicated knowledge management under M&E and Knowledge Management component, which has been designed to ensure special emphasis is paid to systematically document and synthesize lessons learnt from the project interventions. An effective M&E system and regular analysis of M&E data will allow the project to learn and practice adaptive management, namely: (i) identify the most effective project strategies; (ii) check project assumptions (hypotheses) and risks; (iii) prepare management response to changing political, economic, and ecological environment; (iv) learn from successful and unsuccessful project experience; (v) incorporate learning in the project planning and adaptive management; and (vi) share experience among GWP, GEF and other projects in Africa and the world. Lessons learned through the project cycle will be reflected in the PIRs to ensure that the project uses the most effective strategies to deliver project Outputs and achieve project Outcomes in the changing environment.

To systemize and share its lessons and knowledge, the project will use different communication means including:

- ? A project Communication and KM Strategy that will be developed at the inception phase;
- ? A project page on the MEDD web-site with available project reports, publications, press-releases, datasets, draft and final legislative documents, developed management plans, etc.;
- ? Six month or annual project information bulletin;
- ? Special paper and online publications, including manuals, guidance, methodologies, etc.;
- ? Publications and presentations at the Virtual Knowledge Exchange hosted by the Global Wildlife Programme;
- ? Collaborative and experience exchange meetings with other sea turtle and seagrass conservation projects in Africa and Asia and other relevant projects;
- ? Exchange visits for local communities, NPs and MPAs/LMMAs to demonstrate the best practices;
- ? Stakeholders Knowledge Exchange Events hosted by MEDD;
- ? Publications in mass media, conservation, and scientific journals; and
- ? Other available KM and communication tools and approaches;
  
- ? Collection and storage of geospatial data related to the project.

The project already learned from other countries' experiences to protect and sustainably use sea turtles and seagrass and develop sustainable community-based conservation models during PPG process and will use opportunities to learn from other countries and projects as well as share with them its own lessons (both on success and failure) during the implementation phase. In particular, Reunion, Mauritius, Comoros, Kenya, Tanzania, and Mozambique are the most important project peers to share experience and best practices on sea turtle and seagrass conservation. For instance, the project can meaningfully contribute to the implementation of the CMS Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA Marine Turtles MoU), Nairobi Convention for the Development, Protection and Management of the Marine and Coastal Environment of the Western Indian Ocean (Nairobi Convention), the Convention's Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities. Additionally, the project will specifically learn from successful Kenya's experience on a community-based blue carbon project inclusive of seagrass and mangroves. The project will also look for the best practices on marine NP and LMMA management and sustainable community development from Madagascar domestic projects as well as Kenya, Tanzania, Reunion, and Mozambique to ensure effective delivery of Outputs 2.1-2.3 and 3.1-3.2. The South-South learning exchange will be implemented in the framework of the project Knowledge Management through the following mechanisms:

- Meetings of the appropriate CITES Committees (e.g., Animals Committee for sea turtles) and regional thematic groups in SADC;
- The Nairobi Convention web-site: <https://www.nairobiconvention.org/homepage/news-2/> ;
- The Blue Forest Solutions <https://www.blueforestsolutions.com/> ;
- South-South Galaxy platform <https://www.unsouthsouth.org/south-south-galaxy/> ;
- IUCN PANORAMA Solutions <https://www.iucn.org/resources/conservation-tools/panorama> ;
- SADC website <https://www.sadc.int/> and other knowledge sharing platforms.

In addition, to bring the voice of Madagascar to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNEP could support engagement with the global development discourse on sea turtle and seagrass conservation initiatives and CITES events. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on marine conservation in geopolitical, social and environmental contexts relevant to the proposed project in Madagascar.

The budget (and indicative timeline) for project knowledge management activities is summarised below (however, the lessons learning practices are integrated in delivery of each project Output):

KM Activities/Expenses	Timeline	Budget, USD
Travel expenses for the PMU to monitor PRF and GEF indicators (M&E), ESMP, stakeholder involvement plan, Gender Mainstreaming Strategy, and GRM implementation (M&E), and extract and share lessons learned, including:	Years 1-5	45,000
- Monitoring meetings with the project partners to discuss Output related project progress and lessons learned;	Quarterly	20,000
- Collaborative and experience exchange meetings with other sea turtle and seagrass conservation projects in Africa and Asia and other relevant projects (on demand)	Annually	25,000

<p><b>Part of the salary of the M&amp;E, KM and Communication Officer (~20% of the work time for KM activities), that includes:</b></p> <ul style="list-style-type: none"> <li>- Development and update of the project Communication and KM Strategy;</li> <li>- Development and update project page on the MEDD web-site with available project reports, publications, press-releases, datasets, draft and final legislative documents, developed management plans, etc.;</li> <li>- Development of the annual project bulletin (with input from all PMU members);</li> <li>- Collection and storage of geospatial data related to the project (with input from all PMU members);</li> <li>- Development publications and presentations at the Virtual Knowledge Exchange hosted by the Global Wildlife Programme and other international platforms (with input from all PMU members);</li> <li>- Facilitation of the lesson extraction session with the PMU and project partners and lessons description and systematization</li> </ul>	<p><b>Years 1-5</b></p> <p>Year 1, and update annually</p> <p>Year 1, and update quarterly</p> <p>Annually</p> <p>Quarterly</p> <p>Semi-annually</p> <p>Quarterly</p>	<p><b>15,000</b></p>
<p><b>Approximately 10% of the Sub-Contracts budget (Outputs 1.3, 2.1-2.3, and 3.1) will be used for extraction and description of the lessons learned by the Responsible Parties, including:</b></p> <ul style="list-style-type: none"> <li>- Exchange visits for local communities, NPs and LMMAs to demonstrate the best practices (on demand);</li> <li>- Development of the Output related manuals, guidelines, publications, instructions, etc (on demand).</li> <li>- Quarterly Output related lessons learning sessions and systematization of the lessons;</li> <li>- Participation in the lessons exchange meetings between the project partners</li> </ul>	<p><b>Years 1-5</b></p> <p>Annually</p> <p>Annually</p> <p>Quarterly</p> <p>Annually</p>	<p><b>181,800</b></p> <p>100,000</p> <p>30,000</p> <p>10,000</p> <p>41,800</p>
<p><b>Approximately 10% of the budget(work time) for Mid-Term Review and Terminal Evaluation (M&amp;E, International Consultants) will be used for extraction of the lessons learned, including:</b></p> <ul style="list-style-type: none"> <li>- Lesson extraction sessions with the PMU and project partners;</li> <li>- Review of the project lessons in the Evaluation Reports</li> </ul>	<p><b>Years 3 and 5</b></p>	<p><b>6,000</b></p>
<p><b>Publication of the project materials, including lessons learned; print out for the project KM events, Years 1-5 (M&amp;E), including:</b></p> <ul style="list-style-type: none"> <li>- Special paper and online publications, including manuals, guidance, methodologies, etc. (on demand)</li> <li>- Publications in mass media, conservation, and scientific journals (on demand)</li> </ul>	<p><b>Years 1-5</b></p> <p>Annually</p> <p>Annually</p>	<p><b>25,320</b></p> <p>20,000</p> <p>5,320</p>

<b>Stakeholders Knowledge Exchange Events hosted by MEDD</b>	<b>Years 1-5</b> <b>Annually</b>	<b>MEDD Co-financing</b>
<b>Total (GEF):</b>		<b>273,120</b>

## 9. Monitoring and Evaluation

### Describe the budgeted M and E plan

The full M&E Plan for the project is described in the Section 6: Monitoring and Evaluation Plan of the Prodoc with further details in Appendixes 3, 5, 6, 9, 13, and 15. A summary of the project M&E budget is provided in the table below.

Type of M&E activity	Responsible Parties	Budget from GEF, USD	Budget co-finance	Time Frame
Inception Meetings in Antananarivo, Sofia and Diana Regions	Implementing Partner (MEDD)/UNEP/Project Manager and Policy Coordinator	15,000	0	Within 2 months of project start-up
Inception Report	Project Manager and Policy Coordinator	0	0	1 month after project inception meeting
Measurement of project indicators (outcome, progress and performance indicators, GEF tracking tools) at national and global level	PMU and project partners	30,000[1] (6,000/yr)	0	Outcome indicators: start, mid and end of project Progress/perform. Indicators: annually
ESIA and ESMP development	PMU, International Consultant	30,000	0	Q1 Year 1
Semi-annual Progress/Operational Reports to UNEP	PM and PMU	0	0	Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July
Project Steering Committee meetings and Technical Committee meetings	Implementing Partner (MEDD)/PMU	50,000 (10,000/year)	20,000	Once a year minimum
Reports of PSC meetings	PM and PMU	0	0	Annually
PIR	PM and PMU	0	0	Annually, part of reporting routine
Monitoring visits to field sites, including for monitoring/implementation of ESMP, Risk Register, and stakeholder engagement plan, GRM	PMU	15,000	0	As appropriate

Type of M&E activity	Responsible Parties	Budget from GEF, USD	Budget co-finance	Time Frame
Mid Term Review/Evaluation	UNEP/PMU, Independent evaluator (International)	30,000	0	At mid-point of project implementation
Terminal Evaluation	UNEP/PMU, Independent evaluator (International)	30,000	0	Within 6 months of end of project implementation
Project Final Report	PM and PMU	0	0	Within 2 months of the project completion date
Co-financing report	PM and PMU	0	0	Within 1 month of the PIR reporting period, i.e. on or before 31 July
Publication of Lessons Learnt and other project documents	PM and PMU	25,320	0	Annually, part of Semi-annual reports & Project Final Report
<b>Total M&amp;E Plan Budget:</b>		<b>225,320</b>	<b>20,000</b>	

[1] Does not include the budget for baseline, mid-term, and end of the project sea turtle, seagrass, and mangroves surveys (Output 1.3)

## 10. Benefits

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?**

The project is designed to provide direct socio-economic benefits to at least 13,000 local people (at least 30% women) in the target communities living in the project sites - Nosy Hara National Park, Sahamalaza National Park, Ankarea MPA, Ankivonjy MPA, and Bobaomby and Analalava areas - through the involvement of local communities in Bobaomby and Analalava MPA/LMMA establishment and operationalization (assisting local communities in obtaining land tenure titles; development/renewal of co-management agreements, and providing conditions for employment of up to 200 Marine Community Rangers (Outputs 2.1); capacity building for COSAPS, Marine Community Rangers, and OMCs of existing MPAs (Nosy Hara National Park, Sahamalaza National Park, Ankarea MPA, Ankivonjy MPA) on protection and sustainable management of sea turtle, seagrass, and other marine resources (Output 2.2); development and implementation of a Blue Carbon project on community-based conservation of mangroves and seagrass that expected to provide local people with sustainable income from selling of blue carbon credits (Output 3.1, direct investment of \$400,000); development and implementation of pilot CBNRM and alternative livelihood projects (Outputs 3.1) with direct investments of \$408,000 to local communities in the form of Low Value Grants. The projected increase of revenue of local communities resulting from the implementation of the Blue Carbon, CBNRM and alternative livelihood pilot projects

(Output 3.1) can be estimated in 50-100%[1]. At the same time, the project is expected to decrease economic losses from sea turtle poaching and trade, degradation of seagrass beds, mangroves and other marine habitats in the project area by 50-100% during its lifetime via the increased law enforcement and effective MPA co-management (Outputs 2.1-2.3). That will provide additional benefits to local communities increasing their environmental sustainability and ability to adapt to climate change.

---

[1] Based on the experience of Blue Ventures, SEED Madagascar, FAO and other successful sustainable livelihood programmes in Madagascar and other African countries.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

### Overall Project/Program Risk Classification \*

PIF	CEO Endorsement/Approval	MTR	TE
Low	Medium/Moderate		

### Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

### Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
<b>Appendix 18</b>	<b>CEO Endorsement ESS</b>	
<b>SRIF_Madagascar sea turtle and seagrass</b>	<b>Project PIF ESS</b>	

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

Impact/Outcome	Indicator	Baseline	Mid-Term Target	End of The Project Target	Means of verification	Assumptions
<p><b>Mid-Term (Threat Reduction), Long-Term Impact (Improvement of Conservation Targets) and Project Beneficiaries</b></p>	<p>Nesting populations of Green Turtle and Hawksbill Turtle in 6 project sites (number of nests):</p> <p>a) Green Turtle:</p> <p>b) Hawksbill Turtle:</p>	<p><b>a) Green Turtle:</b></p> <p>Nosy Hara NP: 656</p> <p>Sahamalaza NP: 80</p> <p>Ankarea MPA: 30</p> <p>Ankivonjy MPA: 79</p> <p>Analalava: TBE on the Year 1</p> <p>Bobaomy: TBE on the Year 1</p> <p><b>b) Hawksbill Turtle:</b></p> <p>Nosy Hara NP: 43</p> <p>Sahamalaza NP: 48</p> <p>Ankarea MPA: 30</p> <p>Ankivonjy MPA: 79</p> <p>Analalava: TBE on the Year 1</p> <p>Bobaomy: TBE on the Year 1</p>	<p>a) <math>\geq</math> baseline</p> <p>b) <math>\geq</math> baseline</p>	<p>a) <math>\geq</math> mid-term</p> <p>b) <math>\geq</math> mid-term</p>	<p>Consistent nightly counts of nesting female turtles throughout the peak season: June ? August for Green Turtle and November-February for Hawksbill Turtle</p> <p>Statistical analysis of the surveys? data and population trends during the project lifetime</p> <p><b>On Year 1, Year 3, and Year 5</b></p>	<p>The nesting sea turtle populations will stabilize as a result of decreased poaching and increased survival rate; Other environmental factors are favorable for the species population restoration (no epidemics and catastrophes);</p> <p>All key threats for the project conservation targets are correctly identified</p>

Total area of seagrass cover in 6 project sites (ha):	TBE on Year 1	>=baseline	>=baseline	GIS analysis of the remote sensing data (Landsat, Sentinel-2) and field verification;  Reports on monitoring of the seagrass cover in 6 project sites  <b>On Year 1, Year 3, and Year 5</b>	Area of seagrass will remain stable under increased law enforcement, improvement of NRM practices, and sustainable livelihood activities
Annual number of discovered by the LE agencies sea turtle poaching cases in the project sites:	2020: Nosy Hara NP: TBE on the Year 1 Sahamalaza NP: >= 3 Ankivonjy MPA: 2 Ankarea MPA: 1 Analalava: >=20 Bobaomby: TBE on the Year 1	20% decrease from the baseline	50% decrease from the baseline	Law enforcement reports from target LMMAs and NPs  <b>On Year 1, Year 3, and Year 5</b>	Target LMMAs and NPs and LE agencies in the project area demonstrate increased law enforcement activity that deter poachers from the project sites.
GEF Core Indicator 11. Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	0	>=6,000 (>=30% are females)	>=13,000 (>=30% are females)	Project Activities and Event Reports; Quarterly and Annual Reports by Responsible Parties; MTR and TE Reports  <b>Annually</b>	Project beneficiaries can be correctly identified and counted.

**Component 1. Strengthening the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats**

<p><b>Outcome 1:</b> The effective policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats are implemented</p>	<p>Total number of policies/strategies/frameworks for conservation of sea turtles and seagrass developed by the project, endorsed, and implemented by the Government of Madagascar</p>	<p>0</p>	<p><math>\geq 2</math></p>	<p><math>\geq 4</math> (National Sea Turtle Conservation Plan 2022-2032; updated Nationally Determined Contributions (NDC) with included seagrass input; a decree to allow selling of seagrass carbon credits in Madagascar; National monitoring programs for sea turtles and seagrass)</p>	<p>GoM/MEDD decrees on official endorsement of the policies, plans, laws and frameworks;  GoM/MEDD plans and reports on the policies/frameworks implementation  <b>Annually</b></p>	<p>Strategic documents, policies, laws and frameworks will be officially approved and supported for implementation by the GOM/MEDD and other government stakeholders during the project lifetime</p>
---	--	----------	----------------------------	---	---	--

	Total number of inter-agency and intersectoral mechanisms for conservation of sea turtles and seagrass developed and functional at national level	0	>=1	>=2	GoM/Region Administration orders on establishment of the inter-agency and intersectoral mechanisms for conservation of sea turtles and seagrass  <b>Annually</b>	Inter-agency and intersectoral mechanisms for conservation of sea turtles and seagrass are endorsed by GoM or Administrations of Sofia and Diana Regions during the project lifetime and supported for implementation
<b>Outputs to achieve Outcome 1:</b>						
<b>Output 1.1:</b> Policy/Strategy/Legal documents for conservation of sea turtles and seagrass are drafted/amended, endorsed by the Madagascar Government;						
<b>Output 1.2.</b> Fisheries-Environment Inter-Ministerial Commission and Regional Environmental Units (Cellule Regionale Environnementale) are established and functional to coordinate national and regional efforts for marine resources conservation and sustainable management, including sea turtles and seagrass;						
<b>Output 1.3.</b> National sea turtles and seagrass monitoring and Knowledge Management system is developed and operationalized by MEDD						
<b>Component 2. Effective management of sea turtle and seagrasses habitats</b>						
<b>Outcome 2.</b> Improved management of marine turtle and seagrass habitats in the project sites	GEF Core Indicator 2.1. Marine protected areas newly created (total area of established and operationalized LMMAs/MPAs (all mandatory documents/plans/staff in place), ha:	0	36,000	209,000 (Bobaomby and Analalava)	MEDD decrees about establishment and operationalization of the Bobaomby and Analalava LMMAs  <b>Annually</b>	Both LMMAs are established and operationalized during the project lifetime

	<p>GEF Core Indicator 2.2. Marine protected areas under improved management effectiveness:</p> <p>1) Total MPA area, ha</p> <p>2) METT score for 4 target PAs:</p> <p>a) Nosy Hara NP: b) Sahamalaza NP: c) Ankarea MPA: d) Ankivonjy MPA:</p>	<p>1) 0</p> <p>2):</p> <p>a) 79 b) 73 c) 70 d) 71</p>	<p>1) 428,134</p> <p>2):</p> <p>a) 87 b) 85 c) 83 d) 83</p>	<p>1) 428,134</p> <p>2):</p> <p>a) 95 b) 92 c) 90 d) 90</p>	<p>METT assessment of target NPAs by the PMU</p> <p><b>Annually</b></p>	<p>In the result of the project interventions management capacity of the target NPAs will increase as expected.</p>
	<p>Averaged capacity of CSP, DREDD, OMCs, Police, Gendarmerie, and Judiciary in Sofia and Diana Regions to investigate and prosecute crime against sea turtles and other marine species (using Capacity Assessment Scorecard for Law Enforcement Agencies):</p>	<p>36%</p>	<p>45%</p>	<p>60%</p>	<p>The capacity will be assessed using Capacity Assessment Scorecard for Law Enforcement Agencies.</p> <p>Comparison of baseline, MT and EoP capacity assessment, deriving score trend.</p> <p><b>On Year 3 and Year 5</b></p>	<p>Law Enforcement officers of Sofia and Diana Regions will use knowledge and tools provided by the project to achieve better results in LE of sea turtle poaching and illegal trade;</p> <p>Government and other donors provide adequate support to LE agencies to fight wildlife crime</p>

**Outputs to achieve Outcome 2:**

**Output 2.1.** New LMMAs/MPAs (Babaomby and Analalava,) are established in the key sea turtles and seagrass habitats and operationalized

**Output 2.2.** Capacity of Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivonjy LMMAs for protection of sea turtles and seagrass is improved through systematic training programs, equipment, and management support

**Output 2.3.** Capacity of law enforcement agencies to protect sea turtles and seagrass in the project area is strengthened through trainings on environmental crime investigation and prosecution

**Component 3. Incentives for local communities and private sector to conserve sea turtles and seagrass**

<p><b>Outcome 3.</b> Local communities and private sector adopt sustainable livelihood and business practices that address sea turtle and seagrass conservation</p>	<p>Total area of validated and operationalized community-based Blue Carbon project for conservation of mangroves and seagrass in the project area, ha</p>	<p>0</p>	<p>0</p>	<p>1,000</p>	<p>Blue Carbon Project validation document; project contract with a carbon buyer</p> <p><b>On Year 3 and Year 5</b></p>	<p>MoG have decrees in place to allow selling of carbon credits from mangroves and seagrass in Madagascar</p> <p>The Blue Carbon Project fully supported by local communities that see tangible benefits from it.</p>
	<p>Total number of people producing food and income from CBNRM and alternative livelihood options provided by the project:</p>	<p>0</p>	<p>&gt;=800 (at least 30% women)</p>	<p>&gt;=3,000 (at least 30% women)</p>	<p>Quarterly and annual reports of a project partner selected for delivery of Output 3.1;</p> <p>PMU visits of the project area to monitor pilot projects implementation</p> <p><b>Annually</b></p>	<p>At least 3,000 local people from total 5,000-6,000 involved in capacity building and pilot projects on CBNRM and alternative sources of income in the project sites will continue to practice new approaches and produce food and income for their families after the project is over.</p>

	Total number of private sector entities that introduced sea turtle and seagrass conservation in their business practices as a result of the project:	0	>=2	>=5	Quarterly and annual reports by project partners involved in delivery of Output 3.2;  On the ground verification by PMU during visits to the project area  <b>Annually</b>	Private sector understand and realize benefits and competitive advantage from introduction of sea turtle and seagrass conservation measures into business practices
	Percentage of women participating in the project activities (including all project Outputs)	0	>=30%	>=35%	Quarterly and annual reports by project partners involved in delivery of all Outputs	Women are interested to participate in the project activities and see benefits from the project

**Outputs to achieve Outcome 3:**

**Output 3.1.** Pilot community livelihood projects targeting conservation of sea turtles, seagrass and mangroves are developed and implemented through Blue Carbon and other mechanisms;

**Output 3.2.** Sustainable practices and mechanisms incorporating sea turtle and sea grass conservation are introduced to private sector in the project area;

**Output 3.3.** Project gender mainstreaming action plan is developed and implemented

**ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).**

**Responses to the GEF Secretariate, GEF Council and STAP comments on the PIF**

GEF Sec/Council/ STAP Comments	PPG team response	Project Documents
GEF Secretariat:		

<p>During PPG phase, please:</p> <ul style="list-style-type: none"> <li>- continue working with the identified partners to confirm the expected additional co-financiers' engagements;</li> </ul>	<p>During the project development PPG team continued to work with co-financing partners identified in the PIF as well as other potential project co-financiers. Overall, PPG team secured co-fincing commitments from 21 government, civil society, private sector, and local community organizations. Total co-financing commitments for the project are US\$19,367,189</p>	<p>Please, see section 7.2. Project co-financing of the ProDoc, pp. 93-97; and section confirmed sources of co-financing for the project by name and by type of the CEO ER, pp. 3-4.</p>
---	--	--

- conduct the necessary IPLCs, CSOs and Private sector consultations to develop the modalities of their engagement in the project;

This project was developed using a transparent, open, and fully participatory approach with the involvement of all groups of relevant stakeholders (government organizations, multilateral and bilateral agencies, NGOs, local communities, and the private sector) at national and project area levels. More than 50 individual and focus group consultations (including remote on-line meetings) were conducted in Antananarivo, and at local level in Diana and Sofia Regions. Special consultations and meetings were conducted with MEDD, MPEB, MINJUS, MESupRES, MNP, Administrations of Sofia and Diana Regions, WWF, WCS, Blue Ventures, C3, MAD, local small business entities, and local communities in the project sites. E-mail communication and Skype calls took a significant part of the consultative process with national and international stakeholders due to the COVID-19 pandemic and relevant travel restrictions. A total of 195 stakeholders were consulted (29% females and 71% males).

Please, see section 2.5. Stakeholder mapping and analysis of the ProDoc, pp. 27-36; and section Stakeholders of the CEO ER, pp. 33-42

- Gender: go beyond species actions for women and girls, and disaggregated data, identifying the potential inequalities between males and females and define a project strategy to reduce these inequalities (access to project opportunities ? resources, training, decision making entities, etc.)

The PPG gender analysis (Appendix 19) clearly demonstrated that all three gender gaps identified by the GEF Gender Implementation Strategy (2018) are relevant for this particular project:

? Unequal access to and control of natural resources;

? Unbalanced participation and decision making in environmental planning and governance at all levels;

? Uneven access to socio-economic benefits and services.

To improve this situation and address the gaps in the context of the GEF project, appropriate gender and social measures have been fully considered in the project design, and gender accountability is a cross-cutting issue that will be tracked as part of the project M&E system (see Table 9 and Appendix 19 for details). During the project development, the PPG team tried to involve as many women as possible in the consultation process. However, overall women's participation was much lower than men's (29% only) due to traditional male dominance in anti-poaching, wildlife and environmental management issues at the national level and in the project area.

See Appendix Appendix 19. Project Gender Mainstreaming Plan; subsection Gender Equality and Women's Empowerment of the ProDoc, pp. 81-24; section 3. Gender Equality and Women's Empowerment of CEO ER, pp. 42-45.

<p>- Further analyze the climate risk and the COVID-19 possible consequences on the project and develop appropriate mitigation measures</p>	<p>The PPG team conducted Climate Change Impact analysis in relations to the project Conservation targets (sea turtles and seagrass) and developed a set of management measure to address climate change impact as much as possible.</p>	<p>Brief Climate Change Impact analysis is included in the Threats section of the Prodoc, Climate Change Effects subsection, pp. 15-16, of ProDoc. Reference to this subsection has been added to the Table 6. Project Risks and Risk Management Measures, pp. 66-68, in the ProDoc and CEO ER. Additionally, subsection Climate Change Effects projected in the project area and entire Madagascar coastal waters has been added to the section Risks of the CEO ER, pp. 45-48. The Project Risk Table also includes relevant management measures to address climate risks.</p>
<p>- Core indicators: Consider the eventual opportunity to include areas of marine habitat under improved practices to benefit biodiversity out of protected areas to enhance the justification of the BD1.1 objective (core indicator 5)."</p>	<p>The total area of the project sites has been increased during the PPG from 428,134 ha to 637,134 ha that includes proposed and existing MPAs. Given the limited project budget the project does not include any areas beyond selected MPAs (or proposed MPAs) in the project sites. So, this Core Indicator cannot be included in the project.</p>	<p>N/A</p>
<p><b>GEF Council:</b></p>		
<p><b>France:</b> This project is related to the WIOCOR project by IUCN which will target seagrass beds in the Indian Ocean, particularly in Madagascar, with the support of FFEM. An alignment between IUCN and UNEP on these projects is necessary.</p>	<p>Unfortunately we did not find any information about WIOCOR project implemented by IUCN. However, the GEF project will collaborate with and learn from 14 other national, local and regional projects, including funded by GEF (e.g., WIO-SAP, WIO LME SAPPHIRE, SWIOFish2, etc.)</p>	<p>Please, see sections 2.6. Baseline analysis and gaps and 2.7.Linkages with other GEF and non-GEF interventions of the ProDOc, pp. 38-44</p>

<p><b>France:</b> Link also possible with the projects of RASTOMA network on turtles funded through FFEM's small-scale initiatives program</p>	<p>Thank you for your kind advice! RASTOMA implements its projects in West Africa. It has been added to the project stakeholders</p>	<p>Please, see Stakeholder section of the CEO ER, pp. 33-42; and section 2.5. Stakeholder mapping and analysis in the Prodoc, pp. 27-37</p>
--	--	---

**Germany:** Germany suggests to put a strong focus on stakeholder engagement in the coming project phase. As mentioned in the PIF-document the consultations so far ? due to COVID-19 - were constraint to the central level. As remote small-scale fishers will be heavily affected in their lives and livelihoods, their early and thorough involvement will be crucial for sustainable and successful project outcomes.

Thank you! We fully agree! This project was developed using a transparent, open, and fully participatory approach with the involvement of all groups of relevant stakeholders (government organizations, multilateral and bilateral agencies, NGOs, local communities, and the private sector) at national and project area levels. More than 50 individual and focus group consultations (including remote on-line meetings) were conducted in Antananarivo, and at local level in Diana and Sofia Regions. Special consultations and meetings were conducted with MEDD, MPEB, MINJUS, MESupRES, MNP, Administrations of Sofia and Diana Regions, WWF, WCS, Blue Ventures, C3, MAD, local small business entities, and local communities in the project sites. Total of 195 stakeholders were consulted (29% females and 71% males), mainly representatives of local communities in the project sites. Stakeholder consultations at local level (Diana and Sofia Regions and in the project sites) demonstrated high level of support to the project among local communities as well as their willingness to participate in the project activities; relatively rich

Please, see Stakeholder section of the CEO ER, pp. 33-42; and section 2.5. Stakeholder mapping and analysis in the Prodoc, pp. 27-37.

Also, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER?s section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37

<p><b>Germany:</b> Germany suggests to consider the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (VGSSF) and related sources for finalizing the project proposal.</p>	<p>Thank you, agree! FAO is included in list of key stakeholders for the project. FAO Madagascar models have been used for development of the GEF project.</p>	<p>Please, see Stakeholder section of the CEO ER, pp. 33-42; and section 2.5. Stakeholder mapping and analysis in the Prodoc, pp. 27-37.</p>
--	--	--

**USA:** This project proposal seems significantly limited by travel restrictions due to the COVID-19 pandemic. These conditions resulted in no consultation with local or indigenous communities, which will be critical both for the success of this project and for the appropriate application of the GEF Policy on Environmental and Social Safeguards. If the COVID-19 pandemic had such a disruptive effect on the proposal preparation process, it is difficult to believe that the project will be successfully implemented if the pandemic conditions continue.

Thank you! During the project development Total of 195 stakeholders were consulted (29% females and 71% males), mainly representatives of local communities in the project sites. Stakeholder consultations at local level (Diana and Sofia Regions and in the project sites) demonstrated high level of support to the project among local communities as well as their willingness to participate in the project activities; relatively rich experience of local communities and community associations in participation in other similar projects conducted by NGOs in the project area; high interest of local communities in establishment of MPAs/LMMAs as a form of active protection and ownership of coastal resources by communities; and necessity to establish local inter-sectoral structures for the project implementation (e.g., Technical Working Committees at Regional level).

We consider COVID-19 pandemic as one of the key risks for the project. So, PPG team developed a set of management measures to address the risk, including a special COVID related measures as a separate annex for the project.

Please, see Stakeholder section of the CEO ER, pp. 33-42; and section 2.5. Stakeholder mapping and analysis in the Prodoc, pp. 27-37; Table 6. Project Risks and Risk Management Measures, pp. 66-68, in the ProDoc; section Risks of the CEO ER, pp. 45-48.

Also, please, see Appendix 17. UNEP Environmental and Social Safeguards Assessment, Appendix 18. Environmental and Social Management Framework, and Appendix 26. COVID-19 Analysis and Recommended Measures

**STAP:**

While the overall components are sound and interlinked, several critical aspects remain quite general, with important details to be left to be elaborated on during PPG phase. For example, the main assumption behind the success of this project is "that by equitably engaging communities in conservation activities and establishing frameworks that allow them to sustainably manage marine resources, paired with support to households within these communities to sustainably increase their productivity and incomes through net revenues from the sale of sustainably harvested products and PES schemes, will provide sufficient incentive for those communities to continue to invest in the long-term stewardship of these ecosystems beyond the term of the project." (p. 28). This is an ideal situation; however, details regarding the "targeted incentives" and the type of "sustainable financing mechanisms" possible a PES scheme? are left to be determined during PPG phase.

Thank you!  
Stakeholder consultations at local level (Diana and Sofia Regions and in the project sites) demonstrated high level of support to the project among local communities as well as their willingness to participate in the project activities; relatively rich experience of local communities and community associations in participation in other similar projects conducted by NGOs in the project area; high interest of local communities in establishment of MPAs/LMMAs as a form of active protection and ownership of coastal resources by communities; and necessity to establish local inter-sectoral structures for the project implementation (e.g., Technical Working Committees at Regional level).

The project is fully based on community involvement, especially Outcomes 2 (Outputs 2.1-2.2) and 3 (Outputs 3.1-3.2). In regards of PES and incentives, under Output 3.1 the project will invest in development, validation and implementation of a community-based mangroves and seagrass conservation initiative using Blue Carbon mechanism on ~1,000 ha in one of the project sites. Additionally, under this Output, the project will invest in

Please, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER's section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37.

The emphasis on data collection and monitoring is welcome; however, as with the financing and incentives mentioned above, there is a lack of detail in terms of what type of data, how it will be collected, shared, stored, etc., including for the marine spatial plan and the potentially innovative near real-time alert system. Building capacity around this element (science and technology and data sharing) is important to sustain activities after the project has been completed, including if these data are to be used for monitoring and enforcement.

Thank you! The initial PIF's idea on sea turtle and seagrass observancies evolved into the *Output 1.3. National sea turtles and seagrass monitoring and Knowledge Management system is developed and operationalized by MEDD*. Under the Output the project will develop and launch the National Sea Turtle and Seagrass Monitoring Programs. Both monitoring programs will be accompanied with GIS databases (can be developed based on free software, e.g., QGIS) that will be regularly updated. The program will describe (1) key monitoring sites; (2) monitoring approaches, including special technical (e.g., analysis of remote sensed data) and simple participatory (e.g., simple counts of sea turtle females and tracks during nesting season and on the ground validation of area covered by seagrass; (3) seasons and frequency of data collection; (4) data analysis and storing; (5) organizational structure of the monitoring and organizations responsible for data collection in the key monitoring sites; (6) structure of regular national reports on sea turtle populations and seagrass coverage in Madagascar waters; (7) necessary resources, budget and sources of funding for implementation of

Please, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER's section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37.

<p>Details a lacking on the project activities in the PIF</p>	<p>All details have been elaborated in the full project proposal that has sufficient description of each project Output.</p>	<p>Please, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER?s section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37.</p>
---	--	---

Good understanding of past and ongoing projects in the area ? mainly focused on GEF and GEF Agencies. Would be good to look at bi-lateral donor activities as well.

Full list of relevant projects (mainly ongoing and planned) with analysis of gaps and potential collaboration is presented in the sections 2.6. Baseline analysis and gaps and 2.7. Linkages with other GEF and non-GEF interventions of the ProDoc.

The project design is based on lessons learned from previous and current marine conservation projects implemented in Madagascar and other programmes and projects implemented by UNEP, UNDP, FAO, GEF, World Bank, US Fish and Wildlife Service, WCS, WWF, Blue Ventures, MNP, MAD, C3 under the rationale that the proposed project strategies can bring real progress in conservation of sea turtles and seagrass, law enforcement, MPA and LMMA management, and sustainable community livelihood in the project area. The project development process has also been based on the lessons learned by GEF Independent Evaluation Office (IEO) on project design that are the key for the project success. Brief analysis of lessons learned from previous projects is considered in the section 3.1. Project rationale, policy conformity and expected global environmental

Please, see sections 2.6. Baseline analysis and gaps and 2.7. Linkages with other GEF and non-GEF interventions of the ProDoc, pp. 38-44; section 3.1. Project rationale, policy conformity and expected global environmental benefits of the ProDoc, pp. 45-47.

<p>Not clear what the METT baseline score is if these areas are meant to be under improved management.</p>	<p>The baseline and projected METT scores have been calculated during PPG phase for target MPAs: Nosy Hara National Park, Sahamalaza National Park, Ankarea MPA, Ankivonjy MPA</p>	<p>Please, see Appendix 3. Results Framework and Appendix 15. GEF METT Assessment for the the Nosy Hara NP, Sahamalaza NP, Ankivonjy LMMA, and Ankarea LMMA</p>
<p>A TOC diagram is presented with explanation. Further enhancements would show how specific activities contribute to each of the outputs and the interactions (including sequence) of various outputs. Do they happen all at once? Do they depend upon each other? What needs to happen before a sustainable financing mechanism is implemented, and what if it isn't? Does that change the ultimate outcome or does it matter?</p>	<p>The project TOR has been updated during PPG. The project Outputs have been designed to have a low dependency between themselves, so they can be implemented simultaneously. This can help to avoid overall project implementation delay if some Outputs are not delivered on time (usual issue with GEF projects). Each Output has a set of Activities that are dependable on each other and organize as a sequence of actions to produce an Output. The project has detailed description of each Output.</p>	<p>Please, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER's section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37.</p> <p>Also, see 3.4. Intervention logic and key assumptions, ProDoc, pp. 64-65</p> <p>Also, look at Appendix 4. Workplan and timetable for Activity schedules in delivery of particular project Outputs.</p>

<p>The mechanism are plausible; however, as previously noted, important details are lacking. It seems unlikely that the project will succeed if local communities don't have sufficient incentive to stop hunting sea turtles, for example. What is the balance between ?alternative income generation? and enforcement of fines and penalties?</p>	<p>All details have been elaborated in the full project proposal that has sufficient description of each project Output. Project investments in sustainable livelihood initiatives and law enforcement capacity building are approximately at 50/50 ratio, as both mechanisms are important for sea turtle and seagrass conservation in Madagascar and they need to be used as one complex and simultaneously.</p>	<p>Please, see section 3.3. Project components and expected results in the ProDoc, pp. 52-63; and CEO ER?s section (3) the proposed alternative scenario with a description of outcomes and components of the project, pp. 18-37.</p>
---	--	---

Good project but not innovative. A PES scheme might be innovative, but it is only mentioned as a future possibility. Project ?could? generate a market based mechanism to trade carbon credits?

Yes, we agree. Please, see our responses above about PES and incentives.

Additionally, the project considers following planned activities/deliverables to be innovative for Madagascar and potentially other countries in the Western Indian Ocean:

? Inclusion of seagrass into the Nationally Determined Contributions (NDC) as an innovative approach to recognize extremely high carbon sequestration value of seagrass fields;

? Development and introduction of national sea turtle and seagrass monitoring system as an innovative model for Madagascar;

? Development and validation of a blue carbon project inclusive of seagrass and mangroves as an innovative approach for Madagascar that can be replicated by other countries;

? Introduction of sea turtle and seagrass conservation in business practices and sustainable community livelihood is still unusual model for Madagascar and the world;

? Introduction of the legal guidelines on investigation and prosecution of sea turtle poaching and trade, and other crimes against marine

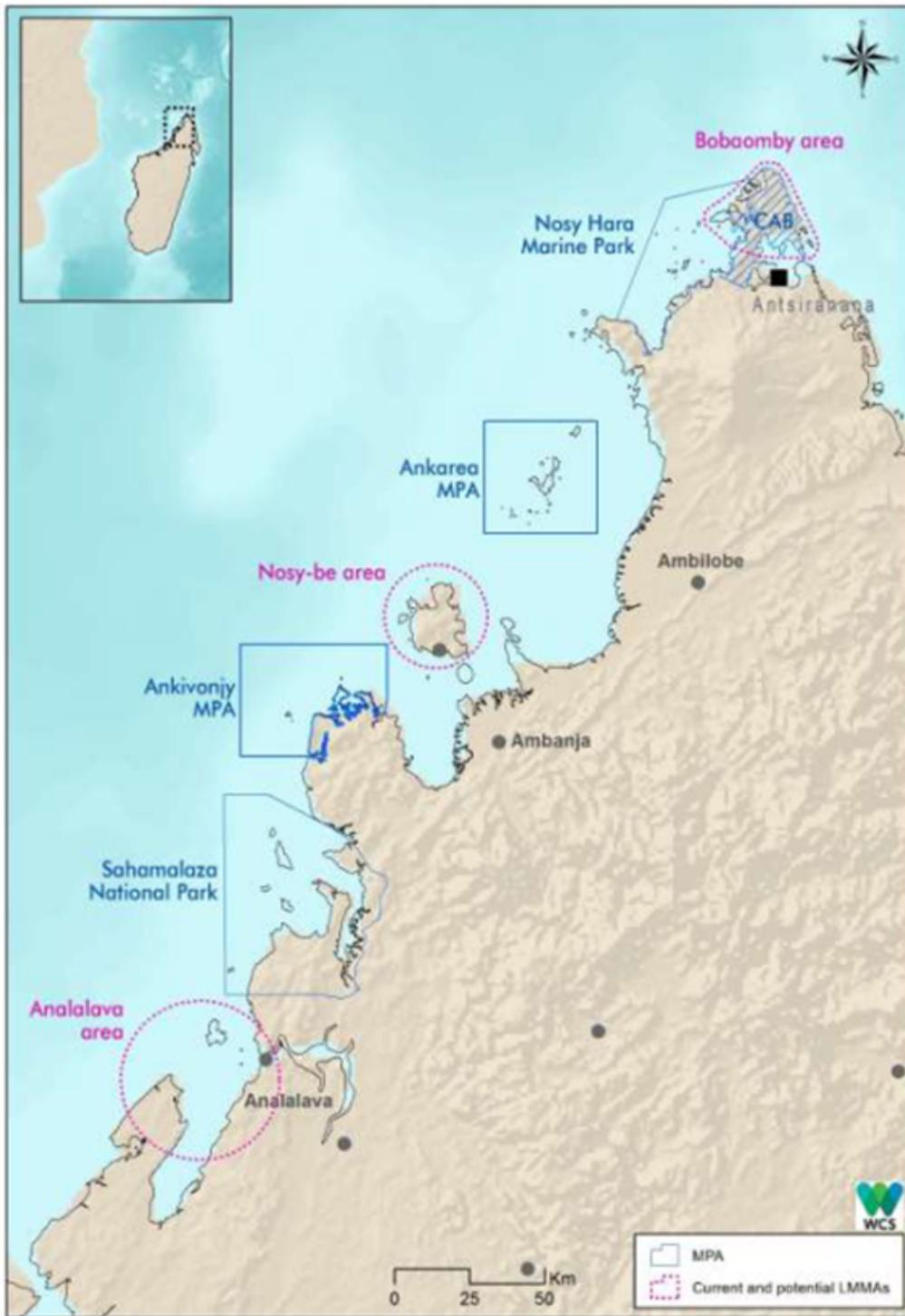
Please, see section 3.9. Replication and Innovation, ProDoc, pp. 73-74; section 7) innovativeness, sustainability and potential for scaling up, CEO ER, pp. 30-31.

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).**  
**(Provide detailed funding amount of the PPG activities financing status**  
**in the table below:**

<i>Project Preparation Activities Implemented</i>	<i>GEF Amount (US\$)</i>		
	<i>Budgeted amount</i>	<i>Amount spent to date</i>	<i>Amount committed</i>
International Consultants	35,350	14,000	21,350
Local Consultants	21,600	12,960	8,640
Domestic Travel	14,000	9,012	4,988
International Travel	6,000	0	6,000
Workshops and Meetings	18,050	12,752	5,298
Miscellaneous Expenses	5,000	1,281	3,719
<b>Total</b>	<b>100,000</b>	<b>50,005</b>	<b>49,995</b>

**ANNEX D: Project Map(s) and Coordinates**

**Please attach the geographical location of the project area, if possible.**



**Figure 1.** Location of the Nosy Hara National Park, Sahamalaza National Park, Ankarana LMMA, Ankivonjy LMMA, and Bobaomby and Analalava sites in the project area[1]

### Coordinates of the project sites? centres

MPA	Longitude	Latitude
Nosy Hara National Park	E 49.051966?	S 12.165907?
Sahamalaza National Park	E 47.846949?	S 14.020205?
Ankarea LMMA	E 48.602259?	S 12.855813?
Ankivonjy LMMA	E 47.820319?	S 13.577994?
Bobaomby	E 49.277186?	S 12.211243?
Analalava	E 47.553457?	S 14.581049?

---

[1] Disclaimer: The designations employed and the presentation of material on this map do not imply any opinion whatsoever on the part of the Secretariat of the United Nations or UNEP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

### **ANNEX E: Project Budget Table**

**Please attach a project budget table.**



**ANNEX F-1 - RECONCILIATION BETWEEN GEF ACTIVITY BASED BUDGET AND UNEP BUDGET LINE (GEF FUNDS ONLY US\$)**

Project title: Inclusive conservation of sea turtles and seagrass habitats in the north and north-west of Madagascar								
Project number: GEF ID 10696								
Project executing agency: Ministry of Environment and Sustainable Development (MEDD)								
Project implementation period:		Expenditure by project component/activity (provide description)						
From:	2022	Add additional components/activities as required						
To:	2027							
<b>UNEP Budget Line</b>		<b>Component 1</b>	<b>Component 2</b>	<b>Component 3</b>	<b>PMC</b>	<b>M&amp;E</b>	<b>Total</b>	<b>EA</b>
<b>10</b>	<b>PERSONNEL COMPONENT</b>							
1100	Project personnel							
1101	Project Manager (\$1,800/month * 60 months)	69,000			39,000		108,000	MEDD
1102	Adm & Finacial Assistant (\$800/month * 60 months)				48,000		48,000	MEDD
1103	Technical Assistant (\$1,250/month * 60 months)	18,000	18,000	18,000	21,000		75,000	MEDD
1104	Regional Coordinator Diana Region (\$1,100/month * 60 months)		26,000	25,000	15,000		66,000	MEDD
1105	Regional Coordinator Sofia Region (\$1,100/month * 60 months)		26,000	25,000	15,000		66,000	MEDD
1106	KM and M&E Officer (\$1,250/month * 60 months)	15,000	30,000	23,000	7,000		75,000	MEDD
<b>1199</b>	<b>Sub-total</b>	<b>102,000</b>	<b>100,000</b>	<b>91,000</b>	<b>145,000</b>		<b>438,000</b>	
1200	Consultants							
1201	National Consultant to develop the National Sea Turtle Conservation Plan 2022-2032 (Output 1.1)	20,000	-	-	-	-	20,000	MEDD
1202	International Consultant to revise the Nationally Determined Contributions (NDC) and include seagrass input (Output 1.1)	20,000	-	-	-	-	20,000	MEDD
1203	National Consultant to develop a decree to allow selling of seagrass carbon credits in Madagascar (Output 1.1)	20,000	-	-	-	-	20,000	MEDD
1204	National Consultant to develop the Legal guide on development of dina for sea turtle/seagrass conservation (Output 1.1)	20,000	-	-	-	-	20,000	MEDD
1205	National Consultant to develop the Legal guide on investigation and prosecution of sea turtle poaching and trade, and other crimes against marine biological resources (Output 1.1)	20,000	-	-	-	-	20,000	MEDD
1206	National Consultant to develop the documents for re-establishment and initial functioning of the Fishery-Environmental Commission (Output 1.2)	10,000	-	-	-	-	10,000	MEDD
1207	International Consultant to conduct ESIA and develop ESMP (M&E) (Year 1)	-	-	-	-	30,000	30,000	MEDD
<b>1299</b>	<b>Sub-total</b>	<b>110,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>30,000</b>	<b>140,000</b>	
1300	Administrative Support	-	-	-	-	-	-	
<b>1399</b>	<b>Sub-total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
1600	Travel on official business							
1602	Travel expenses for the PMU to monitor PRF and GEF indicators (M&E)	-	-	-	-	30,000	30,000	MEDD
1603	Travel expenses for the PMU to monitor ESMP, stakeholder involvement plan, Gender Mainstreaming Strategy, and GRM implementation (M&E)	-	-	-	-	15,000	15,000	MEDD
<b>1699</b>	<b>Sub-total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>45,000</b>	<b>45,000</b>	
<b>1999</b>	<b>Component total</b>	<b>212,000</b>	<b>100,000</b>	<b>91,000</b>	<b>145,000</b>	<b>75,000</b>	<b>623,000</b>	
<b>20</b>	<b>SUB-CONTRACT COMPONENT</b>							
2100	Sub-contracts (MOUs/LOAs for cooperating agencies)							
2101		-	-	-	-	-	-	
2102		-	-	-	-	-	-	
2103		-	-	-	-	-	-	
<b>2199</b>	<b>Sub-total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
2200	Sub-contracts (MOUs/LOAs for supporting organizations)							
2201	Contract with selected project partner (organization) to develop a National Sea Turtle Monitoring Program and GIS database and validate it with key stakeholders (Output 1.3)	50,000	-	-	-	-	50,000	MEDD
2202	Contract with selected project partner (organization) to develop a National Seagrass Monitoring Program and GIS database and validate it with key stakeholders(Output 1.3)	50,000	-	-	-	-	50,000	MEDD
2203	Contract with selected project partner (organization) to train target MPA staff on the monitoring approaches and organize field monitoring surveys of sea turtles and seagrass in 6 project sites (Year 1, Year 3, and Year 5) (Output 1.3)	300,000	-	-	-	-	300,000	MEDD
2204	Contract with selected project partner (organization) to develop all necessary documentation for establishment of Bobaomy LMMA and provide necessary trainings to the Orientation and Support Committee and Community Marine Rangers ( Output 2.1)	-	90,000	-	-	-	90,000	MEDD
2205	Contract with selected project partner (organization) to develop all necessary documentation for establishment of Analalava LMMA and provide necessary trainings to the Orientation and Support Committee and Community Marine Rangers ( Output 2.1)	-	120,000	-	-	-	120,000	MEDD
2206	Contract with selected project partner (organization) to provide necessary trainings and technical assistance to the Orientation and Support Committee and Community Marine Rangers in the Nosy Hara and Sahamalaza National Parks, and Ankarea and Ankivony LMMAs (Output 2.2)	-	285,000	-	-	-	285,000	MEDD
2207	Contract with selected project partner (organization) to provide	-	120,000	-	-	-	120,000	MEDD

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

**ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).