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
☐ NGI

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)	**Executing Partner Type**
Ministry of Environment and Sustainable Development (MEDD)	Government

GEF Focal Area

Biodiversity

Taxonomy

Focal Areas, Biodiversity, Species, Invasive Alien Species, Threatened Species, Illegal Wildlife Trade, Biomes, Sea Grasses, Mangroves, Financial and Accounting, Payment for Ecosystem Services, Conservation Finance, Protected Areas and Landscapes, Community Based Natural Resource Mngt, Coastal and Marine Protected Areas, Mainstreaming, Fisheries, Tourism, Sustainable Development Goals, Influencing models, Demonstrate innovative approache, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Stakeholders, Communications, Awareness Raising, Behavior change, Education, Public Campaigns, Civil Society, Non-Governmental Organization, Academia, Community Based Organization, Local Communities, Private Sector, SMEs, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Type of Engagement, Partnership, Participation, Consultation, Information Dissemination, Beneficiaries, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Women groups, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Capacity Development, Knowledge Generation and Exchange, Participation and leadership, Access and control over natural resources, Integrated Programs, Capacity, Knowledge and Research, Knowledge Generation, Innovation, Knowledge Exchange, Targeted Research

Rio Markers
Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee($)

320,180.00

Submission Date

10/16/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
BD-1-1	GET	1,460,473.00	4,743,541.00
BD-2-7	GET	1,909,847.00	6,203,092.00
Total Project Cost ($)		3,370,320.00	10,946,633.00

B. Indicative 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.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 1: Strengthen the policy, legal and institutional framework for sound management of sea turtles and seagrass habitats	Technical Assistance	Outcome 1: The policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats are endorsed by respective local and national authorities: - number of sectorial, national, and local policy, legal and institutional frameworks mainstreaming sustainable management of sea turtles and seagrasses endorsed by respective ministries and local authorities.	Output 1.1: Key gaps in science base and necessary policy, legal and institutional frameworks identified and action plans/strategies developed to address gaps (e.g. through outputs 1.2, 1.3, 2.1 and 3.1). Output 1.2 Revised policy and institutional frameworks for the conservation and sustainable management of marine turtles and seagrass including invasive marine species validated by both Ministries in charge of the environment and of the fisheries.	GET	674,065.00	2,183,853.00

	- number of initiatives applying best practices in gender-responsive, inclusive sea turtle, and seagrass conservation reported through the national knowledge management system.		Output 1.3: Legislative and regulatory texts relating to the management of sea turtles and seagrass habitats[1] submitted for endorsement. Output 1.4: Knowledge management system informed by best practice on gender-responsive, inclusive sea turtle and seagrass conservation developed. ――― [1] The need for inclusion of marine invasive species in this work will be assessed and confirmed during PPG.			
Component 2. Effective and strategic management of sea turtle and seagrasses habitats (Please note that the project comprises a blend of Technical Assistance and Investment. Components 1 is considered as TA in its entirety. Components 2 and 3 have both Technical Assistance and	Investment	Outcome 2: Improved management of strategic marine turtle and seagrass habitats in target areas:	Output 2.1: Strategy to fight sea turtle trafficking and seagrass degradation developed and implemented in partnership with CSOs, law enforcement units,	GET	1,412,324.00	4,575,693.00

Investment elements for substantive Investment activities).

- percentage in Management Effectiveness Index for Marine Protected Areas (MPAs) and for Locally Managed Marine Areas (LMMAs)[1] performance indicators.

- percentage in total area of seagrass and sea turtle habitat under improved conservation management (within and outside MPAs).

- percentage use of damaging methods/ gear by fishermen (bycatch/ incidental catch, "bad" fishing gear and practices).

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[1] LMMA is a term used in Madagascar to describe Other Effective Area-based Conservation Measures (OECMs).

development partners, private sector (includes outreach and advocacy program).

Output 2.2: M&E system established by MEDD with support of communities and technical partners with harmonized methods and adequate tools (sea turtle and seagrass

observatory set up and operational).

Output 2.3: Capacity development program based on needs assessment for local stakeholders on seagrass and sea turtle conservation designed and implemented.

Output 2.4: Community-based conservation structures operational in LMMAs and MPAs (including patrol,

			monitoring, protection of nesting sites, etc).			
Component 3: Developing and promoting incentives for local communities to conserve sea turtles and seagrasses and to sustainably manage their habitats	Technical Assistance	Outcome 3: Local communities adopt alternative income generation activities/livelihood models and more equitably access sustainable finance mechanisms that promote sea turtle and seagrass conservation: - nr. of men and women accessing funding sources facilitated by the project in target areas - nr. of public and private investments[1] supporting communities' livelihoods in target areas through diverse and new revenue sources,	Output 3.1: Gender responsive and inclusive LMMA plans signed with local communities that prioritize sustainable management and conservation of sea turtles and their habitats in target areas and surrounding villages. Output 3.2: Gender responsive business plans developed with local communities and under implementation in partnership with the private sector, based on feasibility studies and capacity building provided for alternative/additional income generation. Output 3.3: Sustainable financial mechanism to support on-ground conservation of sea	GET	1,123,440.00	3,639,755.00

compared with the baseline (tbd at PPG)

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[1] Investments must be compatible with/supportive of sea turtle and seagrass conservation.

turtle and seagrass implemented with

local communities, private sector and development partners.

Output 3.4: Gender mainstreaming action plan for inclusive sea turtle and seagrass conservation developed and implemented.

	Sub Total ($)	3,209,829.00	10,399,301.00

Project Management Cost (PMC)

	GET	160,491.00	547,332.00
	Sub Total($)	160,491.00	547,332.00
	Total Project Cost($)	3,370,320.00	10,946,633.00

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Environment and Sustainable Development (MEDD)	In-kind	Recurrent expenditures	750,000.00
Recipient Country Government	Regional Directorates in charge of the Environment - Diana	In-kind	Recurrent expenditures	104,000.00
Recipient Country Government	Regional Directorates in charge of the Environment - Sofia	In-kind	Recurrent expenditures	97,750.00
Recipient Country Government	Ministry of Agriculture, Husbandry and Fishery (MAEP)	In-kind	Recurrent expenditures	750,000.00
Recipient Country Government	Madagascar National Parks – Lokobe and Nosy Tany kely	In-kind	Recurrent expenditures	2,575,000.00
Private Sector	Madagascar Biodiversity (and Protected Areas) Fund (FAPBM)	Grant	Investment mobilized	2,100,000.00
Civil Society Organization	National Centre for Oceanographic Applied Research (CNRO)	In-kind	Recurrent expenditures	30,000.00
Recipient Country Government	Madagascar National Parks – Nosy Hara	In-kind	Recurrent expenditures	1,500,000.00
Civil Society Organization	Madagascar Action Development	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	Madagascar National Parks – Sahalamaza	In-kind	Recurrent expenditures	1,500,000.00
Civil Society Organization	Wildlife Conservation Society	In-kind	Recurrent expenditures	294,000.00

Civil Society Organization	World Wide Fund for Nature (WWF)	Grant	Investment mobilized	872,883.00
GEF Agency	UNEP	In-kind	Recurrent expenditures	173,000.00

Total Project Cost($) 10,946,633.00

Describe how any "Investment Mobilized" was identified

The amounts indicated for the Madagascar Biodiversity (and Protected Areas) Fund (FAPBM) and WWF were identified through consultations with FAPBM and WWF in line with funds mobilized from international financial institutions towards the management of MPAs in the target area, and KFW towards a sustainable small-scale fishery in Nosy Hara, respectively. Additional funding for LMMAs is envisaged and will be confirmed during PPGA. Initial discussions with a range of private sector, government and non-government actors such as Madagascar Locally Managed Marine Area Network (MIHARI) indicated substantive co-financing amounts. Many of those actors have not been able to confirm their commitments due to COVID-19 restrictions and envisaged impacts. The project is however confident that these initial amounts will increase during PPG.

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

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

E. Project Preparation Grant (PPG)

PPG Required ☑

PPG Amount ($)				PPG Agency Fee ($)			
100,000				9,500			

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

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	0.00	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	0.00	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)

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	0.00	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)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)	
Ankarea	555548848	Habitat/Species Management Area	137,690.00							🗑
Ankivonjy	555548847	Habitat/Species Management Area	139,409.00							🗑
Nosy Hara	555697918	Wilderness Area	125,000.00							🗑
Sahamalaza	900667	Wilderness Area	26,035.00							🗑

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)
Female	5,000			
Male	8,000			
Total	13000	0	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 proposed project contributes mainly to the Aichi Strategic Goal C: "improving the state of biodiversity by preserving ecosystems, species and genetic diversity" and to the achievement of the following Targets: Aichi Targets Activities of proposed project contributing to Aichi Targets 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 • Revised national policy, legislation, and institutional frameworks are endorsed for the protection and conservation of strategic sea turtle and seagrass habitats. • Improved management effectiveness of Marine Protected Areas (MPAs) and Locally Managed Marine Areas (LMMAs). • Active participation of communities spatial planning to inform an integrated seascape approach 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 • Improved awareness through targeted information materials and national communications campaign • Engagement of communities in the development and implementation of MPA and LMMA plans to target sea turtle trafficking and consumption. • Incentives provided for communities to play an active role and to lead conservation efforts.

Part II. Project Justification

1a. Project Description

The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

Madagascar is located in the southern hemisphere, approximately 400 km from the east coast of Africa separated by the Mozambique Channel. Madagascar is the fourth largest island in the world with a land area of 592 040 km^2, extending 1500 km from north to south and 500 km from east to west. Having separated from ancient Gondwana and then from the Indian subcontinent 90 million years ago, Madagascar's isolation has resulted in a high level of endemism with over 90% of the country's biodiversity found nowhere else on earth. The island is among the 10 hotspots of global biodiversity, with 250,000 plant species, 13,000 of which are endemic, and over 3,500 of which have medicinal properties. The eastern coastal plain is narrow, while to the west the altitude decreases quite regularly until it reaches the sedimentary formations of the western and southern plains. Based on the observed precipitation and temperature pattern, four major climate zones are noticed in Madagascar: wet East coast, Central highlands, Northwest, and dry Southwest (Department of Meteorology, 2019). Madagascar's natural resources provide important ecological, social and economic values and ensure multiple environmental goods and services, as well as being an important source of food, building materials, energy needs and traditional medicine. In 2018, the population is estimated to be 25,680,342 (National Statistical Institute, 2019) and is largely rural, with 80% highly dependent on natural resources, with the result that the environment is severely threatened for food, fuel and income-generating purposes. The pockets of remaining forests are under pressure from shifting cultivation and charcoal production, in addition to illegal logging. On the other hand, Madagascar coastal zones, at the land-sea interface, concern more than 51% of the territory and are home to almost 65% of the total population. With 5,600 km of coastline, they are among the richest and most diverse natural environments in the Western Indian Ocean region including coral reefs, mangroves, seagrass meadows, estuaries and coastal swamps. There are currently around 250,000 coastal people leasing directly on marine resources, and most of the time living in remote areas.

The Malagasy continental shelf (between -20 and -250 m) covers about 117,000 km² and is home to ecosystems and resources of major ecological and economic interest for coastal populations and for the country as a whole. Madagascar falls within the Tropical Indo-Pacific Seagrass Bioregion, which contains the highest diversity of tropical seagrass species (Short et al. 2007). North-western Madagascar contains the most significant seagrass meadows in the country. Seagrass meadows are essential for food security because they provide essential habitat for fisheries productivity, both globally and locally (Unsworth et al. 2018). Seagrass invertebrate fisheries (gleaning) provide an essential source of protein for some of the most vulnerable people in tropical coastal communities (Nordlund et al. 2010). The global distribution of seagrass meadows is declining at approximately 7% per year (Waycott et al. 2009).

Symbolic species of marine megafauna such as marine mammals, seabirds, sea turtles and sharks make seasonal migrations. However, the quality of the marine environment continues to deteriorate, the habitats of marine species become scarce thus leading to vulnerability or even the gradual disappearance of these species. Marine Protected Areas (MPAs) and Locally Managed Marine Areas (LMMAs) represent an important tool for reducing these threats and ensuring the sustainability of marine ecosystems and resources. However, there is currently insufficient coverage and management. This situation has led the national authorities to the commitment to triple the extend of marine protected area at the World Parks Congress in Sydney, Australia (2014) and on Earth Day 2015, the Government of Madagascar announced the creation of 27 marine protected areas, including three community reserves, i.e. 'The Sydney Promise'. The Sydney Promise makes considerable progress towards meeting Aichi Target 11 of the Convention on Biological Diversity.

Biodiversity and target species for conservation in the project areas: Madagascar is an important foraging ground for marine turtles in the Western Indian Ocean, yet the status of the country's nesting aggregations remains poorly documented. In particular, northwest Madagascar is an area of interest (Dalleau, 2015) for the life cycle of sea turtles (feeding, migration and nesting). The North and Northwest coasts of Madagascar encompass very diverse marine habitats that will include well-developed coral reefs, islands / islets, vast sea-grass prairies and mangroves. It is also one of the richest fishing areas in Madagascar. In addition, these coastal areas constitute a migratory route for sea turtles from South Africa, Mayotte and Seychelles. Several islets off these coastal areas are known as nesting and feeding grounds for sea turtles (Nosy Hara, Nosy Iranja, Nosy Valiha, Nosy Faly, Nosy Ifaho etc.). These include the

two target administrative regions Sofia and Diana, where the seven intervention sites are located. These are Babaomby, Nosy Hara National Park (IUCN category II), Ankarea (Marine Protected Area, IUCN category V), Nosy Be (port), Ankivonjy (Marine Protected Area, IUCN category V), Sahamalaza National Park (IUCN category II), and Analalava.

The Sofia Region, comprising Sahamalaza National Park (IUCN category II) and Analalava (50,100 km²) is located in the Northwest of Madagascar. The Region contains 218 species of corals and invertebrates and is characterized by the famous mangrove species *Scylla serrata* (crab) and *Terebralia palustris* (gastropod molluscs). It also contains 168 species of fish, including species of economic interest, six types of sharks, seven types of rays and 20 species of sea cucumbers. Among the 38 species of reptiles, sea turtle species include the olive ridley sea turtle (*Lepidochelys olivacea* - VU), the green sea turtle (*Chelonia myda*s - EN), and the hawksbill sea turtle (*Eretmochelys imbricata* - CR). Analalava is a district in northern Madagascar. It is a part of Sofia Region and borders the districts of Ambanja in northeast, Bealanana and Antsohihy in east and Boriziny (Port-Bergé) in south. The area is 4,380 km2. Analalava (IUCN category IV) is located at the 7 km southwest of Foulpointe with an area of 204ha. the only fragment of natural vegetation Foulpointe, high potential for ecotourism

Sahamalaza Biosphere Reserve and Analalava extends between -13.9057248°S and − 14.5984204°S in Sofia Region, in the northwest coast of Madagascar. This area encompasses highly diverse in marine habitats that includes well developed coral reefs, islands/islets, extensive mangroves and seagrass meadows and bays. The Marine Park of Sahamalaza Biosphere Reserve (26,035ha) is of great biodiversity importance that includes many endangered species, extensive coral reefs, largest mangroves, islets/islands, extensive and well-developed seagrass habitat (MNP 2016). Three species of sea turtles (green, hawksbill and olive riddle turtle), occur in the Marine Park of Sahamalaza where Nosy Valiha, one of the four islets is a nesting site of sea turtles. Three and four nesting sites are respectively present in Sahamalaza (Nosy Valiha, Nosy Kalakajoro, Nosy Faly) and in Analalava (Nosy Faho, Nosy Lagna, Ampasindavakely, Ampasimbe). Three species of seagrass occur in Sahamalaza Biosphere Reserve *Thalassondendron ciliatum*, *Halodule uninervis* and *Cymodocea rotunda.* Monospecific meadows of *Thalassadendron ciliatum* occur in Sahamalaza area (DEC 2001). The existing seagrass habitat in Sahamalaza occupies a total area of 6,465 ha.

The Diana Region (20 942 km^2) lies in the far north of Madagascar and comprises Babaomby, Nosy Hara National Park (IUCN category II), Ankarea (Marine Protected Area, IUCN category V), Nosy Be (port), Ankivonjy (Marine Protected Area, IUCN category V). Babaomby is located at the northern tip of Madagascar (-12.09306°S and 49.24806°E). The coastal and marine areas are relatively rich and varied with the presence of important coral reefs (CEPF 2014). Observations of sea turtles have been carried out off this area (Laran et al. 2012). Nosy Hara Marine Park is situated between the latitudes 12°00'S – 12°30'S and the longitudes 48°35'E - 49°12'E, in Antsiranana District. The marine protected area (MPA) of 'Nosy Hara National Park' (NHNP) covering 125,000 ha. can be considered as undisturbed compared to other parts of Madagascar. The coastal zones of the marine park are of great biodiversity that include coral reefs, seagrass meadows, and mangrove forests. Several emblematic species like marine mammals, sea turtles, sharks and marine birds undertake seasonal migrations in the Park. Concerning sea turtles, five species occur in the coastal waters of this marine park (MNP 2014): hawksbill turtle (*Eretmochelys imbricata*, CR), green turtle (*Chelonia mydas*- VU), loggerhead turtle (*Caretta caretta*, EN), olive riddle turtle (*Lepidochelys olivacea*, VU) and leatherback turtle (*Dermochelys coriacea* - CR). Seven of the 12 islets off Nosy Hara Marine Park are nesting grounds for sea turtles.

The marine areas off Babaomby are often visited by the same turtle species observed in Nosy Hara Marine Park. There are five nesting sites in Babaomby: Tsararano, Ankarafe, Ampombofofo, Vohilava and Agnorotsanga/Antsatrabe. The Ankivonjy Harmonious Landscape (PH Ankivonjy) is located at the northwestern tip of the Ampasindava peninsula, in the Diana Region. It includes islets and islands namely Nosy Iranja, Nosy Ankazoberavina, Nosy Ankivonjy, Nosimborona and Nosy Ankisomany. PH Ankivonjy is distinguished by its rich biodiversity including endemic, rare and endangered species including the same five species of sea turtles in Nosy Hara. The MPA serves as a breeding site, notably for the green turtle and the hawksbill turtle, with five sites where they nest: Nosy Iranja Be, Nosy Iranja Kely, Solony and Angodroga near Marotogny, as well as Ankazoberavina. Ankivonjy also shelters nine of the 12 herbarium species of Madagascar: *Enhalus acoroides*, *Thalassodendron ciliatum*, *Thalassia hemprichii*, *Cymodocea serrulata*, *Cymodocea rotundata*, *Syringodium isoetifolium*, *Halophila ovalis*, *Halodule univervis* and *Halodule wrightii*.

The consideration of Nosy Be in this project's area is linked to the proximity of sea turtles and to the presence of a port that plays an important role in protection due to the presence of enforcement agents. The Harmonious Landscape Ankarea (PH Ankarea) is located 50 km northeast of Nosy Be and is part of the center of exceptional biodiversity of the north of the Mozambique Channel (McKenna & Allen, 2003). It belongs to the Ambilobe District. Covering a total area of 173,690 ha, it is made up of the large Mitsio Island which includes 25 hamlets extending over 15 km from north to south and 12 km from east to west, as well as an archipelago of 16 islands and uninhabited islets, except Nosy Tsarabanjina which is occupied by a hotel. Seven conservation targets have been defined for PH Ankarea, including the locally sacred sea turtles (Le Manache et al., 2012) that feed, breed and nest in the area: green turtle (*Chelonia mydas*- EN), hawksbill turtle (*Eretmochelys imbricata* – CR), loggerhead turtle (*Caretta caretta* – EN), leatherback turtle (*Dermochelys coriacea* – CR). There are three nesting sites identified in Ankarea: the islet of Tsarabanjina, the village of Ankarana and Andatsatsa on the Grand Mitsio. The MPA shelters five seagrass

species: *Halodule uninervis*, *Halophila ovalis*, *Cymodocea rotundata*, *Syringodium isoetifolium* and *Thalassodendron ciliatum*. (Jean 2012). *Halophila ovalis* - the most represented species is found only in the Andatsatsa area (beach and village); *Syringodium isoetifolium* has only been observed in the north and east of the protected area. *Cymododea rotundata* and *Thalassodendron ciliatum*, two species valued by the Dugong, are located on the side of Andrantsatsa and Ankarana (Dr Melinda Rekhdal, WCS 2016).

<u>Sea turtles and key threats:</u> The importance of sea turtles is justified by the ecological and socio-cultural values they hold. They contribute to maintaining the health of marine habitats, particularly seagrass meadows and coral reefs. Many scientific journals mention that sea turtles naturally clean up marine areas. Hawksbill turtle, for example, is the only known reptile that feeds on sponges that compete with reefs for space, allowing other fish to access the reef to feed. The magnitude of pressure on sea turtles in Madagascar has led to a serious decline and / or extinction of some stocks. Sea turtles are under pressure from a number of natural and anthropogenic factors, both in the terrestrial phase of their life cycle and in the marine environment. The five species present in the Northern and Northwestern coastal areas are on the IUCN Red List of Threatened Animals (2013.2, and two are currently classified as "critically endangered" (hawksbill and leatherback turtle), while three are classified as "endangered" (the green turtle, the loggerhead and olive turtle). Available data on breeding sites, migration routes and feeding areas are limited for hawksbill turtles, leatherback turtle the loggerhead and olive turtle (Philippe et al. 2014).

The East African coast including Tanzania and the entire West coast of Madagascar represent important migratory routes and nesting sites for the green turtle. However, data on migration routes of other species are very limited. The main feeding sites for green turtles are the East coast of Africa and the North of Madagascar. Loggerhead sea turtle feeding grounds are primarily located along the coasts of East Africa, generally indicating northward coastal migration. Southern Africa and the Mozambique Channel (Central East) are important foraging areas for leatherback turtles due to their specific environmental characteristics. It is noted that the rate of encounter of sea turtles remains the highest in the West coast of Madagascar, but this rate decreases as one goes south. The Northern and Northwestern coastal areas remain strongholds for sea turtles at the national and regional levels (REMOA 2010).

The International Union for Conservation of Nature Marine Turtle Specialist Group through its Burning Issues assessment (http://www.iucn-mtsg.org/hazards/) recently identified global warming as one of the top five major hazards to sea turtles globally; the other threats being fisheries impacts, direct harvesting of adults and eggs, coastal development, and pollution and pathogens, and wildlife trafficking for sea turtles in the north-western Madagascar in particular. Concerning coastal development, artificial light discourages females from nesting and disorientates hatchlings. Because erosion and accretion are natural processes occurring on all beaches, adequate set back lines are critical aspects of land use planning if property loss or construction of sea walls and jetties are to be avoided. Sand mining on nesting beaches should also be prohibited. The best way to ensure the long-term protection of nesting habitat is to procure it and place it within a system of nature reserves, national parks or LMMAs in the case of Madagascar. Current fishing practices, in particular the use of non-controlled nets is the key reason of the increased by catch. Sea turtle poaching is a common supply in the local market mainly in the North, in Antsohihy and Analalava in Sofia region (Humber et al. 2010, PBZT 2012, Rakotondrazafy & Andrianasolo 2012, Dumas 2013; Watham & Bamford 2015). Throughout the western Indian Ocean Region people have long been harvesting turtles for meat, eggs, shell, skin and oil. On the other hand, sea turtle trafficking has increased in the past years due to increase in demand on international market. The species commonly targeted is the green turtle that has been killed for its meat to provide additional income to local communities. Intensive fishing events for green turtles have been documented along the coastal areas of the proposed study sites. By grazing seagrass or seaweed, green turtles play a key role in the structure and maintenance of diversity of seagrass and associated species. In addition, they can constitute a source of income through ecotourism development and especially for a cultural value for communities for a country like Madagascar. In the case of Nosy Hara Marine Park, sea turtles have an important place for the communities of Vohilava during the annual request for the blessing of ancestors.

<u>Seagrasses and key threats:</u> Seagrasses are a group of submerged flowering plants in shallow marine environments with low turbidity. The Northern Mozambique Channel shelters the highest number of seagrass species in the West Indian Ocean, up to 12 species (UNEP, WCMC, 2005; Obura et al. 2019). Nine of these species occur in the Northwestern coastal areas (Razafindrakoto et al. 2013), including *Cymodocea serrulata*, *Cymodocea rotunda*, *Thalassadendron ciliatum*, *Halophila ovalis*, *Thalassia hemprichii*, *Halodule uninervis*, *Halodule wrightii*, *Syringodium isoetifolium*, and *Enhalus acaroides*. Marine vegetated habitats provide multiple functions (oxygenation, bottom stabilization, production of organic matter, food source, spawning area and refuge for many organisms). Their organic matter and oxygen production capacity is comparable to tropical forests, coral reefs, mangroves, estuaries or cold-water rising zones. In general, sea grass ecosystems play a multi-functional role in human well-being by providing food through fisheries, controlling erosion and protecting against floods. Seagrass meadows constitute vital nursery grounds for many marine fish and invertebrates (Heck et al. 2003), including many commercially important fish species (Jackson et al. 2001), thereby supporting fisheries productivity (Nordlund et al. 2018). Seagrass meadows are (together with mangroves and saltmarshes) considered highly important for carbon sequestration and storage (Mcleod et al. 2011). The carbon captured in these marine vegetated habitats can be stored for long periods of time (for decades to millennia) in the sediment and is today commonly referred to as blue carbon. Seagrasses are considered one of the most economically valuable habitats in the biosphere (Dewsbury et al. 2016). A socio-economic survey on the

importance of seagrass beds to coastal communities was conducted in Cambodia (Kaarlep 2014) revealing that seagrass ecosystems produced economic benefits valued at around USD 30 million per year. Blue carbon storage capacity of seagrass habitats in Northeastern Madagascar was evaluated in 2016 showing that there is an effect of mangrove degradation on carbon sequestration and storage in nearby seagrass beds. This emphasizes that the carbon sink capacity of tropical seagrass beds is closely linked to the status of other habitats in the coastal zone and should therefore be conserved jointly with e.g. mangrove forests. Research also indicates that climate change will likely affect seagrass ecosystems in the Western Indian Ocean, through increase in sea surface temperature (expected to rise up to 0.6 °C in this area of Madagascar) and sea level rise (predicted up to 50cm by 2100) and changes in storms/cyclone patterns, frequency and intensity.

Because of its coastal distribution, seagrass is vulnerable to both land- and sea-based threats, including runoff, coastal development, boat damage and trawling (Waycott et al. 2009). Other destructive fishing practices including beach seine fishing and intensive artisanal fishing are common along the coastal areas of Madagascar, targeting seagrass meadows, a common fishing ground due to the large diversity of fish and invertebrate species that inhabit them. Coastal water pollution is an important threat due to increasing land runoff and sediment discharge as result of growing deforestation, including mangrove logging. Besides, soil erosion (from highlands) leads to siltation of waterways and ultimately to the 'bleeding' of rivers into coastal habitats. This is affecting the integrity of seagrass beds. Studies on Invasive marine species (IMSs) are practically non-existent for Madagascar. There is still no detailed inventory and comprehensive assessment of IMSs, whereas one of the few existing studies states that the country's diverse marine ecosystems can contribute to minimize the impact of such threat in the future. Invasive species can have links with climate change as documented in the case of the proliferation of a green algae that has aggressively invaded coral reefs, particularly in sea grass beds (Maharavo 2015). The project area includes harbors and is strategically located to undertake further research to assess the serious impacts of this IMS on seagrass conservation efforts.

The long-term solution sought by the project is to develop a sustainable and inclusive management approach to sea turtles and seagrass habitats that can effectively contribute to the ecological integrity and resilience of target ecosystems and communities in North and Northwestern Madagascar. The implementation of coherent policy, planning and regulatory frameworks from the national to the local level, paired with local incentives and a sustainable finance mechanism, will lead to improved management effectiveness of sea turtles and seagrass habitats. These actions will result in the active involvement of local communities and key actors in the sustainable management of marine resources and in the conservation of sea turtles and seagrass, reducing the number of sea turtle by-catches, harvesting of adults and eggs and wildlife trafficking, among other factors, and reducing pressures on the seagrass.

<u>Barriers to achieving the long-term solution:</u> The effectiveness of efforts to realise this long-term solution is however being compromised by the following key barriers:

Weak policy, institutional and legal framework and enforcement capacities for sound management of sea turtles and seagrass habitats

Sea turtles are fully protected from exploitation by national legislation in conjunction with multilateral agreements. Lack of enforcement is compounded by lack of awareness about them. Article 88 of the fishing regulation ("*Code de la Pêche*") states that catching, detaining, transporting or selling of protected and threatened species - including the sea turtles - are liable to fine from 10,000 USD to 20,000 USD and / or imprisonment of six months to 12 months. Despite Government commitment, sea turtle meat is are sold freely in local markets. The numerous pieces of legislation are not coherent, regularly misunderstood and rarely enforced. These laws are insufficient for the protection of sea turtles and non-existent for seagrass in Madagascar. The regulation and enforcement of the sea turtles' laws is often inadequate due to a combination of lack of financial commitment from central government, immensity of Madagascar coastlines and weak capacity for enforcement at the local level. Coral Reef Doctor and the 2019 report of the Convention on Migratory Species mention the lack of law enforcement and sustainable monitoring as threats on sea turtles and their natural habitats. These barriers also apply to illegal traffic due to increase in international demand combined with weak law enforcement. On the other hand, the 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 from fishery regulations only take into account industrial fisheries, while the "*jarifa*" type gillnets used in the traditional fishery retain sea turtles. Effective seagrass conservation also requires policy management across multiple scales, that recognize seagrass meadows as part of a connected seascape. There is a mismatch between policies developed to support fisheries productivity and biodiversity conservation and there is a need for more holistic policies that recognize the value of seagrass for fisheries productivity, as well as for climate mitigation. In the past decade, Locally Managed Marine Areas approach have been expanded in Madagascar to support sustainable management of fisheries by local communities. Most of them are governed by social conventions called "*dina*". However, the current arrangement mostly concerns fishing activities and key habitats and species such as seagrass and sea turtles are therefore missing in their current approach. The "*dina*" needs to be endorsed by the local Court to be applied and is yet to be fully recognized as an enforcement tool. Due to insufficient awareness, local people in remote areas are not aware of this process and the "*dina*" does not fully achieve its purposes. A related up-to-date inventory of this situation is lacking and therefore prevents the development of adequate policies and texts. This project aims to build on this approach to benefit sea turtle and seagrass conservation in Madagascar.

Insufficient human and financial resources for effective management of sea turtle and seagrasses habitat

Revenue generating mechanisms are an important tool for enhancing the sustainable use of marine resources in and around MPAs/LMMAs and for ensuring community support for these sites. However, the majority of MPAs and LMMAs are entirely dependent on external donor funds and revenue generating mechanisms have been established in a relatively small number of sites and have been limited to a few value chains (e.g. octopus, algaculture, sea cucumber farming, near-shore pelagic fishing and small-scale ecotourism). This is partly due to limited promoter and community capacity for developing equitable agreements with the private sector to improve management of commercial value chains. In addition, the few innovative revenue-generating mechanisms that have been established have seen little testing, and there is limited guidance for how to scale up, replicate, and diversify these viable economic opportunities. While several sites have adopted revenue generating mechanisms, few have allocated a proportion of the revenue to maintaining local management costs. One challenge is community will for earmarking a portion of revenue towards management costs. 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.

Insufficient monitoring systems, information on marine turtle and seagrasses status and their socio-economic contribution to sustainable development

Valuing ecosystem services as primary national assets to be sustained and enhanced, rather than overexploited and degraded, provides the greatest benefit to national economies and local communities. The value of ecosystems (from coral reefs to seagrass meadows), and species (from whale sharks to sea turtles) is such that not protecting them is the equivalent of wiping out substantial parts of the economy. However, the availability of reliable and up-to-date data on sea turtle populations is very limited in Madagascar. Conservation measures and data related to sea turtles remain highly dispersed along these areas where few sea turtle projects have been implemented. Lessons from these efforts indicate that community-based data collection and monitoring could be an important tool for conserving remote and vulnerable populations and building capacity for natural resource management. Similarly, the protection and restoration of coastal vegetation could provide coastal and island communities with important economic opportunities on the carbon offset market. However, limited efforts have been made to study the seagrass compared to other shallow coastal habitats. Interest on seagrass has started only recently with the concept of "blue economy". Furthermore, there are very limited public education and community awareness initiatives focused on sea turtles and seagrass conservation in Madagascar. Most awareness campaigns focus on the ecological value of sea turtle and the related restrictions; the economic benefits from these species and seagrass ignored, hampering effective behaviour change for local communities and other key actors from the private sector.

2) The baseline scenario and any associated baseline projects,

The baseline scenario consists of ongoing and planned actions by the Government of Madagascar and other key stakeholders relevant to sea turtle and seagrass conservation. During the PPG phase, a thorough review of relevant and policies and regulatory frameworks will be conducted and key gaps that need to be addressed during the project will be identified. The Government has demonstrated their commitment to marine conservation through "the Sidney Promise" and has put in place the revision of a series of legal documents such as the revised Malagasy Environment Charter and Law n ° 2015-005 of 26 / 02/15 revising the protected areas management code. There are further legislation efforts concerning the Fisheries Sector, e.g. Law No. 2015-053 of 12/16/15 relating to the Fisheries and Aquaculture Code and its implementing texts; Decree n° 2010-1037 of 23-03-2010 on the regulation of integrated management of the coastal and marine areas of Madagascar; Decree n ° 2016-1352 of 08/11/16 on the organization of activities for the preservation of fishery resources and aquatic ecosystems; Decree n° 23/05/1923 prohibiting the capture of nesting females and individuals with a carapace diameter less than 50 cm; Arrêté n° 29211-2017 of November 29, 2017 setting the terms of transfer of management of fishery resources and aquatic ecosystems. Concerning the Environment sector:, the Government has issued a series of Decrees on the prohibition of hunting and actions that may injure marine mammals and other protected species defined by legislation, to limit accidental by-catches, e.g. definition of mesh sizes and the implementation of the Turtle Exclusion System and System for the Exclusion of accidental catches by trawlers. An ordinance also exists for the protection of sea turtles accidentally caught by longliners, as well as a law on the recently amended code of fishing and aquaculture, which prohibits fishing, keeping and marketing of protected species. A Decree related to the protection of Seagrass was drafted in 2018 but has not yet been adopted. With support from a GEF-5 project, Madagascar also drafted a National Policy and Strategy for the conservation and the protection Dugongs and Seagrass.

The Ministry of Environment and Sustainable Development (MEDD) is responsible for developing policies, legislation and plans to manage and expand protected areas. Within the MEDD, the Directorate in charge of Green and Blue Economy has drafted a Blue Economy National Strategy, yet to be adopted. The National Office for the Environment (ONE) is planning a "Marine Ecosystem Diagnostic Analysis". The Protected Areas System Directorate (DSAP) will work with a range of NGOs, CSOs, academics and private organizations to ensure that all policy guidelines, regulations, required reporting and other monitoring measures concerning sea turtles and seagrass are implemented in line with the project document. Madagascar National Parks (MNP) manages a network of

protected areas within the wider protected area system and is responsible for the specific policies and plans within this scope. MNP's planned management activities in and around existing MPAs over the next five years will be critical for the project's success. At local level, all Madagascar National Parks MPAs are financially supported through government budgets and other funds provided to the parent organization. The MEDD will invest ca. US$ 1,252,000 in marine conservation (including in the targeted MPAs) during the project period. While the budgets are relatively limited, basic investment and recurrent costs are effectively guaranteed.

As previously mentioned, the majority of MPAs and LMMAs are entirely dependent on external donor funds and revenue generating mechanisms have been established in a relatively small number of sites. These have been limited to a few value chains (e.g. octopus, algaculture, sea cucumber farming, near-shore pelagic fishing and small-scale ecotourism). Concerning MPAs, special zones have been designated for traditional fisheries or other resource uses, but the relatively strict Category II status limits these practices. However, some sites have developed innovative approaches that include neighboring areas designated as LMMAs and other solutions that respond to local development aspirations, since LMMAs in Madagascar place local communities at the center of decision making and the management processes. In fact, the main objectives of the LMMAs are biodiversity conservation, poverty alleviation and enhancement of the sustainability of the fisheries. LMMAs use of a variety of legal structures to manage natural resources at a local level in Madagascar: the establishment of local customary laws ('dina'), community managed marine protected areas (IUCN categories V or VI, under Madagascar's protected area system), or areas where management has been transferred to local communities with legal contracts ("Gestion Locale Securisée" or GELOSE). Most of the LMMAs implement management measures such as no-take zones, temporary fishing closures, mangrove forest restoration and management, gear and species restrictions, and initiatives to facilitate alternative livelihoods. MPAs and LMMAs are dependent largely on project funding secured by the donor community and NGOs and the following initiatives:

* 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." The proposed project will benefit from close collaboration with the WWF project to develop LMMA strategies, action plans and legal frameworks and to standardize marine habitat management tools.

* UNDP GEF5-funded project "*A Landscape Approach to conserving and managing threatened Biodiversity in Madagascar with a focus on the Atsimo Andrefana Spiny and Dry Forest Landscape*" (USD 5,329,452 between 2015-2021). The project aims to protect biodiversity from current and emerging threats, and to use it sustainably, by developing a collaborative governance framework for sectoral mainstreaming and devolved natural resource management. 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.

WCS is currently working in three land and seascapes including the Northwest seascape where WCS co-manages Ankarea MPA and Ankivonjy MPA (Maps in Annex 1). 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. The current project will leverage the following ongoing and planned initiatives for the Northwest seascapes:

*Blue Action Fund "*Creating a resilient network of MPAs in globally significant areas of the Western Indian Ocean*" – including the Northwest of Madagascar (USD 199,500; 3 years project, May 2019 – April 2022): The project aims at expending network of climate resilient MPAs, improving management of Ankarea and Ankivonjy MPAs, strengthening local community involvement in the stewardship of marine natural resources, improving ecological and catch surveys.

*The John D and Catherine C. MacArthur Foundation "*Sustainable marine resource management in Ankarea, Ankivonjy and Soariake Marine Prtotected Area*" (USD 45,000 – 3 years project, January 2019 – December 2021): The project is improving marine resource management in the three MPAs to preserve the ecological integrity of the reef complex while maintaining the provision of ecosystem services to local communities. The project therefore aims to achieve the following objectives: reinforcing measures to improve marine management, building capacity of local stakeholders working in MPAs and LMMA management, promoting sustainable livelihoods and developing sustainable financial mechanism to support long term management needs.

*Marine Protected Area Fund "*Expending Marine Protected Area in Madagascar*" (USD 50,000; 4 years and half, January 2017 – June 2021). The project is establishing three new MPAs [1]to cover a total surface of 18,000 km2, including the Tandavandriva new MPA in the northwest, covering 2,000 km². Sea turtle are among conservation target of this new MPA.

The proposed project will also build on the work of Blue Ventures to support coastal communities where people often struggle with severe environmental, economic, and educational challenges that can heighten communities' vulnerability including research on marine species and habitats. Blue Venture has indicated their interest in sharing best practice from their successful experiences in the LMMA approach.

*In Velondriaka, different projects have been implemented since 2003 aiming at *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.

*In the Melaky Region (west coast, Iles Barren), the projects "*Turtle nesting monitoring*" and "*Seagrass assessment*" are (ongoing) monitoring key and icon marine species to improve related management measures, and to map marine habitats with local communities.

*In Ambanja (Diana Region) Blue Venture *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.

Conservation International's (CI) approach is based on solid scientific bases, partnerships and demonstrations in the field. In Madagascar, the Government has delegated the management of certain sites to CI, including the marine protected area at Ambodivahibe, in the North (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.

World Bank, GEF-6 funded project "*Second South West Indian Ocean Fisheries Governance and Shared Growth Project*" (SWIOFish2) is managed under the auspices of the Ministry of Agriculture, Husbandry and Fishery (MAEP) 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). The proposed project will ensure synergies with the policy and legal framework revisions envisaged under SWIOFish2 under Component 1.

Previous projects launched in the proposed study areas, include the UNEP GEF-5 funded Dugong and Seagrass Conservation project carried out between 2015 and 2019 on the northwest coast and the marine turtle research project launched in the Nosy Hara Marine Park (June 2015 - May 2016) funded by the United States Fisheries and Wildlife Service (USFWS) that provide a good baseline and lessons for this project.

3) The proposed alternative scenario with a brief description of expected outputs and components of the project;

The Government of Madagascar is committed to put in place adequate capacity and structures for the conservation of sea turtles and seagrass habitats. The proposed alternative scenario is built around the Theory of Change diagram and narrative set out in Annex D. In line with the proposed Theory of Change, the project aims at leveraging the existing baseline through coherent policy, planning and regulatory frameworks, strategic partnerships and capacity building. Previous conservation initiatives for sea turtles and seagrass and their habitat have been somewhat scattered and often not far-reaching. This project aims at consolidating those efforts to establish a sustainable framework for sea turtles and seagrass conservation with potential to be adapted across the country and the subregion.

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 4 interrelated components described below.

Component 1 is focused on strengthening the policy, legal and institutional framework for sound management of sea turtles, seagrass and their habitat. The project will initially (output 1.1) undertake an analysis to identify gaps in current national and local policies, legislation (including "*dina*"), institutions and their enforcement across the environment, fishing, tourism, maritime and transport sectors. These in-depth analyses relate to: (i) invasive marine species (IMS) in target areas (preliminary diagnosis during PPG in the Ports of Diego and Nosy Be)[2], (ii) socio-cultural and economic valuation of ecosystem services on sea turtles and seagrass beds, with focus on fishing and tourism in the target communities/areas to inform spatial planning work under Components 2 and 3; (iii) a proper review of the political, legal and institutional frameworks at national, regional and local levels. On the basis of this preliminary work, the project will develop an action plan that identifies the roles and contributions of the key stakeholders to ensure an integrated, multisectoral approach to deliver outcome 1. This will include work at national level (law and regulation) and at regional level (on the Dina Be, for the Diana Region). Working on Dina Be will help expand the protection and the conservation of sea turtles and seagrass throughout the Region and at local level (through the promotion of "*dina*" in each village). Output 1.2 is built around the actual development and/or revision of policy and institutional frameworks for the conservation and sustainable management of marine

turtles and seagrass, also addressing the issue of invasive marine species. The texts will be validated by relevant Ministries, such as those in charge of the environment and fisheries and then put forward for endorsement. The project will promote effective institutional coordination mechanisms and explore existing mechanism rather than setting parallel structures. The Sydney Promise Steering Committee in charge of promoting MPA/LMMA integration and the Fisheries-Environment Inter-ministerial Commission as the main mechanism preliminarily identified to facilitate cooperative planning and monitoring at the national level, and to coordinate activities at the regional and site level. This work will be complemented by the development and/or revision of relevant legislative and regulatory texts (output 1.3) that will be submitted for Government endorsement. In like manner to output 1.2, they will ensure coherence with local "*dina*" conventions and therefore enable an inclusive approach by local communities in the management of natural resources. Output 1.4 is designed to ensure the collection of experiences from this project and relevant related projects to develop a knowledge management plan to facilitate a knowledge management system that can inform up-scaling of best practices in gender responsive, inclusive sea turtle and seagrass conservation in Madagascar and across the region. To do so, the plan will define the key processes to capture, assess and document the information, lessons, best practice and expertise generated during project implementation; tools and methods for knowledge exchange, learning and collaboration, which can include knowledge platforms and websites; identify knowledge products to be shared with stakeholders; a reflection on how knowledge and learning will contribute to overall project impact and sustainability; and plans for strategic communications. The project will collaborate with conservation and development partners both nationally and internationally to facilitate the wider uptake of proven models and develop learning networks that can sustain them. The project foresees that the collaboration with the other projects mentioned in the baseline will result in standardized MPA/LMMA management toolkits and training programs to support and replicate management effectiveness measures. The envisaged knowledge management system will be informed by best practice collected by the project with those same communities and other relevant projects and partners identified so far and during PPG. The system will be used to share best practice and relevant tools (including those also mentioned under 3.3) across the country and through regional and international networks such as those provided by relevant institutions, conventions and projects. For example, from the GEF-5 Seagrass and Dugong project integrating traditional knowledge in the management and control of fishing, protection of seagrass and target species, the International Seagrass Experts Network, the Madagascar Locally Managed Marine Area Network (MIHARI), Western Indian Ocean Marine Science Association (WIOMSA), the Nairobi Convention, GEF-funded WIOSAP (Implementation of the Strategic Action Programme for the Protection of the Western Indian Ocean from Land-based Sources and Activities) and SAPPHIRE (Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonization and Institutional Reforms). Component 1 comprises the enabling environment for the success of the on the ground delivery of outcomes indicated under Components 2 and 3.

Component 2 is designed to enable the effective and strategic management of sea turtle and seagrasses habitats in North and Northwest Madagascar. The existence of established MPAs and LMMAs in the preliminary target areas provide a baseline for the project as they count with a basic level of management effectiveness through technical and financial support provided by different partners over the last decade. They also provide an opportunity to test and refine approaches that integrate local cultural, social and economic development aspirations with effective biodiversity conservation in line with the project's intent to develop sustainable structures and mechanisms to ensure the conservation of sea turtles, seagrass and their habitats. The active involvement of coastal communities and stakeholders (population, traditional authorities, local NGO, local/ regional authorities, regional sectorial services, eventual private sector members, etc.) will be critical to effectively apply marine spatial planning to enable community-based conservation in these remote areas. This component will build on lessons learned pointing at the need to secure conservation monitoring tools and capacity to realize biodiversity protection in these coastal sites. The project will build a turtle observatory through the establishment of community-based observer programs in each target area. Additionally, awareness raising and capacity building initiatives will be simultaneously combined with these conservation efforts leading to an increase in the awareness of coastal communities that will significantly enhance their level of involvement towards sustainable practice or through alternative strategies for economic development. Incentives based approaches will be promoted for enhancing and encouraging local resource users to change behaviors mainly under Component 3. This Component 2 will build on the complementary actions of the projects described in the baseline scenario, in particular the GEF-6 project implemented by WWF.

Under output 2.1 the project will develop a strategy to reduce/halt sea turtle trafficking and sea turtle consumption on the basis of the research and in line with the frameworks developed and/or revised through Component 1. The strategy will target strategic nesting, feeding sites and seagrass meadows to lay out the actions needed in the target areas to ensure effective management of these habitats. It will include species conservation and monitoring plans that will be developed and implemented in partnership with CSO, law enforcement units, development partners, the FAPBM and the private sector. It will also include an invasive marine species management plan for the target areas identified. The strategy will apply spatial marine planning and include an outreach and advocacy program that will be developed in collaboration with the GEF-6 WWF project and will aim to integrate sea turtle and seagrass conservation in their respective programs. The conservation status of nesting beaches is another important element towards proper management. To ensure the conservation of marine turtle and seagrass outside the MPAs – in the connectivity area-, the project will apply spatial marine planning and work closely with LMMAs in the

targeted zone to promote community-based sea turtles and seagrass conservation. Where there is a need to place a strategic nesting or seagrass habitat within the existing protection system, or expand it to include it, and community interest in expanding an MPA or establishing an LMMA, the project will facilitate this process in collaboration with the WWF GEF-6 project.

This work will be complemented by the establishment of a sea turtle and seagrass Observatory (output 2.2), supported through agreed community-based observer programs in each intervention area to disseminate information on trafficking and threats and to create synergies among stakeholders through its monitoring functions. Data collection and research activities will focus on nesting beaches (monitoring of nests temperatures for sex ratio, collection of genetical samples for molecular studies and molecular approaches, beach quality including temperature, sand quality, threats, pressures, epibionts…etc.) and marine invasive species. Concerning seagrasses, instruction in participatory mapping is planned with local community members at selected LMMAs in the Madagascar Locally Managed Marine Area Network (MIHARI) network, supported by the MacArthur Foundation. In the MPAs, training of rangers and local community members in scientific and community-based sea turtle and seagrass surveys is planned, and the appointment of "Conservation Ambassadors" and junior "ecoguards" to produce environmental awareness materials and conduct village events to disseminate conservation messages. The majority of the data gathering will contribute to eradicating critical knowledge gaps and provide data for evidence-based policy decisions to mitigate threats and improve management practices. The results of these research activities will be then discussed with MPA, LMMA managers and local authorities to strengthen management plans and strategies and ensure that they integrate sea turtle and seagrass conservation. The relevant Regional Directorates in charge of the Environment will host the Observatory in line with their mandate. The system will integrate a near real-time system to alert local authorities on illegal activities. The Observatory will bring together local communities, local/ regional authorities, regional sectorial services (fisheries, environment, meteorology, justice, security), and NGOs, under the coordination of the MEDD. A preliminary analysis during PPG will inform the details of the respective roles between data collection, monitoring and follow up functions. The development of the observatory will be inspired by the Observatory for Regional Biodiversity and Ecosystems (ORBE) under the National Environment Board (MEDD), currently under development with support from the UNDP GEF-5 project identified in the baseline scenario. Its work will be disseminated through newsletters, magazines, conferences and workshops that regroup managers and scientists working on sea turtle and seagrass conservation in the region (universities, CNRO, National NGO, Blue Ventures, WCS, WWF, CI).

A related capacity development program will be developed and implemented under output 2.3 on the basis of a capacity and needs assessment that will be carried out at the project sites. This work will also be coordinated with the GEF-6 WWF program consolidating the MPA network concerning the development and integration of sea turtle and seagrass integration in training materials, environmental education and community engagement programs. This collaboration will also ensure a cost-effective approach to that training on seagrass and sea turtle monitoring is provided to LMMAs and MPA managers across the sites. Complementary awareness raising and education efforts will be combined with these conservation initiatives and incentives provided under Component 3 in the target coastal areas to promote ownership towards sustainable management of these natural resources and to benefit their socio-economic development. In line with this work, the project will support the establishment, training, equipping and deployment of community patrols to protect nesting sites and sustainably manage the targeted sea turtle and seagrass habitats under output 2.4. The initiative for the management of seagrass and sea turtles by the local community is complementary to the system set up for the Observatory. Across this component, the project will also support the development/update and the endorsement of local and regional "dina" to include conservation rules of sea turtle and seagrass and sustainable management of their habitat. Since "dina" defines the social, management, and conservation rules in the targeted sites and Regions, it is a key framework to ensure an effective community-based conservation, a key reference for effective patrol and surveillance. Contravening those rules will result in the potential collection of substantial fines to be allocated to community association funds, an approach that has proven effective for enforcement and to provide an additional source of revenue (refer to output 3.2). An integral part of the implementation of outputs 1.2 and 1.3 above is the delivery of ongoing legal, administrative, managerial, organisational and financial training and mentoring to the members of each of the LMMAs and targeted decision makers in the management of the MPAs.

Component 3: Developing and promoting incentives for local communities to conserve sea turtles and seagrasses and to sustainably manage their habitats.
This component will work towards the outcome by engaging communities at priority conservation sites in the development of integrated solutions to local challenges and incentive-based models. The aim is that the coastal zone, including MPAs and LMMAs is managed effectively by local fishing communities with the support of the Government and key actors, thereby providing resilient livelihoods and food security for coastal people, while improving both human and ecosystem health. In recognition to the remoteness of the target sites and the very high levels of poverty in these Regions, a key underlying assumption is that if this project can showcase economic and livelihood benefits linked to the sustainable management of sea turtle and seagrass habitats, then local communities' behaviour will change and they will actively engage in sea turtle and seagrass conservation. Close collaboration with development partners and private sector is therefore critical to develop innovative and sustainable financing mechanisms that effectively support alternatives to key threats such as unsustainable fishing practises (e.g. beach seining or shellfish harvesting, digging up meadows and trampling) and sea turtle egg and meat consumption.

They project will define the criteria for the selection of the sites during PPG. Gender and socio-economic surveys will be carried out under output 3.1. These will be complementary to the work done under output 1.1. to inform the development or revision of LMMA plans. The development of these plans will be inclusive, applying tools and guidelines for vulnerability assessment and spatial planning supporting monitoring and management actions. The project will ensure that the agreements signed with local communities to implement these plans are inclusive and prioritize sustainable management and conservation of sea turtles and seagrass and their habitats in target areas and surrounding villages. These plans may include: a contextual framework (descriptive profile of the area); an objectives framework; a spatial development framework to reconcile the various sea/land uses; an implementation framework; a resourcing framework (financial planning for, and financial management of the area to strengthen their financial sustainability); and a governance framework. On this basis, the project will support local communities to develop gender responsive business plans in partnership with private sector and development partners under output 3.2. These will be based on selection criteria to be developed during PPG and feasibility studies that will be carefully carried out to ensure the prioritization and provision of alternative/additional income generation activities that can generate results within months of establishment. The project will aim at building promoter and community capacity to address the barrier to develop equitable agreements with the private sector to improve management of commercial value chains and to further test and provide guidance to scale-up, replicate and diversify innovative revenue-generating mechanisms that provide viable economic opportunities. Development of micro finance and insurance actions to help communities living a subsistence lifestyle to start sustainable fishery investment on market access will also incentivize communities' ownership and behavioural change. Initial options include ecotourism, hospitality, aquaculture, apiculture, sustainable farming, salt production, ornamental fish breeding, batik and sewing, crafts making, etc. In this context, the project will develop and support "incentive-based models" driven by experienced partner NGOs that have extensive experience in developing and managing community-based approaches to both surveys and conservation management and that will pass on the knowledge and skills to local organizations. These Partners include leading experts in the development of innovative and effective programmes of community stewardship, incentive tools and alternative livelihoods (e.g. Blue Ventures, Madagascar Action, C3 and WCS). These community enterprises will incorporate reinvestment into the community associations through a general maintenance fund which will buffer the community against unforeseen circumstances and ensure that critical infrastructure and functions are maintained (e.g. tourism facilities, monitoring, etc). This work is envisaged to also support complementary social benefits such as health and family planning, access to freshwater, improved hygiene, and school conditions. In fact, the deep involvement of local communities in every single stage of the project, from its day-to-day implementation in terms of conservation, monitoring and law enforcement activities, through to its overall decision-making, represents the key to the success of similar projects, and its most valuable contribution. This concept is currently showing great potential, motivating fishing communities in the Southwest to change their behaviour and join into conservation activities that they benefit from. The concept will be improved and adapted to the north/north-western context in line with the recommendations from the assessments envisaged under outcomes 1 and 2.

While output 3.2 mainly focuses on supporting the development of alternative income generating activities and incentives compatible with sea turtle and seagrass conservation, output 3.3 will concentrate on the identification of development of a sustainable financing mechanism that can support the conservation activities in the area in the long term. Although currently focused on local communities given their critical role, the scope of the financial mechanism is at this stage not fully defined. While the budgets for National Parks MPAs (e.g. Nosy Hara and Sahamalaza) are relatively limited, basic investment and recurrent costs are effectively guaranteed through government budgets and other funds provided to the parent organization. The other MPAs and LMMAs are dependent largely on project funding secured by promoter NGOs (under the baseline scenario). Further assessment is required during PPG and early stages of implementation to explore a higher level of ambition, including collaboration with MPA and LMMA governance structures to understand their potential participation in a range of options. The valorization of ecosystem services on the basis of the scientific studies mentioned under output 1.1 will also inform the development of the sustainable financial mechanism under output 3.3 and explore the viability of integrating a scheme for payment for ecosystem services to enable local communities to sell blue carbon offsets from mangrove and seagrass. This work will draw from the positive experiences collected by UNEP (through the International Seagrass Experts Network, the GEF-funded Blue Forests Project in Kenya, related recent Global Seagrass Report, Community Guide on Seagrass and PES Schemes and the Out of the Blue report) and Blue Ventures in the region. Based on these, the project will explore the best fit to the challenging local context, including a potential "community fund" to be funded partly from the income generating activities (where relevant, possibly connected to the community maintenance funds to be developed under output 3.2), donations, payments for ecosystem services and grants from private sector CSR/development projects. The project will also explore voluntary cost recovery from increased local revenues across this component and component 2 as a means to reinvest in management and operational costs, such as patrolling and monitoring. The project will develop adequate governance/management arrangements for the fund, defining how each key shareholder can best contribute to the mechanism, how to link with the strategy and plans established under outputs 2.1 and 3.1 as relevant, etc. conservation plan, how to operationalize the mechanism. These efforts will be complemented through close coordination with the GEF-6 SWIOFish2 and WWF projects (among others identified in the baseline) to ensure the inclusion of sea turtle and seagrass conservation in the development of in their envisaged financial mechanisms, management toolkits, and related training. Furthermore, by establishing the governance structure and tools with which to manage their local marine resources in a sustainable way, (the LMMA, Community Associations and local 'dina'), and providing opportunities for alternative livelihoods and income (through incentive-based models, community fund, etc) the

project will deliver a platform for long-term behaviour change. Collectively, these steps represent a relatively small but significant contribution to MPA/LMMA financial sustainability, recognizing that broader solutions at the national scale are beyond the scope of the project. Further detail on the envisaged financial mechanism, monitoring and management structures will be provided at CEO Endorsement. Under output 3.4 the project will develop and implement a gender mainstreaming action plan to ensure that men, women, boys and girls have the same opportunities to engage in the conservation and sustainable management of their natural resources not only across this component but throughout the whole project, . The action plan will be preceded by a gender analysis to be undertaken as part of the activities of outputs 1.1 and 3.1 to ensure that the project's results framework includes gender indicators to assess how it has truly provided equal opportunities to engage across key project outputs related to planning, participation in decision making, trainings, monitoring, business plan development and income generating activities. Relevant recommendations from other projects will inform the action plan and will include among others activities to strengthen capacity for gender mainstreaming within MEDD and its partners, and to establish specific strategies and budgets for gender-related activities. This work will also inform the development and implementation of output 1.4.

4) alignment with GEF focal area and/or Impact Program strategies;

The project addresses three of the direct drivers of biodiversity loss identified by the GEF 7 BD strategy: habitat change (loss, degradation, and fragmentation), overexploitation or unsustainable use and invasive alien species. The project seeks to advance the mainstreaming of biodiversity into national, regional and community-management under Objective 1 of the GEF and BD strategy and to reduce direct drivers of biodiversity loss under Objective 2. It will focus on implementing the following interventions that are targeted for GEF support under Objectives 1 and 2 of the GEF 7 BD Strategy:

(i) Mainstreaming marine biodiversity (emphasis on sea turtles and seagrass) into spatial and sea/land use plans at the national (strategic sector plans), regional and local levels (MPA and LMMA management plans). These will address the need to the significantly reduce illegal, unregulated and unsustainable taking, and/or trafficking of threatened marine species.

(ii) Improving Financial Sustainability, Effective Management, and Ecosystem Coverage of the Global Protected Area Estate (MPAs and LMMAs) through the promotion of biodiversity-friendly and equitable natural resource use practices in community-managed marine areas. The project will build the capacities of local communities and responsible state institutions, and implement incentives for natural resource users to invest in the long-term sustainability of marine resources rather than short-term gains through overutilization and illegal trafficking; and

(iii) Assessing the status of invasive marine species and developing adequate prevention, control and management plans.

The project will implement the community stewardship philosophy being promoted by the GEF 7 BD strategy to facilitate the devolution of marine resource use rights to local communities under Component 1, and then build the capacities of these local communities through the LMMA governance models to fulfil this devolved responsibility in the management of the marine resources under Components 2 and 3.

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

The Government of Madagascar has demonstrated its political commitment to successful implementation of Madagascar's Aichi Target 11 through the Sydney Promise. Under this scenario, Government and MPA promoters continue to partner with various donors (important projects/ programs under development are listed in the baseline section above) to advance this agenda, allocate resources to create and maintain MPAs/LMMAs, and build capacity for effectively managing attached marine resources as they implement specific programs to address some of the threats identified. The baseline investments are therefore critical to addressing issues such as increasing protected area coverage and improved management of MPA/LMMAs, which underlie the focus of the proposed project on sea turtle and seagrass conservation. These will however not fully address the specific problems, root causes and barriers targeted to sea turtle and seagrass conservation identified in previous sections.

Under the alternative scenario, the project will enable completion and coherence of critical policy, legal and regulatory frameworks for inclusive conservation of sea turtles, seagrass and their habitats, both at central and local levels. The project will systematically seek to build on the baseline scenario to improve the coverage and management effectiveness of protected areas through the declaration of LMMAs in critical areas for sea turtle and seagrass conservation. It will develop targeted strategies and management plans where governance structures are constituted and/or revised that build the capacity of key actors and effectively empower communities to apply 'dina' to ensure compliance with ecological standards and to minimize the current high levels of illegal trafficking, sea turtle consumption, and damaging fishing practices. The project will undertake targeted research to fill critical data gaps in sea turtle and seagrass conservation, and to raise awareness and understanding by the local communities on the value of these threatened species and related ecosystem services. GEF investment will also be critical to build on this work to develop a dedicated observatory and monitoring system and make it operational through a network of monitoring sites that will be collecting data to inform decision making. This work will be enabled through training, equipment and deployment of community

patrols and State representatives. Another critical aspect of GEF investment will address the need to provide targeted incentives for communities living in and adjacent to these coastal areas to invest in improving the management of marine resources in general and of sea turtles and seagrass in particular. The project will collect best practice from around the world to provide guidance and test at scale innovative revenue-generating mechanisms that are critical to effectively address illegal trafficking and unsustainable consumption and fishing practices. It will develop and pilot a sustainable financing mechanism that will administer income from community-based marine resource enterprises for the equal benefit of the communities and to reinvest in operational costs of the target protected areas. GEF support will be instrumental in not only amplifying the ongoing efforts to more effectively manage these marine protected areas for inclusive sea turtle and seagrass conservation, but also in aligning their management with broader efforts at regional level through collaboration with ongoing initiatives related to the Nairobi Convention, GEF-funded WIOSAP, and SAPPHIRE, among others.

This alternative GEF-supported strategy would thus add value to the baseline by consolidating those efforts through strengthening governance of these critical marine ecosystems, supporting the promotion of inclusive conservation in the establishment and co-management of marine protected areas, and aligning management and resource use decisions to establish a sustainable framework for sea turtles and seagrass conservation with potential to be adapted across the country and the subregion.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

Global environment benefits
(i) At least 428,134 ha of MPAs under improved management for conservation of sea turtles and seagrass and sustainable use of marine resources;
(ii) LMMAs created (target to be defined during PPG) or under improved management for conservation of sea turtles and seagrass and sustainable use of marine resources;
(iii) Targeted reduction of threats to strategic seagrass habitats[3] in Northwestern Madagascar (classified as Vulnerable in the IUCN Red List of Ecosystems) and threatened marine species of global conservation concern: hawksbill sea turtle (*Eretmochelys imbricata* - CR), green sea turtle (*Chelonia myda*s - EN), olive ridley sea turtle (*Lepidochelys olivacea* - VU), loggerhead turtle (*Caretta caretta* - VU), and leatherback turtle (*Dermochelys coriacea* - VU);
(iv) The direct and indirect values of ecosystem services delivered by marine habitat (target to be defined during PPG) is protected;
(v) 13,000 beneficiaries derive direct benefits (8,000 men; 5,000 women);
(vi) The conservation status of the proposed habitat[4] is enhanced;

7) innovation, sustainability and potential for scaling up.

Marine and coastal ecosystems are increasingly being degraded or destroyed even as human dependence on their ecosystem services is increasing. Despite the availability of conservation tools, successful implementation is constrained by lack of adequate funding. The proposed project represents the first coordinated approach to enhance the effectiveness of efforts to protect sea turtles, seagrasses and their habitats across several sites along the north-western coast of Madagascar. It proposes to do so by building on innovative approaches and best practice from UNEP, foundations such as the Madagascar Protected Areas and Biodiversity Foundation (FAPBM), academia, research institutions and networks such as the International Seagrass Experts Network and NGOs to pilot a sustainable financing mechanism that will benefit poor rural fishing communities and the conservation status of sea turtle and seagrass. One of those innovative approaches is based on "blue carbon" as relates to the benefits from the ability of coastal and marine ecosystems to sequester significant amounts of carbon and how the project could generate a market-based mechanism to trade carbon credits as a potential management as well as financing tool. As marine and coastal ecosystems provide a multitude of ecosystem services beyond carbon sequestration, such as coastal protection, fish nursery,

water purification, and marine biodiversity, the opportunity exists to develop further payment for ecosystem services (PES) schemes in North and North-western Madagascar and to capture their currently uncaptured value to finance their protection. This work will also provide an opportunity to develop much needed scientific research in this domain, supported by planned surveillance and monitoring activities.

The development of a monitoring network and the establishment of a sea turtle and seagrass Observatory is another innovative practice that will be undertaken by this project for the conservation of sea turtles, connecting the local, national and potentially regional levels. The project will pilot this work on the basis of a network of monitoring sites and community patrols that will provide strategic information to analyze trends in the health status of vulnerable sea turtle and seagrass meadows. The project will extend a capacity building program for key stakeholders in collaboration with partners such as WCS, WWF and Blue Ventures, among others, that capitalizes on the achievements of good practices (e.g. the UNEP GEF-6 Dugong and Seagrass Conservation project or WCS SMART tool). The Observatory will also be inspired by the operating mechanism and the system already implemented within the framework of the UNDP GEF-5 project that has the objective to protect and manage threatened biodiversity in another region of Madagascar. To avoid establishing parallel structures, the observatory will be based on the existing structure within the Regional Directorate of the MEDD that brings Decentralized Technical Services and Decentralized Territorial Associations, CSOs and private sector to integrate the conservation of sea turtles and seagrass in this work. This coordinated effort is expected to represent a more effective approach to monitor, control and decision-making regarding illegal trafficking and involving relevant justice and security actors. In the mid-term, the experiences are expected to be upscaled across the country. In the medium and long term, solid partnerships between rural fishing communities and members of the private sector, relating to the promotion of ecotourism and the development of a carbon market mechanisms, among other economically viable incentives and alternative livelihood options, will reduce pressures on sea turtles and seagrass habitats and contribute to the sustainability of the project actions.

The sustainability of the GEF investment is premised on the notion 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. The project is designed enable horizontal and vertical scaling up opportunities, i.e. expansion of coverage across wider geographic areas and creating optimal policy and institutional frameworks. Component 1 has been designed to also enable upscaling opportunities through the consolidation of best practice and development of guidelines to promote equitable sea turtle and seagrass conservation.

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[2] As indicated in the risk section, this research might be extended to marine pollution to assess its impact on the target species given its dramatic increase during COVID-19.

[3] These habitats include the following seagrass species: *Thalassondendron ciliatum*, *Halodule uninervis*, *Cymodocea rotundata, Halodule uninervis*, *Enhalus acoroides*, *Thalassia hemprichii*, *Cymodocea serrulata*, *Syringodium isoetifolium*, *Halophila ovalis*, and *Halodule wrightii*.

[4] Babaomby, Nosy Hara National Park (IUCN category II), Ankarea (Marine Protected Area, IUCN category V), Nosy Be (port), Ankivonjy (Marine Protected Area, IUCN category V), Sahamalaza National Park (IUCN category II), and Analalava.

1b. Project Map and Coordinates

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

The project planning domain is contained to the Diana and Sofia administrative Regions in the North and North Western part of Madagascar (please refer to the geo-referenced map in Annex A). The project activities will be spatially focused on the rural fishing communities living in/around the LMMAs abutting the four MPAs within these two Regions, extending from the municipality of Analalava (southern town of Sahamalaza biosphere) to the Bay of Diego. Within these spatial focus areas, the project will then support communities who voluntarily choose to have a specific seascape to be declared as a LMMA.

2. Stakeholders

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

Indigenous Peoples and Local Communities

Civil Society Organizations

Private Sector Entities

If none of the above,please explain why: Yes

It is to be noted that due to the COVID-19 pandemic, Madagascar has experienced long months of mobility restriction, thus limiting travel even at the central level, and making fieldwork virtually impossible. The project proponents have engaged key stakeholders mainly at the central level, who have put forward the information collected during preliminary consultations with local authorities that had in turn engaged some of the communities before the pandemic. The project is fully committed to undertake extensive consultations at the sites during the project preparation phase. Should the restrictions continue over that period, the project will put in place alternative options to engage a core group of representatives of key stakeholders to inform the development of the project document.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Stakeholders were identified by the project proponents through a series of dialogues with a range of actors involved in marine conservation and threatened species management at central level. Stakeholders consulted during PIF development (exclusively) are presented below. In this context, most of stakeholders were mainly reached by phone and Skype calls, and several online surveys were undertaken.

In particular, components 2 and 3 require multi-stakeholders collaborations on the ground. Several platforms will be used to address this need. At the regional level, a dialogue platform will be set up to bring together key stakeholders: fishing communities, private operators, conservation partners, local / regional authorities and other project partners identified in this PIF. Adequate participation of women will be ensured in line with recommendations from the gender analysis as the platform is set up. Best practice from successful experiences in Madagascar will be applied. These experiences demonstrate that, multi-stakeholder platforms are most efficient towards decision-making in sustainable natural resource management. The project will build on the regular meetings between LMMA/MPA managers and the STD (Technical Decentralized Services). It will also build on the annual area meetings (Diego, Nosy Be/Sahamalaza, Analalava) that involve key local stakeholders: Regional Institutions responsible for Fisheries, Environment and Sustainable Development, MIHARI, LMMA/MPA managers, private sector and development project partners. The project will also explore and define the best way to build on the existing MIHARI regional forum during PPG. By operationalizing such platforms, the project will support the continuity of knowledge exchanges through these networks after EOP.

Stakeholder	Mandate	Expected role in the project[1]
Ministry of Environment and Sustainable Development (MEDD)	Promotes and ensures the sustainable, responsible, rational and ethical use of natural resources, and of the environment that sustains them.	Project implementation. Enabling policy, legal and institutional frameworks for the protection of sea turtles and seagrass habitats. MEDD is a project partner at both national and local levels.
Ministry in charge of Fisheries, presently the Ministry of A	Formulates, implements, and coordinates policy concerning marine resources and fisheries for sustainable development.	Project collaborating partner in implementation. Coordination in the context of the child G

griculture, Husbandry and Fishery (MAEP)		EF-6 funded projects (WWF on MPAs and World Bank SWIOFish2).
Sofia and Diana Regions	In the context of decentralization, Regions can request resources from central government Participation in the fight against species trafficking including collaboration with the Unit to combat Corruption within MEDD (Unité de Lutte Contre la Corruption)	Project collaborating partner in implementation. Addressing illegal trafficking and enabling regional regulatory policies and frameworks.
Madagascar National Parks	Responsible for 43 PAs that include the four MPAs targeted by the project. It has its own internal policy and strategic plan.	Project beneficiaries and project collaborating partners in implementation. Project stakeholder at both national and local levels.
Ministry of Population, Social Protection and Promotion of Women	Responsible for implementation of the National Gender and Development Action Plan.	Project collaborating partner in implementation on inclusion and gender mainstreaming efforts.
Madagascar Biodiversity (and Protected Areas) Fund (FAPBM)	Provides funding for protected area management, currently to Sahamalaza National Park and Ankivonjy MPA. Raises funds for MPA and LMMA management.	Project collaborating partner in implementation for financial management and sustainability.
World Conservation Society (WCS)	Co-manages sites in Antongil Bay, the Northwest in the Diana Region and in the Atsimo Andrefana Region in the Southwest.	Project collaborating partner in implementation. Provision of technical support and key research and monitoring initiatives on target species.
Madagascar Action Development (MAD)	Madagascar Action Development is an association specializing in the management of marine species. Sea turtle conservation experience in the Diana region.	Project collaborating partner in implementation on sea turtle conservation.
Orientation and Monitoring Committee of Sahamalaza Protected Area (COSAP Sahamalaza)	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.	Project beneficiaries and project collaborating partner in implementation.
Blue Ventures	Blue Ventures has long invested in MPA and LMMA development. It helps to co-manage 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.	Project collaborating partner in implementation: research, community co-management for sea turtle conservation, mangrove and seagrass conservation and carbon trading.
Conservation International	CI has long invested in MPA and LMMA development. It co-manages an MPA in the Diana Region and is planning to increase its spatial coverage or, alternatively, establish a new MPA. CI has	Project collaborating partner in implementation: research and conservation practices.

	conducted several key research initiatives related to biodiversity and/or MPA management.	
WWF Madagascar	WWF has helped to establish several MPAs and LMMAs together with providing continued technical support. It implements MPA/LMMA activities in the Diana, Sofia, Melaky, Menabe and Atsimo Andrefana Regions. WWF also a co-coordinator of the Northern Mozambique Channel Initiative.	Project collaborating partner in implementation; coordination with GEF-6 project on MPA creation/management effectiveness.
International Seagrass Experts Network	Promoting and protecting seagrass research, conservation and management: mapping, monitoring, threats, drivers, ecosystem services, policy and management, development of community-based PES schemes, voluntary carbon market-Restoration and conservation, blue economy opportunities.	Project collaborating partner in implementation: research and technical advice.

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[1] Roles will be confirmed and adjusted after consultations during the PPG phase.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Madagascar scores 0.948 in the Gender Development Index (GDI), just above the world average. Overall, women in Madagascar have a lower income per capita and the proportion of women holding seats in Parliament is low (20.5%). These average values for Madagascar mask differences between urban and rural populations. This project is designed to provide the same opportunities for men, women, girls and boys to engage in conservation activities and to adequately address their differentiated needs and approaches to natural resource management to ensure that it can benefit them equally. Component 3 has been designed to ensure that gender equality is effectively mainstreaming in this project. Two gender surveys commissioned across 12 villages in the Melaky and Menabe Regions and a second in the Diana Region in late 2017 have served to inform this PIF. These were carried out primarily to identify gaps and solutions to women's participation in conservation, while also promoting more equitable management and utilization of natural resources by men and women. The results show that there is considerable variation between communities in terms of what natural resources are used and for what purpose. They also show that both women and men in a given household share many activities, but women's specific responsibilities include education of the children, market gardening and small enterprises. Fishing is a good example: in some regions using fishing boats including pirogues is considered to be work for men because of the level of risks and general security in small boats, whereas women can be the principal gleaners in reef areas or crab collectors in mangroves. However, whether the men or the women are responsible for the catch, marketing and selling it is traditionally a woman's task. In such a case where both genders are involved in the same revenue-generating process, the monies are generally shared within the household. However, where only women are involved, such as in algaculture, the women generally retain control of the money. Farming seaweed for commercial markets is also largely the role of women. In general, many decision-making processes at the community level involve both men and women, although women showed a clear tendency to avoid participation in such public discussions for reasons related to cultural mores.

Preliminary gender analysis and socio-economic surveys will be carried out to inform project design during PPG, while more in-depth studies are foreseen under outputs 1.1 and 3.1. In doing so, this project will build on the key recommendations that we consider critical for this project: strengthening capacity for gender mainstreaming within MEDD and its partners, and to establish specific strategies and budgets for gender-related activities. The project's results framework will include gender indicators as indicated under Component 3 to monitor the effectiveness of gender mainstreaming efforts undertaken in this context. For example, strategies will be applied to ensure women and girls participate in awareness raising activities and involved in the design of the relevant strategies and training to ensure that they are adequate to their differentiated need. The aim is to strengthen their ownership and to empower them to participate across critical decision-making processes. Their differentiated needs will also be addressed through the work of Component 3 to increase target household incomes, in the development of markets relating to fishing activities and the promotion of village savings and credit associations (VSLAs). In various localities of Madagascar, VSLAs have proved their worth and have significantly contributed to improving the income of families, especially single-parent families.

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; and/or Yes

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The restrictions posed by COVID-19 have made it impossible to pursue some initial discussions with strategic sector partners across the tourism and fisheries sectors, mainly. These will be pursued in detail during PPG as the project plans to actively facilitate partnerships between relevant sectors. For example, the private fishing companies are already benefiting from stronger relationships with community-based fishing networks and, in some cases, improved fish products through the development of MPAs / LMMAs. This can lead to the creation of sustainable value chains, through public-private partnerships, with the support of State representatives at the local or regional level. Other opportunities are described under Component 3 mainly, referring to the valuation of marine ecosystem services, such as coastal protection, carbon sequestration, fish nursery, water purification, and marine biodiversity, and the range of opportunities related to them. For example, to develop further payment for ecosystem services (PES) schemes including a market-based mechanism to trade carbon credits and to engage the fishing and tourism industries. The valuation of sea turtles through ecotourism provides another valuable option for this project. The project will build on successful experiences on sea turtle protection through ecotourism (Nosy Be in Madagascar, Seychelles, etc.) and collaborate with tourism operators to contribute to marine turtle conservation actions. The tourism sector is one of the sectors most affected during COVID-19, and the future development of the sector in the context of this project will be explored during PPG. Nevertheless, with the gradual recovery, the project will develop innovative approaches that can be developed through partnerships within the Indian Ocean, with experienced countries such as Seychelles, Mauritius, and La Réunion. For example, the project will explore the feasibility of developing a tourist circuit within the region focused on sea turtle watching. **The project will also build on the work** in Ankarea, where WCS has established a partnership with the Tsarabanjina resort to conduct sea turtle monitoring. Tsarabanjina, a private island, is one of the three target nesting sites in Ankarea. The resort staff is trained to protect and monitor nesting sites and share the data with WCS. The project plans to expand this partnership model across the other sites near Analalava, Nosy Be, and Sahamalaza, contributing to Components 2, 3, and 4.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risks	Rating	Mitigation measures
Political instability	Moderate	The environment and fisheries ministries have been able to maintain their basic activities during recurring political crises as technical personnel generally do not change. Securing strong ownership of local communities, local authorities, partner NGOs and private sectors will ensure that MPA and local fisheries management initiatives continue at the site level and the lessons learned from previous crises will be applied if the risk reappears in the future. The project will closely monitor events on the ground should unrest or local political changes occur and support efforts to maintain implementation progress/continuity.
Low inter-agency cooperation at the level of Governments	Low	Collaboration between the Ministries of Environment, Fisheries, and Scientific Research has been strengthened in recent years. The creation of steering committees (through other projects as reflected in the baseline) composed of all the institutions and entities involved in this project will strengthen this collaboration. Specific entities involve University, CNRO, FAPBM, National NGOs, Blue Ventures, WCS, WWF, CI.
Policy and Legislation Adoption	Low	Project partners will work closely with the Government to support policy / legislative development: Regular exchanges will be realised, and facilitated by the organisation of field visits and constructive meetings that allow better and common comprehension of the context and the different issues, especially with the government representatives at local/regional levels, so that they can be allies in the development and the adoption of adequate policies and legal texts.
Weakness or lack of enforcement	Moderate	The project is designed to ensure that coastal communities actively participate in awareness-raising and training opportunities to learn about the importance of sea turtles and seagrass and the policy and regulatory frameworks and related measures that will be taken to combat their illegal exploitation. The language will be tailored and surveys were undertaken to ensure this understanding. Tailored capacity building programs and basic infrastructure and equipment will be provided to law enforcement agencies in the field and to community patrol groups. Complementary lobbying of decision-makers at the national and regional levels will be undertaken. The implementation of management plans and the application of "*dina*" is another strategy envisaged by the project to mitigate this risk.
Low interest and low response and potential opposition from the local population	Moderate	The project is fully designed to address this critical issue. Turtle meat consumption is an important part of the culture for many coastal people. The project will work closely with local communities to develop a peer-to-peer approach, to strengthen awareness, to reinforce the understanding of conservation for sustainable development, and the medium-term impacts of continuing these unsustainable practices. This is why the focus is on supporting government institutions to empower local communities to define governance and financial mechanisms that work for them and that will ensure sustainable management of their marine ecosystems and their natural resources. The alternative scenario outlines the inclusive approach of the project and how it plans to involve local communities in th

		e various stages of the project. A critical effort will be made during PPG when further, detailed stakeholder consultations will take place to consolidate the participation in project development at the local level with community groups and leaders. These consultations will form the bases for the in-depth research to be undertaken under outputs 1.1 and 2.1 that will define tailor-made governance and sustainable finance mechanisms as mitigation measures to this risk. In addition, component 3 will focus on building local communities' capacity for income-generating activities that provide green jobs to sustain their livelihoods and the ecosystems that they rely on.
Climate change	Moderate	Global warming represents one of the top five major hazards to sea turtles globally as subtle temperature variations shape their embryonic development, determine their sex, and influence their growth and nesting activity. The rising sea levels reduce or modify the nesting beaches; rising temperatures may cause sex ratio bias toward females; water warming could have a negative impact on foraging areas, particularly turtles depending on coral reefs. Furthermore, the increased influx of terrestrial sediments due to an increase in extreme rainfall events, erosion due to poor land use and upstream deforestation can change the shape and characteristics of the sand beaches. As mentioned earlier, these changes are likely to have an impact on nesting activity or inhibit young turtles from digging their way out of the nest. This last effect was observed in Masoala region (Randriamanantsoa, pers. comm, January 29, 2008). In the Nosy Hara PAG, climate change has led to an increase in the intensity of winds and waves, warming, hence the erosion of beaches and an increase in the temperature of the sand. None of these effects has been studied in detail in Madagascar so far. Similarly, it is expected to affect seagrass ecosystems in the target area of Madagascar. Monitoring and conserving critical sea turtle and seagrass habitats is at the core of this project to mitigate this risk through the establishment of an Observatory to inform adequate mitigation and adaptation practices. The adaptive approach to seagrass management that this project will promote and enable, will not only maintain seagrass diversity, ecological functions, and ecosystem services but also enhance the resilience and adaptive capacity of seagrass ecosystems to cope with climate change impacts. Given the relevance of climate change issues, all entities that intervene in the areas systematically have developed strategies to address climate change through their actions. The project will consider applying proven approaches to adapt and mitigate climate impacts on the target species and habitats.
COVID-19 pandemic	Moderate /high	Although at the moment of submission, the situation seems to be improving, second and potential third waves are likely to pose a risk to the PPG phase and early project implementation. Precautionary measures will continue to be in place indefinitely to ensure the highest levels of safety for project stakeholders. A relative return to normal has resumed in Madagascar recently after registering a decrease in cases and related deaths. The population and government institutions are adapting to the new reality and safety measures. Currently, meetings and local travel are authorized. In terms of COVID-19 impacts to the delivery of GEBs, the role of research institutions and CSOs remains crucial as they are closest and often part of the target communities. These strategic actors are highly committed to conducting their roles in advocacy, awareness-raising, development, and enforcement of regulations. Potential impacts on the commitment of co-financiers and private sector partners will be assessed in detail during the PPG phase t

o develop adequate risk mitigation actions. In fact, the project will explore opportunities for accelerating the work envisaged under component 3 to identify new "green" based businesses that support sea turtle and seagrass conservation linked through the sustainable sea-based and coastal zone solutions to be defined under component 2. Together these components aim at introducing sustainable marine natural resource practices generating multiple GEB (refer to the table in section 6), as well as livelihood benefits and green jobs. More generally, the project will continuously monitor the pandemic and its impact to plan an adequate response through adaptive management. Due to the remoteness of the target areas the project already envisaged the need to increase capacities for remote work and stakeholder interactions, integrated planning, and institutional coordination, with special focus on marginal and underprivileged and climate-vulnerable communities, with emphasis on women and girls. Given the envisaged work on illegal trafficking, the project could consider collaboration with other efforts related to early warning mechanisms and identification of potential risks. Relevant research focused outputs might also include marine pollution to better understand the potential impact of the dramatic increase registered during COVID-19 on the target species.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The project will be implemented by UNEP, and nationally executed by the Ministry of Environment and Sustainable Development (MEDD). The MEDD might identify a potential partner for implementation during PPG from the list of stakeholders[1].

UNEP – through its GEF Task Manager (TM) and Funds Management Officer (FMO) - will monitor the implementation of the project, review progress in the realization of the project outputs, and ensure the proper use of GEF funds. The UNEP TM will be directly responsible for: (i) providing consistent and regular project oversight to ensure the achievement of project objectives; (ii) liaising between the project and the GEF Secretariat; (iii) ensuring that both GEF and UNEP policy requirements and standards are applied and met (i.e. reporting obligations, technical, fiduciary, M&E); (iv) approving budget revisions, certifying fund availability and transferring funds; (v) organizing mid- and end-term evaluations and reviewing project audits; (vi) providing technical, legal and administrative guidance if requested; and (vii) certifying project operational completion.

The MEDD will be accountable to UNEP for the disbursement of funds and the achievement of the project objective and outcomes, according to the approved overall project work plan. The MEDD and potential implementation partners will form a small joint Project Implementation Unit (PIU) to provide the strategic oversight and guidance to project implementation. The PIU will be responsible for: (i) preparing the overall project work plan; (ii) overseeing project execution in accordance with the project results framework and budget, the agreed project work plan and reporting requirements; (iii) ensuring technical quality of products, outputs and deliverables; (iv) certifying project reports prior to submitting these to UNEP (including progress, financial and audit statements); and (v) ensuring ongoing coordination with all other relevant GEF-financed projects and other initiatives.

A Project Steering Committee (PSC) will be constituted to serve as the project oversight, advisory and support body for the project. The final composition of the PSC will be determined at the Project Inception Workshop. It will include representatives of the national executing agencies. The PSC will ensure that the project remains on course to deliver the desired outcomes of the required quality. The PSC provides overall guidance and policy direction to the implementation of the project and provides advice on appropriate strategies for project sustainability. The PSC will play a critical role in project monitoring and evaluation by quality assuring the project processes and products. It advises on any conflicts within the project or to any problems with external bodies.

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[1] Preliminary discussions with institutions responsible for the implementation of relevant ongoing/planned projects underway or planned need to be deepened and consolidated during PPG due to COVID-19 restrictions.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

This project is consistent with the National Biodiversity Strategy Action Plan that calls for broader and more effective protection of Madagascar's marine and coastal biodiversity, and the CBD National Report. The project is designed to implement the updated Malagasy Environment Charter (Law n°2015-003) and the National Environment Policy for Sustainable Development that includes an objective to ensure the sustainable management of natural resources, terrestrial and aquatic, marine and coastal areas, as well as associated habitats and ecosystems. One of the principles of the Policy is the effective management of marine and coastal areas and one of its strategic orientations is the financial sustainability of environmental actions. The project is consistent with each of these mainly through components 2 and 3, respectively.

The proposed project is also consistent with the national implementation of the Bonn Convention on Migratory Species that the country ratified in 2006 by Decree n° 2006-541 of 24 July 2006 and its Memorandum of Understanding on Conservation and the management of sea turtles and their habitats in the Indian Ocean and Southeast Asia signed by Madagascar on 01 September 2001. The project also contributes to the achievement of the National Plan for Adaptation to Climate Change (NAPA, 2006) and the National Adaptation Plan (NAP, 2019) that highlight the vulnerability of coastal zones and the need to increase their climate resilience. Concerning gender, Madagascar adopted in 2003 the National Gender and Development Action Plan (PANAGED) that aims at correcting existing gender disparities and has co-opted the strategies adopted in the Beijing Action Plan: "Improving gender equality and economic efficiency of women", and " Improvement of the legal and social condition of women", both relevant to this project.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The importance of knowledge management is reflected in the description of Components 1 and 2, in particular outputs 1.1, 1.4, 2.1, 2.3. These have been designed to ensure a cost-effective approach to knowledge management through the collection of experiences from this project and those identified in the baseline to develop a knowledge management system that can inform up-scaling of best practices in gender-responsive, inclusive sea turtle and seagrass conservation in Madagascar and across the region. The project will collaborate with conservation and development partners both nationally and internationally to facilitate the wider uptake of proven models and develop learning networks that can sustain them. More concretely, under output 1.4 the project will develop a knowledge management plan analyzing and collecting best practices to be shared across the country and through regional networks such as those provided by relevant institutions, conventions, and projects. This work will be preceded also by an overview of existing lessons and best practices that inform the project concept and plans to learn from relevant projects, programs, initiatives, and relevant evaluations. Under output 2.1 the project will develop a strategy to reduce/halt sea turtle trafficking and sea turtle consumption on the basis of the research undertaken through Component 1. The strategy will include species conservation and monitoring plans and an outreach and advocacy program that will be developed in collaboration with the GEF-6 WWF project, WCS, the International Seagrass Experts, and the MIHARI Networks, among others, and will aim to integrate sea turtle and seagrass conservation in their respective programs. A related capacity development program will be developed and implemented under output 2.3, also in coordination with those partners, to ensure integration of sea turtle and seagrass conservation best practice in training materials, environmental education, and community engagement programs. These collaborations will also ensure a cost-effective approach to training on seagrass and sea turtle monitoring provided to LMMAs and MPA managers across the sites. Complementary awareness-raising and education efforts will be combined with these conservation initiatives in the target coastal areas to promote ownership towards sustainable management of these natural resources and to benefit their socio-economic development.

This approach represents an integral part of adaptive management as the project progresses and contributes to capacity building at all levels. A reliable and accessible knowledge base will be a major asset for the emerging areas of marine spatial planning and protected area financial management and governance in Madagascar. The project knowledge management approach will be gender-sensitive, based on learning from other or previous projects and initiatives, documenting lessons learned, and sharing project experiences and expertise with relevant local, national, and global stakeholders, including on cross-sectoral and decentralized approaches. LMMAs, MPAs, and MIHARI networks will provide critical networks for knowledge sharing at the local level. The MIHARI network also includes regional and local groups with regular exchanges. At the international level, some of the project's implementing partners are active members of regional and international bodies. They participate in relevant forums, meetings, and international conferences and will be strategic partners of this project.

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9. 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			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

The refer to the attached Safeguard Risk Identification form for detailed information on the levels of risk classifications/ratings.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
SRIF_Madagascar sea turtle and seagrass	

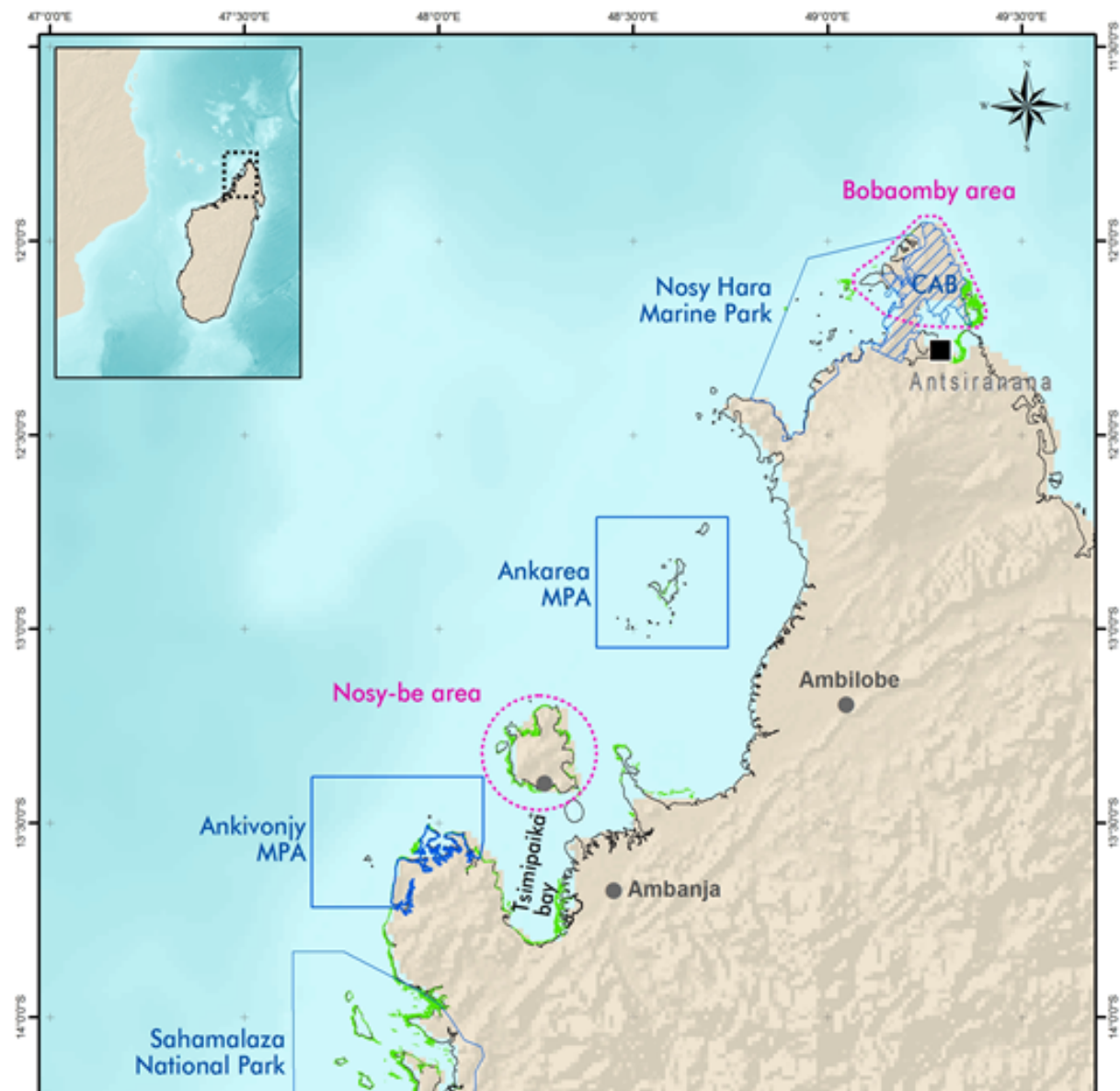## Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).
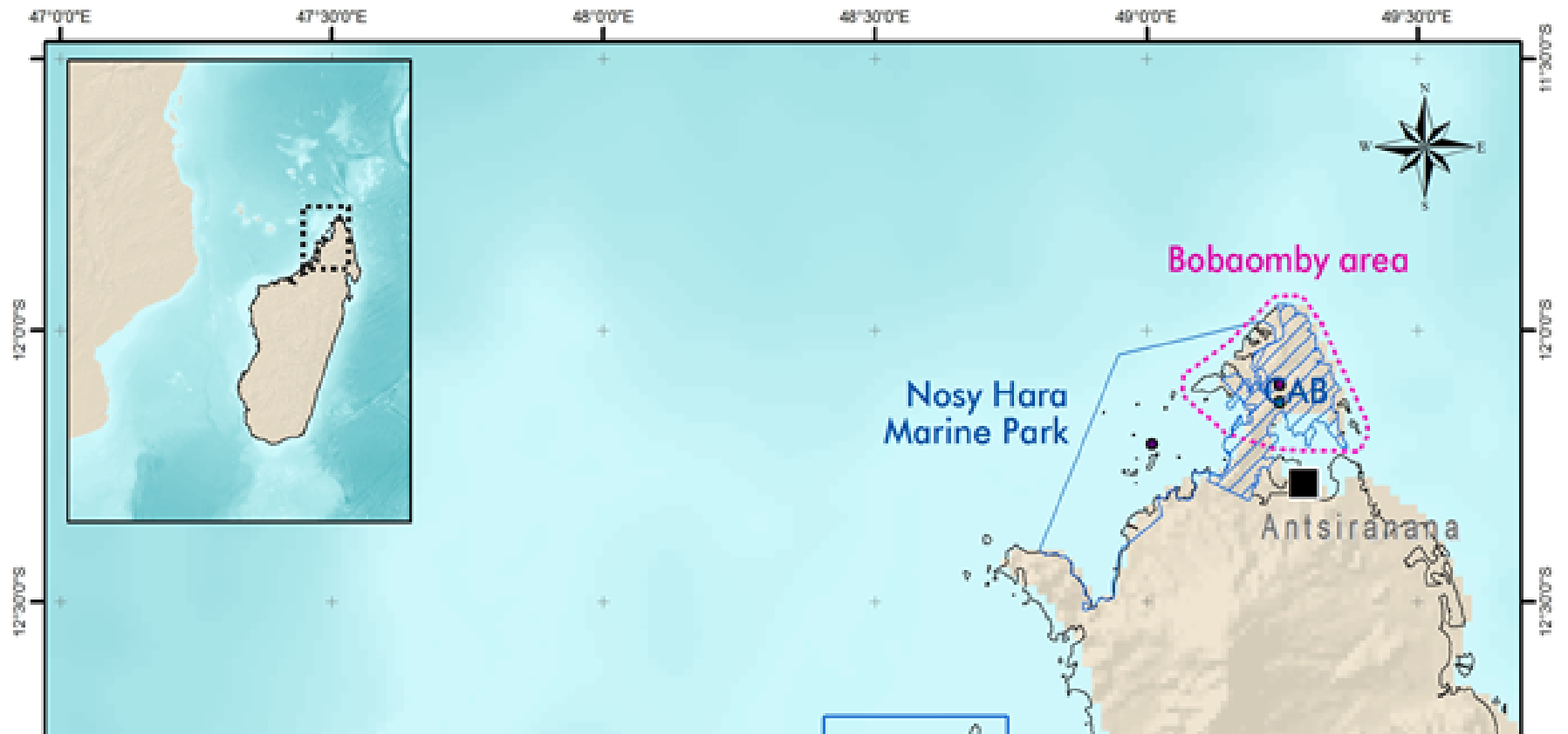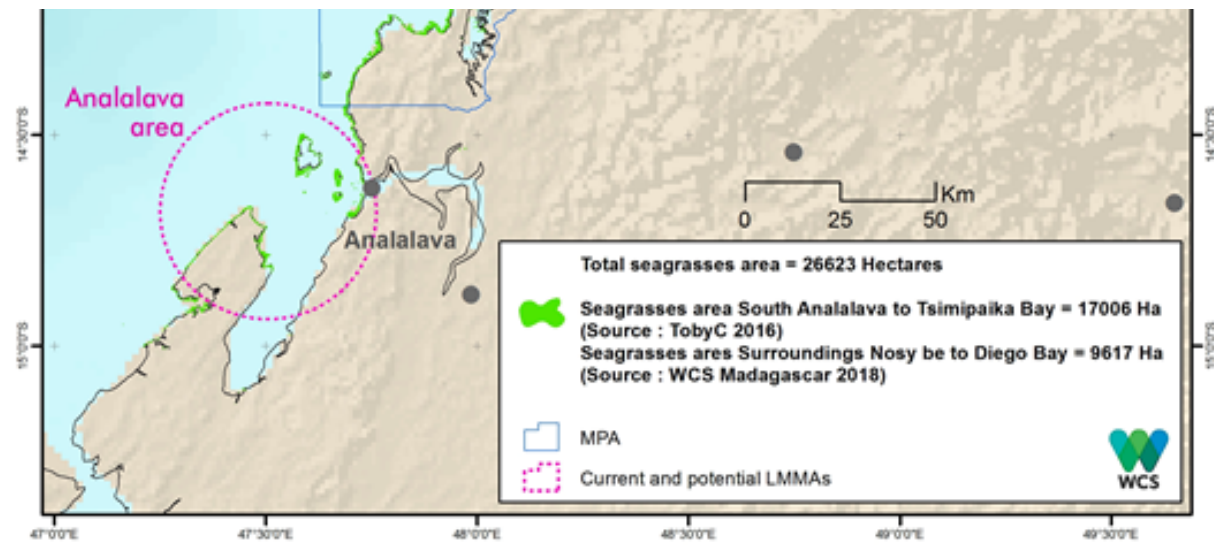
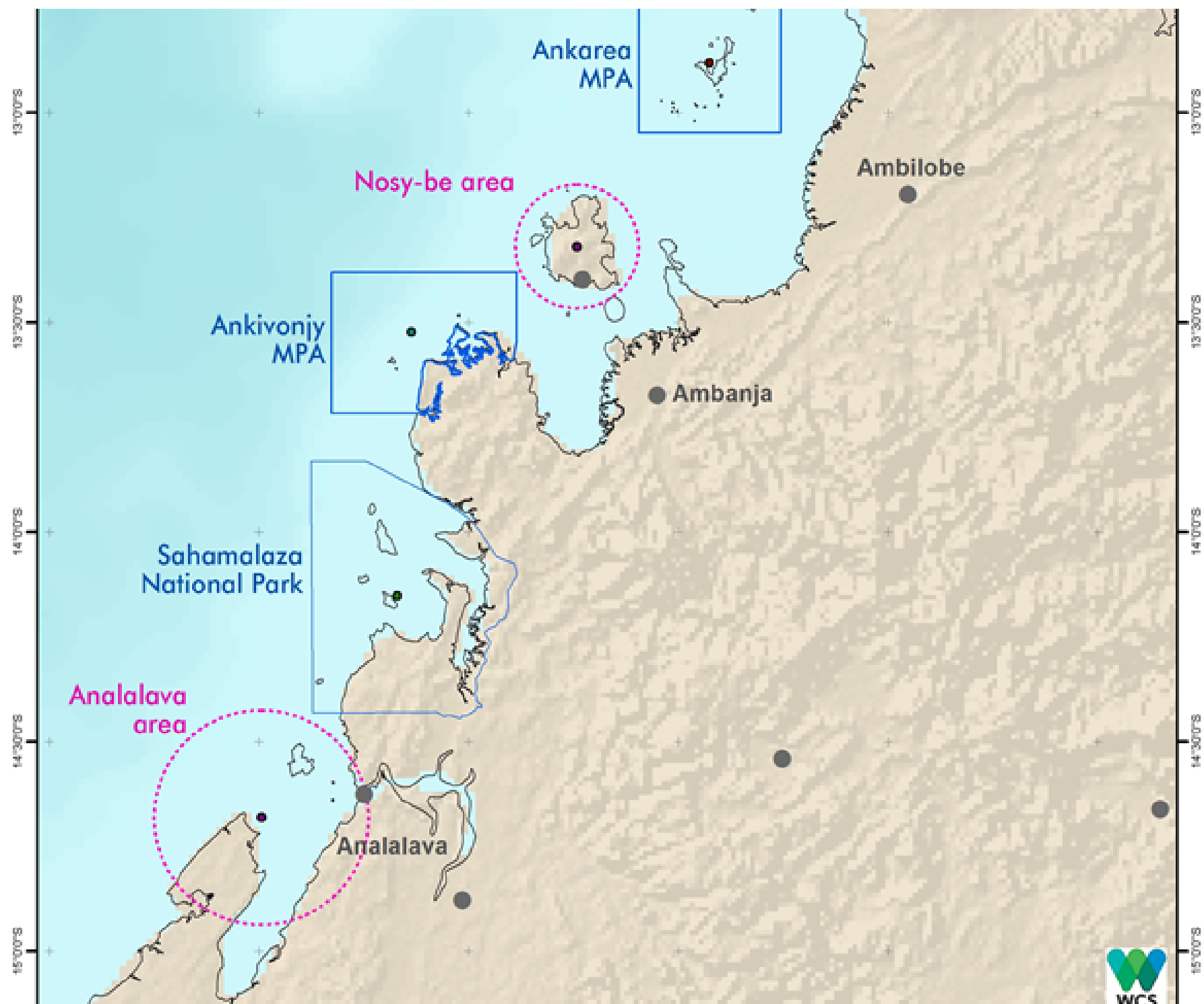| Name	Position	Ministry	Date
Dr. Hery A. Rakotondravony	GEF Operational Focal Point	Ministry of Environment and Sustainable Development	7/21/2020

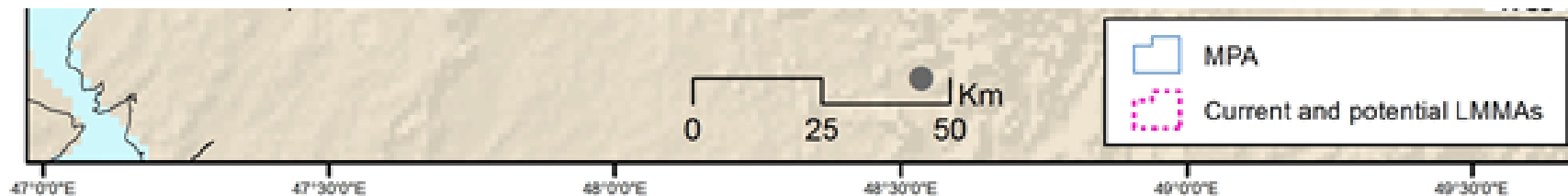ANNEX A: Project Map and Geographic Coordinates
Please provide geo-referenced information and map where the project intervention takes place

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES

Total seagrasses area = 26623 Hectares

Seagrasses area South Analalava to Tsimipaika Bay = 17006 Ha
(Source : TobyC 2016)
Seagrasses ares Surroundings Nosy be to Diego Bay = 9617 Ha
(Source : WCS Madagascar 2018)

MPA

Current and potential LMMAs

The table indicating the coordinates of the centroid of each location:

Locations	Centroid_Longitude	Centroid_Latitude
Ankarea MPA	48.57449115	-12.8793169
Ankivonjy MPA	47.86293008	-13.52339329
Bobaomby MPA	49.24656224	-12.09881484
NosyBe Area	48.25873746	-13.31857031
Analalava Area	47.50577607	-14.68079699
Sahamalaza MNP	47.83075754	-14.15198028
Nosy Hara MNP	49.01043758	-12.2098596