



Biodiversity Conservation, Restoration and Integrated Sustainable Development of Lower Mangoky and South-Mananara watersheds

Part I: Project Information

GEF ID

10371

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Biodiversity Conservation, Restoration and Integrated Sustainable Development of Lower Mangoky and South-Mananara watersheds

Countries

Madagascar

Agency(ies)

FAO

Other Executing Partner(s)

Executing Partner Type

Other Executing Partner(s)

Ministry of Environment and Sustainable Development

Executing Partner Type

Government

GEF Focal Area

Multi Focal Area

Taxonomy

Focal Areas, Forest, Forest and Landscape Restoration, Biodiversity, Plant Genetic Resources, Species, Threatened Species, Mainstreaming, Agriculture and agrobiodiversity, Biomes, Tropical Dry Forests, Protected Areas and Landscapes, Productive Landscapes, Terrestrial Protected Areas, Land Degradation, Sustainable Land Management, Integrated and Cross-sectoral approach, Sustainable Forest, Income Generating Activities, Sustainable Agriculture, Community-Based Natural Resource Management, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Food Security, Land Degradation Neutrality, Land Cover and Land cover change, Land Productivity, Demonstrate innovative approach, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Local Communities, Stakeholders, Private Sector, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, SMEs, Beneficiaries, Civil Society, Non-Governmental Organization, Community Based Organization, Academia, Awareness Raising, Communications, Type of Engagement, Consultation, Partnership, Information Dissemination, Gender Equality, Gender results areas, Capacity Development, Knowledge Generation and Exchange, Access and control over natural resources, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Capacity, Knowledge and Research, Learning, Indicators to measure change, Theory of change, Adaptive management, Innovation, Targeted Research, Knowledge Exchange, Field Visit, South-South, Peer-to-Peer

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

60 In Months

Agency Fee(\$)

696,753

Submission Date

10/10/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
LD-1-3	GET	5,476,237	23,516,949
BD-1-1	GET	1,858,009	9,287,351
Total Project Cost (\$)		7,334,246	32,804,300

B. Indicative Project description summary

Project Objective

Improve ecosystems services and productive capacities of the degraded forests, ecological corridors and landscapes in Southern Madagascar through wide-scale implementation of forest and landscape restoration

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Strengthened Enabling Environment for FLR and biodiversity mainstreaming	Technical Assistance	<p>1.1 Stakeholders mainstream FLR priorities and biodiversity conservation into key planning processes at decentralized and landscape level</p> <p><u>Indicators:</u> (i) # of plans and policies that are integrating BD conservation and FLR priorities (ii) Decentralized forestry and ag services demonstrate capacity to apply guidelines</p> <p><u>Targets:</u> (i) at least 4 plans/policies (ii) %</p>	<p>1.1.1 Guidelines developed for implementing GELOSE law^[1] while also mainstreaming FLR priorities and BD conservation into existing local-management planning processes</p> <p>1.1.2. Training modules prepared for decentralized forestry and agricultural services to apply these guidelines</p> <p>_____</p> <p>^[1] See Barrier 1, section 1.a.1.</p>	GET	300,000	1,811,402

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
2. Widescale implementation of forest and landscape restoration in targeted landscapes for improved biodiversity conservation, scaling up of SLM practices and sustainable livelihoods	Investment	<p>2.1 COBA (community based organizations and institutions) sustainably manage lands at local level, restoring forests and land and conserving biological diversity in the productive landscapes of Lower-Mangoky and South-Mananara.</p> <p><u>Indicators:</u> (i) # of SACs and TGRN with FLR and BD conservation objectives and practices mainstreamed. (ii) # of COBA and CER completing training and applying</p>	<p>2.1.1 Municipality Development Plans (SACs) and localized management contracts (TGRN) integrating BD, FLR and LD priorities are implemented.</p> <p>2.1.2. Training modules prepared for COBA and CER to apply innovative and practical tools and approaches for gender sensitive SLM/SFM practices in degraded forest and agricultural land, restoring land cover, the hydrological regime, conserving agro-biodiversity and increasing the productivity sustainably under the SACs and TGRN.</p>	GET	4,479,948	23,358,879

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
3: Increased investment for improved SLM, BD and livelihoods diversification	Investment	<p>3.1 Promoting innovative incentive mechanisms that encourage adoption of FLR/BD conservation practices in agricultural and forest landscapes</p> <p><u>Indicator:</u> <i>Number of stakeholders (women and men) with increased access to incentive mechanisms to apply SLM practices throughout the targeted value chain.</i></p> <p><u>Target:</u> <i>500 people (of which 50% women) have enhanced capacity to apply SLM</i></p>	<p>3.1.1 Cooperatives and entrepreneurs have enhanced capacity to develop and implement nature-based business plans for specific value chains and attract private investment through the Land Accelerator approach.</p> <p>3.1.2 Regional investment forum organized to attract private sector funding towards FLR/BD interventions in selected value chains</p> <p>3.2.1 Forest concession model scaled up in one (1) “périmètre de reboisement” in a selected project area, through a new partnership with a locally operating private sector player.</p> <p>3.2.2 Opportunities to integrate FLR into National and Regional Funds (incl Agricultural, Biodiversity and Forest Fund) are identified and implemented.</p>	GET	2,005,048	6,934,019

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
4: Project Monitoring, Evaluation and Knowledge Management	Technical Assistance	4.1 Project implementation is supported by M&E strategy based upon measurable and verifiable outcomes and adaptive management principles.	4.1.1 M&E Strategy developed and clearly defining expected outcomes and implementation time frame 4.1.2 Knowledge exchange platforms (e.g. international /national/regional knowledge platforms, online communities of practice) 4.1.3 Mid Term Review and Final Evaluations are conducted 4.1.4 Communication strategy developed and implemented to support SLM/SFM scaling up to meet LDN targets	GET	200,000	700,000
Sub Total (\$)					6,984,996	32,804,300
Project Management Cost (PMC)						
GET					349,250	
Sub Total(\$)					349,250	0
Total Project Cost(\$)					7,334,246	32,804,300

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(\$)
Donor Agency	IFAD	Grant	Investment mobilized	15,000,000
Donor Agency	AfDB	Grant	Investment mobilized	10,860,000
Donor Agency	GCF (CI project with EIB)	Grant	Investment mobilized	2,000,000
CSO	Fondation pour les Aires Protégées et Biodiversité de Madagascar (FAPBM)	Grant	Investment mobilized	80,000
Donor Agency	FAO	Grant	Investment mobilized	4,364,300
Government	Ministry of Environment and Sustainable Development	In-kind	Recurrent expenditures	500,000
Total Project Cost(\$)				32,804,300

Describe how any "Investment Mobilized" was identified

IFAD: Inclusive Agricultural Value Chains Development Programme (DEFIS) AfDB: Projet de Zone de Transformation agro-industrielle dans le Sud-Ouest (PTASO) GCF: Sustainable Landscapes in Eastern Madagascar FAPBM: Asity Madagascar Management of Mangoky-Ihotry Protected Area FAO: Support to FLR scaling up in Madagascar (title TBD).

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(\$)
FAO	GET	Madagascar	Biodiversity	BD STAR Allocation	1,858,009	176,511	2,034,520
FAO	GET	Madagascar	Land Degradation	LD STAR Allocation	5,476,237	520,242	5,996,479
Total GEF Resources(\$)					7,334,246	696,753	8,030,999

E. Project Preparation Grant (PPG)

PPG Required
☐

PPG Amount (\$)
200,000

PPG Agency Fee (\$)
19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Madagascar	Biodiversity	BD STAR Allocation	50,667	4,813	55,480
FAO	GET	Madagascar	Land Degradation	LD STAR Allocation	149,333	14,187	163,520
Total Project Costs(\$)					200,000	19,000	219,000

Core Indicators

Indicator 1 Terrestrial 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)
6,000.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	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)
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Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
6,000.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	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)
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Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Akula National Park COFAV corridor	125689	SelectProtected area with sustainable use of natural resources	2,000.00						<input type="checkbox"/>
Akula National Park Mangoky-Ihotry wetland complex	125689	SelectProtected Landscape/Seascape	4,000.00						<input type="checkbox"/>

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1500.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,000.00			

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
500.00			

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6000.00	0.00	0.00	0.00
Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00			
Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Type/Name of Third Party Certification			
Indicator 4.3 Area of landscapes under sustainable land management in production systems			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4,000.00			
Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided			
Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Documents (Please upload document(s) that justifies the HCVF)			
Title		Submitted	

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	4,000			
Male	4,000			
Total	8000	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 project is strongly aligned with the objectives of the Madagascar National Biodiversity Strategy and Action Plan (NBSAP 2015-2025), which directly contributes to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets (with strong focus on Aichi target 15). In particular the project will contribute to NBSAP objective 4 on rational management of natural resources Aichi Biodiversity Target 5 on the reduction of habitat loss, Target 7 on sustainable production plans for agriculture and forestry and Target 8 on the reduction of pollution from land production , Target 14 on ecosystem restoration and access to ecosystem services and Target 15 on ecosystem resilience. The project also contributes to the achievement of commitment made by Madagascar under the AFR100 to bring 4 million hectares of forest landscape under restoration by 2030, to the National Strategy of Madagascar on FLR and its Objective 4 “Ensure the integrated planning of land use at local level” and 8 “Develop research at the level of Malagasy institutions to organize and sustain production resources in the context of the RPF” Restoration of degraded natural forests by enrichment or protection”. It also contributes to the Nationally Determined Contribution of Madagascar under the Paris Agreement to restore and reforest 270 000 hectares.

Part II. Project Justification

1a. Project Description

1.a.1. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed:

Madagascar is one of the 34 global biodiversity hotspots in the world (*Mittermeier et al, 2005*) **with extraordinary levels of biodiversity and endemism with an extremely high level of threat.** The benefits provided by biodiversity in Madagascar are immense: more than 18 million people are dependent on biodiversity for their subsistence needs, with 80% being essentially entirely dependent on natural resources. At least 70% of the population is dependent on resources derived from agriculture and other vegetation. There are 2,300 plants used for medicinal purposes in the country, 90% of which have not been commercialized. The export of medicinal plants is based on 50 species, of which 33 are forest-based. According to the National Biodiversity Strategy and Action Plan 2015-2025, deforestation and forest degradation are among the greatest threats to Madagascar terrestrial ecosystems. The illegal and abusive exploitation of natural resources including in protected areas, also remain a concern for both CITES and non-CITES species. In 2013, the total number of species submitted to IUCN for classification was 3,024, including 166 critically endangered species, 290 endangered species, 11 extinct species and 476 vulnerable species. Because of the country's high rate of endemism, the loss of one hectare of forest in Madagascar has a larger effect on biodiversity than forest loss elsewhere in the world.

Around 90% of lemur species are threatened with extinction due to habitat destruction caused by slash-and-burn agriculture and illegal logging, as well as hunting. The answer to the long-term survival of its biodiversity lies within Madagascar's civil society, in particular its local communities. Through the establishment and support of community-driven guide associations for example, ecotourism can provide significant income and other benefits for the local people. This model exists in Madagascar and needs to be built upon.

Table 2: Source NBSAP, 2015-2025

Direct and indirect drivers of deforestation in Madagascar		Direct and indirect wildlife overexploitation causes	
Direct causes	Burning agriculture / Tavy Grazing pressure Collecting fuel wood / charcoal	Direct causes	Hunting for local consumption Traffic of animal and plant species
Indirect causes	Population pressure Ineffective land tenure system Low agriculture productivity Lack of other sources of energy Lack of protection/management	Indirect causes	Population pressure Insufficiency of alternative protein sources Lack of protection/management Bad governance corruption Increasing price in international markets



As a result of commitments made by the Government of Madagascar (the “Durban Vision”), Protected Area coverage has quadrupled by 2016 to a total of 122 sites covering 7.1 million hectares. This was combined with a revision of the Protected Area Code in 2008 to allow actors other than Madagascar National Parks to manage these areas and the establishment of IUCN category III, V and VI protected areas – multiple-use sites in which extractive resource use is permitted. The management of these new PAs focuses on enhancing the productivity and sustainability of existing natural resource use through interventions based on agriculture and tourism for forest PAs. The effective management of these sites remains challenging given the general lack of capacity of local government in rural areas, the absence of adequate land tenure systems, corruption, the extreme isolation of certain sites and the impact of the 2009-2014 political crisis, amongst other factors.

As clearly described in the REDD+ Strategy recently approved by the Government of Madagascar (May 2018) the key drivers of deforestation and forests degradation in Madagascar are: (i) slash and burning practices for agriculture expansion, (ii) traditional livestock practices (overgrazing), (iii) uncontrolled wildfires, (iv) over consumption of fuelwood and charcoal, (v) illegal logging and unsustainable forest management practices and (vi) the uncontrolled development of the artisanal mining sector.

These drivers are exacerbated by the extreme poverty of the rural populations, the weakness of existing governance and legal frameworks, the lack of intersectoral coordination and integrated land use planning (particularly at decentralized levels in regions and communes). However, the current national offer on the wood market presents an annual deficit of 3 million of cubic meters which increases illegal logging in Protected Areas.

The current annual loss of the forest cover is estimated to 200,000 hectares (*PANA; LDN report 2019*) and poised to increase. The total area of converted/degraded forests is increasing (*See Figure 1*) while the multiple functions/benefits provided by forested ecosystems are heavily decreasing (*water services, biodiversity habitat, productive soils, carbon stocks etc*). During the last 20 years, Madagascar has lost 3.6 million ha of tree cover, equivalent to 21% of the country’s tree cover while releasing 1.21 Gt of CO₂ emissions (GFW, 2020). The project target area includes the provinces with greatest loss on tree cover, Toamasina and Toliary with a loss of 26% and 23%, respectively between 2001 and 2018.

In this context the soils are becoming more and more sensitive to erosion and are losing their productivity (See Figure 2) negatively impacting food security. In the project target landscapes, 45.83% of the land area showcases a degraded state of productivity (from higher surface runoff lowering water infiltration and nutrient deposition, and reducing soil stability), an increase evaporation (direct evaporation, changes in evapotranspiration, loss of cooling effect from forests) and CO₂ emissions (from wildfires releasing CO₂ stocked in forests and decreasing carbon sequestration due to losses in forest cover). The increasing human pressure on natural resources (including forests, agricultural lands, water...) is currently exacerbated by climate change with trends in the upcoming decades as described in Table 1 (*Source PANA*).

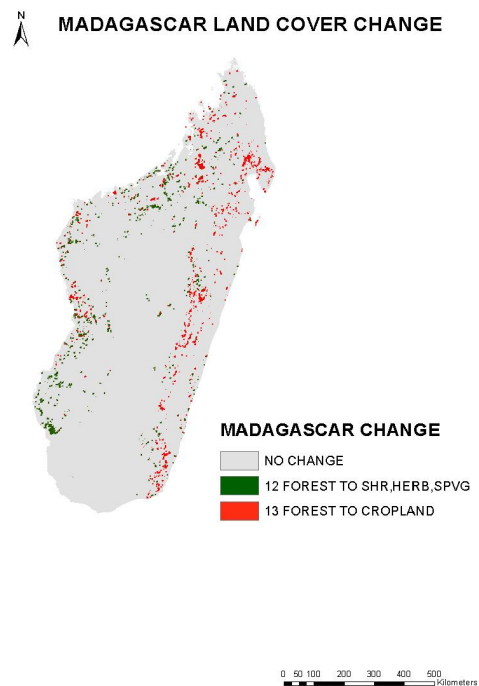


Figure 1. Land cover change (FAO, 2019)

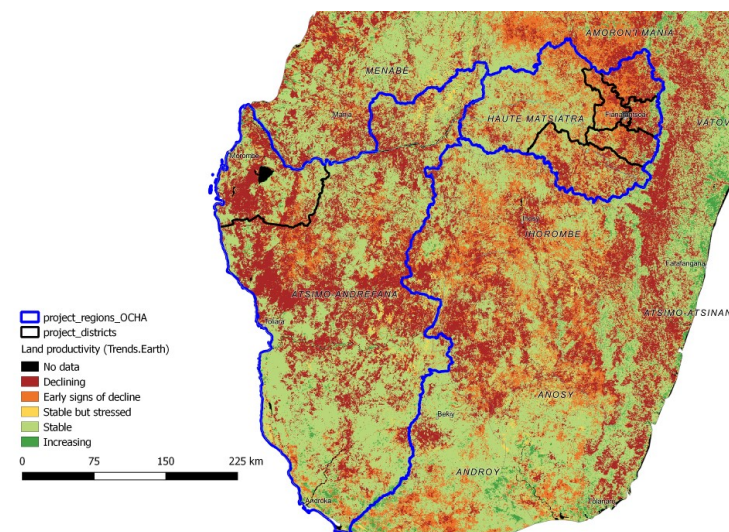


Figure 2. Land productivity trends in project area (FAO, 2019)

Table 1: Effects of climate change on key land use sectors in Madagascar

Land use sectors	Effects of climate variability	Effects of climate change
Agriculture and Livestock	Disruption of agro-climatic conditions and change of crops and livestock types	Changes of usual crops/ livestock species Changes both in agricultural and livestock practices

Water Resources	Irregularity of the hydrological regimes and strong degradation of water resources	Increase of floods magnitude Disappearance of water points
Forestry	Decrease of Biodiversity Soils Degradation	Disappearance of several endemic species and changes in soils topography

Climate projections show that temperatures will increase by 2.5-3.0°C by the end of the century, with an increase in rainfall variability as well as shifts in rainy season onset/offset. Extreme weather events will likely increase in frequency and intensity, particularly droughts and cyclones (USAID, 2016). Corals are already suffering from warming sea temperatures, including those located in the southwestern Indian Ocean (IPCC, 2014). While, low-lying areas of Madagascar are already experiencing sea level rise, where adaptation actions are starting to be deployed (i.e. submersible roads and dykes) (IPCC, 2014). Some of the crops grown in project target area, i.e. cassava, are expected to experience more pests with warming temperatures (Belloti et al., 2012).

The population in Madagascar is highly vulnerable to climate change (ranked 169/181 countries), due to its very low adaptive capacity (ranked 175/180) and high exposure to climate change impacts (ranked 155/192) (ND-GAIN, 2017). Livelihoods in southernmost parts of the country are particularly vulnerable to climate related hazards, with more frequent losses in crop productivity because of repeated droughts (FAO, 2019).

The target landscape:

The government of Madagascar has used watershed boundaries as a way to prioritize key areas for ecosystem protection and restoration. The targeted landscapes are part of two of those priority watersheds (Lower-Mangoky and South-Mananara) with significant importance for biodiversity and soil conservation. These two watersheds also have a major hydrological importance for waterflow regulation in Mangoky and Mananara Sud– which represent twenty-five percent of the national priority watersheds targeted by GoM for their high potential for Forest and Landscape Restoration (see Figure 3 in PIF Annex A). Within these two watersheds, the target landscape includes the following ecosystems: lowland, medium and highland rainforests (COFAV and surroundings) and dryland forests (Mangoky-Ihotry complex and surroundings) that overlap with “Madagascar succulent woodlands”, the “Madagascar subhumid forests” and the “Madagascar mangrove” ecoregions, all of which are classified as “Nature imperiled” by a recent publication, meaning that the amount of protected and unprotected natural habitat remaining (not degraded or converted) is less than or equal to 20%. The remaining habitat in Nature Imperiled regions likely exists as a mosaic of isolated fragments insufficient in size and orientation to adequately conserve biodiversity, and restoration will be a necessary part of the response to protect native ecosystems. It also overlaps with known areas of rosewood (*Dalbergia mollis*), one of the most heavily trafficked wild plant species in the country.

Deforestation in these landscapes has been severe, causing land degradation and decline in productivity (see Figure 4 in PIF annex A).

The target landscape harbors protected areas (PAs) of critical importance for global biodiversity conservation, such as: the Ambositra – Vondrozo Forest Corridor (COFAV) and the Mangoky-Ihotry wetland complex. Both are IUCN Category V protected areas, established under the national designation “Paysage Harmonieux Protégés” in 2015. While the Mangoky Ihotry complex (462,146 ha) promoted by ASITY (a Malagasy association in partnership with BirdLife International) is under a collaborative co-management agreement between communities and the state, COVAF (314,186 ha) is under a participatory management regime and is promoted supported by Conservation International.

Diverse ecosystems and numerous threatened or endangered species of endemic birds, lemurs, reptiles and plants are represented in these Protected Areas (table 3). A full list of globally threatened species to be positively impacted by the project will be compiled as part of the PPG phase. These Protected Areas also ensure connectivity across remaining forest and play a key role for conservation of wildlife emblematic species of lemurs. Mangoky river is notably recognized as a key refugee area for several endangered species of lemurs in a warming world of 2-4 C in a recent report published by WWF.

In terms of climate risks, the South-Mananara watershed (Atsimo-Atsinanana region) has been strike by multiple hazards: drought (i.e. 2002-2004 causing famine and affecting 600 thousand people) and tropical cyclones (occurring once a year and having the highest death toll among all natural hazards) (CRED, 2020). While, the Lower Mangoky (South-West region) is a region prone to droughts, rather than tropical storms. For instance, the 2018 drought resulted in a food shortage to 1.26 million people. A Climate Risk Screening checklist is available in Annex 2.

Table 3: Species found in target landscape

Flagship threatened species found in COFAV corridor		Species diversity Mangoky Ihotry Complex
Mammals	Threat category	Birds
Eulemur cinereiceps	Endangered	106 species (of which 23 are endemic to Madagascar)
Prolemur simus	Critically endangered	
Hapalemur aureus	Endangered	
Cryptoprocta ferox	Vulnerable	
Limnogale mergulus	Vulnerable	
Fish	Threat category	Mammals
Ptychochromoides vondrozo	Endangered	11 species ; <i>Pteropus rufus</i> (VU), <i>Lemur catta</i> (VU), <i>Propithecus verreauxi</i> (VU), <i>Cryptoprocta ferox</i> (VU)

Paratilapia vondrozo	Critically endangered	Amphibians/reptiles
Bedotia sp Vevembe	Critically endangered	
		7 species of amphibians and 46 species of reptiles; <i>Pelomedusa subrufa</i> (EN) <i>Pelusios castanoides</i> (EN)
Birds	Threat category	Plants and trees
Sarothrura watersi	Critically endangered	122 species (92 generi and 111 families) ; <i>Adansonia grandidieri</i> (EN), <i>Commiphora mafaïdoha</i> (CR), <i>Dalbergia trichocarpa</i> (CR), <i>Dalbergia purpuras</i> (VU).
Neodrepanis hypoxantha	Critically endangered	
Amphibians	Threat category	
Mantella bernhardi	Endangered	
Plants and trees		
535 species of angiosperms (out of which 62% are endemic) including <i>Canarium madagascariensis</i> and : <i>Dalbergia baronii</i>) and 186 species of pteridophytes (out of which 72 are endemic to Madagascar, 31 labelled as «rare » and two as «new » to science (<i>Diplazium sp</i> , <i>Xiphopteris sp</i>). A full list of plant and trees species is availble in Annex 3.		

Main environmental challenges include (as mentioned above) issues related to water resources management, conservation of globally important biodiversity and maintenance and improvement of soil fertility. The target landscapes also face institutional (limited local governance, lack of capacity, lack of efficient financial mechanisms....) and socio economic challenges (population growth, limited productivity, unsustainable practices, inadequate land rights management system....).

The proposed GEF intervention aims to support government efforts in addressing the environmental problems mentioned above by promoting integrated land use management and biodiversity conservation in degraded landscapes and watersheds of southern Madagascar while at the same time ensuring alternative livelihoods options and inclusive businesses. The project intends to address the main drivers of biodiversity loss, which are habitat change (loss, degradation and fragmentation) and unsustainable use. Addressing these drivers requires revisiting the management plans and practices both within Protected Areas as well as on the surrounding production land, which are contributing in equal proportion to the disturbance of these ecosystems. Habitat change and unsustainable use in the targeted landscapes are the result of unsustainable farming practices, illegal logging, hunting and agricultural encroachment. By taking a landscape approach, the project aims at restoring ecosystems within PAs, alongside the sustainable management of lands designated for agriculture, pasturelands, forestry. The expansion and consolidation of existing protected areas is a necessary part of a package of activities for biodiversity conservation and mainstreaming.

In terms of logging, as mentioned above, this is still remains a threat in both of the targeted landscapes – In Mangoky- Ihotry, for instance some of the tree species threatened by logging (as per IUCN Red List) are: *Adansonia grandidieri* (EN), *Commiphora mafaïdoha* (CR), *Dalbergia trichocarpa* (CR) and *Dalbergia purpuras* (VU) – although the project recognizes that multiple actions including CITIES implementation are required to tackle the logging and trafficking issue, the angle that the project wishes to take is to establish woodlots for multipurpose trees, as part of its restoration interventions – thus raising awareness on the economic benefits (including improved livelihoods) that can arise from the conservation and sustainable use of these trees. Moreover, the activities under component 3 intend to provide alternative biodiversity and restoration friendly livelihoods at project sites to reduce pressures on the forest resources and involvement in illegal extraction of natural resources.

In addition the assessments carried out during the PPG phase, and more in depth during implementation (Component 1), will help identify tree species, degradation hotspots (and bright spots), as well as drivers and restoration options to help address more efficiently forest degradation and deforestation issues including illegal logging and hunting/poaching.

In terms of collaboration with other projects on this subject matter, the project will establish a partnership with CI's GCF-funded project – on provision of alternative fuel, the upscaling of improved energy efficiency practices including improved charcoal making and improved cook stoves in the COFAV landscape. During the PPG phase, the project will consult also with UNDP's project proposal under the Global Wildlife Program that amongst other species, targets the illegal trade of rosewood nationwide. Collaboration will be sought also with IUCN's SOS Lemurs initiative in the COFAV landscape aiming at conserving key lemur populations while empowering communities with skills and livelihood options to help them coexist with lemurs (including provision of alternative nutrition sources).

To achieve the proposed impact, the following barriers need to be addressed:

Barrier 1: Weak local governance and planning systems in place for effective and bottom up integrated land use management

Since the 90s Madagascar has seen a shift towards improved decentralization through the establishment of a variety of local territorial structures. The GoM launched in 2015 the National Development Plan (2015-2019) supportive of the national decentralization process, and stipulated a law on locally secured management of natural resources (GELOSE) that recognizes the important role of community based organizations and local institutions (COBA or commune de base) in the management of natural resources. However, the GELOSE Law lacks practical guidelines for how COBA can actually manage natural resources while also restoring the forests and land and conserving biological diversity by mainstreaming forest and land restoration and biodiversity conservation objectives and practices into their TGRN. Additionally, there is limited capacity, resources and information at municipal level to implement and update FLR, SLM and SFM supportive policies, in a participatory way that facilitates local buy in and ownership by the local population.

Barrier 2: Limited institutional, technical capacity and tools for government institutions to prioritise, plan and implement sustainable forest & land restoration and biodiversity management interventions.

Integrated watershed management and localized natural resources management are key approaches promoted by the GoM. But this policy priority is hampered by insufficient availability of data and knowledge sharing to guide effective land use planning, as well as inadequate monitoring of whether and how improved practices improve land, forest, and

biodiversity condition. Existing multi-sectoral coordination platforms such as the National Committee on Forest and Landscape Restoration (NCFLR) at the national level and Regional Environment Unit (Cellule Environnementale Regionale (CER) at the Regional level, lack decision- support tools to implement integrated landscape level interventions and demonstrate/monitor the effect of improved practices for SLM, SFM and restoration. The CER for the Haute Matsiatra region faces challenges in harmonizing interventions and planning across the multiple regions involved in the management of the COFAV corridor.

The CER in the Atsimo Andrefana region developed a revised Regional Territorial Plan to guide the different districts and municipalities in developing their Municipality Development Plans (SACs) in a coordinated fashion, however weak technical and institutional landscape level planning capacity amongst the administrative authorities, hampers their ability to provide this guidance for forest and land restoration and biodiversity mainstreaming.

Barrier 3: Insufficient availability and knowledge sharing on successful models for SLM, SFM and FLR that attract private and public investments for restoration and biodiversity mainstreaming and conservation.

Numerous case studies on business models for FLR exist in Madagascar, both at local and regional level, but the scaling-up of these initiatives remains challenging. This is linked to limited knowledge on how to build the business case for restoration friendly interventions, as well as limited financial instruments (public and private) supporting entrepreneurs in restoration and agro-forestry. Moreover, local communities often do not have adequate knowledge with regards to the benefits that could be derived from the sustainable use of biodiversity. Through the localized planning and implementation of restoration and biodiversity conservation intervention, the project will raise awareness of how FLR can foster these benefits and promote the business case to the private sector.

Barrier 4: Low diversification of production and minimum added value to biodiversity products.

Although Southern Madagascar has potential for diversification of income sources, timber harvesting, firewood collection, charcoal production and unsustainable agricultural production remain the main income sources for rural population. Despite the big effort in designing strategies and programs for the development of bio and restoration friendly business and sustainable production, the potential of the region's green business is largely underexploited. Producers have a very low technical knowledge of farm management, implementation of good agroforestry practices, sustainable harvesting, post-harvest technologies and processing. Extension programs for technical assistance and rural advisory services so far have prioritized agriculture and livestock production systems, with little investment in forestry, agroforestry and production of biodiversity products. In addition, producers are scattered and poorly organized, and produce different varieties of species on a small scale. While there is a promising national and export market for bio-trade products for instance, in the areas of cosmetics (i.e. essential oils), pharmaceuticals (medicinal plants) and specialty foods (i.e. honey), farmers hardly participate in initiatives to produce such products as they have limited knowledge on products and the quality they must meet to satisfy buyers and consumers. Local companies lack marketing skills, knowledge about the potential of the products in their various forms and have limited access to market information.

1.a.2. The baseline scenario and any associated baseline projects:

Policy tools, strategies and investments:

To address these global/national challenges, the Government of Madagascar (GoM) calls for locally-anchored inclusive growth (National Development Plan, 2015-2019), based on natural capital valorization and agricultural competitiveness and modernization (Sectoral Programme on Agriculture, Livestock and Fisheries (PSAEP), 2016- Benjamin Singer 2020). Madagascar is one of the first countries in the southern hemisphere to have put in place a legal framework for Community-Based Natural Resource Management and Community Forest Management. The country introduced CBNRM in its natural resource policy in 1996 with the **GELOSE** (Gestion Locale Sécurisée) law (law 96-025) which promotes the transfer of management of a range of different natural resources to local communities. This was followed in 2001 by a forest specific decree known as **Gestion Contractualisée des Forêts, or GCF**, (decree 2001-122). This legislation aimed primarily at involving local populations in the management of renewable natural resources, thus, their involvement in reducing deforestation and protect the significant part of the world's biodiversity that is endemic to Madagascar. These policy and legal frameworks are operationalized on the ground through TGRN (Transfert de Gestion des Ressources Naturelles), tripartite contracts signed between COBAs, municipalities and the decentralized services of the Ministry of Water and Environment, that are meant to transfer management of natural resources to communities.

In 2015, Madagascar adopted a new **Policy Declaration on Environment and Sustainable Development**. The policy declaration emphasizes partnership between forestry sector stakeholders, including the government, non-governmental organizations, international donors, and local communities; expanded decentralization of natural resource management to local communities through Community Forest Management contracts; and environmental preservation and livelihood development. Based on this declaration, Madagascar developed the **Environmental Program for Sustainable Development (2016-2020)** (ROM 2016c; ROM 2015).

In 2015, **GoM pledged to restore 4 million hectares by 2030 as part of the Bonn Challenge and formally joined the African Forest Landscape Restoration Initiative (AFR100)** and to achieve this ambitious goal, a team of Malagasy forestry experts has worked with consultants to identify priority areas for restoration and provide the information needed to develop a national FLR strategy. The country's National Restoration Strategy lists five priority restoration options, four of which are applicable in the project targeted landscapes: restoration of degraded lands, degraded natural forests, agroforestry landscapes and degraded pine plantations.

To achieve the Bonn Challenge target, GoM adopted a National Strategy for Forest and Landscape Restoration and Green Infrastructure (NSFLR) in 2017 which aims at restoring the 4 million hectares pledged by 2030 with estimated benefits reaching 22 billion USD. This crosscutting NSFLR bridges sectors and seeks the involvement of all stakeholders for the benefit of local communities (COBAs). GoM and development partners are fully aligned to support its implementation. They coordinate action through a governmental roundtable (*including Ministries of Agriculture, Environment, Water, Land*) and a partners' roundtable (*including GIZ, IUCN, FAO, CI and NEPAD*) towards improved planning for productive landscapes. More recently a **National Committee on Forest and Landscape Restoration** (NCFLR) has been structured by the GoM (July 2018) in order to ensure the coordination of key partners involved in the implementation of this NSFLR. This National Committee is playing the role of project Steering Committee for several ongoing FLR initiatives/projects and is a key tool of the GoM to coordinate its NSFLR. Recently the government of Madagascar unveiled an ambitious reforestation plan at the One Planet Summit: the objective is to plant each year 40,000 ha by mobilizing 6 million citizens and a total of 684,000 USD has been allocated by the Ministry of Environment, complemented by 40M USD from the World Bank and the African Development Bank in order to transform the Red Island into a Green Island.

Madagascar National Parks (MNP), formerly known as ANGAP, is a private non-profit organization that assures the conservation and management of Madagascar's national parks and reserves. It operates under the Ministry of Environment and currently is responsible for the management of 43 Protected Areas covering over 2 million hectares in

Madagascar. A strategy to support sustainable development of the buffer zones of these Protected Areas was developed for the period 2014-2024 in order to improve the socio-economic conditions of the households and communities in the vicinity of the parks and reserves without negatively impacting the conservation efforts within the core zones. To realize this MNP needs strong partnerships with key partners to mobilize the necessary technical and financial resources.

With the support of FAO, the Ministry of Environment and Sustainable Development (MEDD) has undertaken a study to explore possible scenarios to set up a National Forest Fund (NFF). Several national laws and policies mention the importance of such a national funding mechanism to finance integrated interventions in the forestry sector in Madagascar. In 2019, FAO organized a series of experts missions to identify the relevant scenario to deploy the National Forest Fund (already established in legal texts but never properly operationalized). A team within the MEDD (in particular driven by the General Directorate for Forests and the Environment) is currently preparing the founding documentation to set up the Fund officially. In parallel, the Government is looking at establishing a national REDD+ fund focusing strongly on the carbon benefits. The NFF would operate as a Payments for Forest Ecosystem Services mechanism proactively supporting forest ecosystem services beyond carbon (for water, soils, biodiversity, recreation, etc). In this context the NFF and the REDD+ fund would be complementary and co-financing between both funds could be envisioned at the landscape level. It is important to note that no merger between the NFF and the REDD+ fund is planned, notably given the uncertainties on the carbon market. The MEDD would ensure proper governance of both funds in the best sense of seizing synergies. Different NFF models exist in other countries such as the FONAFIFO in Costa Rica, VNFF in Vietnam, and FFN in Morocco, these all share characteristics which can be adapted in the Malagasy context and south-south cooperation on good practices would be relevant (in November 2019, FAO supported the visit of a representative of the Vietnamese VNFF to transfer knowledge for the design of the Malagasy NFF, and more of such learning exchange and visits are to be planned). Another relevant initiative to be noted is the following: in July 2019, the Biodiversity Finance Initiative was launched by UNDP in Madagascar which is analyzing the potential and gaps in terms of biodiversity financing and will look at developing innovative finance solutions for biodiversity conservation (a limited budget is planned for the BIOFIN support, but its results and studies will be taken into account, including for building synergies in the context of the NFF design).

Within this context, the GEF project intends to capitalize on these evaluations and lessons learned in terms of PES/REDD+/Biodiversity and on MEDD's ongoing efforts. Depending on the maturity of the NFF evaluated at PPG stage, the project could potentially support the operationalization of the NFF by testing it to set up and fund PES schemes. However, this is something that will be assessed during PPG, and as explained in the PIF, the project aims to look at a number of different existing national and regional funds (i.e the Agricultural Fund, the Biodiversity Fund) to identify and test specific windows for promoting restoration interventions.

Baseline/Cofinancing projects (see Figure 7 in PIF Annex A for geographical overview).

The DEFIS programme is promoting an inclusive agriculture for 10 years (IFAD, 2019-2028) in Southern Madagascar (*including Mangoky and Mananara-Sud watersheds*). It aims to transform the family-based agricultural sector through the adoption, at scale, of high-performing and resilient production systems for rice, maize, cassava, peanuts, small ruminants, coffee and honey and the integration of family agricultural enterprises in profitable value chains. Two AfDB projects, to be designed by early 2019 in the context of the DEFIS programme, would also focus on hydro-agricultural investments in two watersheds (*including the low Mangoky river watershed*).

GEF incrementality: The DEFIS programme will focus on improving the resilience of key value chains in light of climate change impacts, while the GEF project will look at a landscape approach through integrated planning process, while focusing on value-addition of nature-based products which will improve biodiversity conservation and land restoration. The project will also reinforce the capacities of selected cooperatives to develop restoration/biodiversity focused businesses/micro-enterprises for potential investment.

The AfDB project PTASO (Projet de Zone de Transformation agro-industrielle dans le Sud-Ouest) aims to contribute to the reduction of poverty and food insecurity, while creating decent employment opportunities and reduce the dependency of Madagascar to import food. This project in collaboration with the Ministry of Agriculture will be operational from 2020-2025 and builds upon investments made by the Bank through the other projects PRIASO and Low-Mangoky. These projects rehabilitated over 37,000 ha of irrigation infrastructure with an additional potential of 70,000 ha of production potential. The project already put in place 23 water user associations as well as an overarching water user federation to promote sustainable management of water infrastructure. One of the major challenges identified by the project is the silting of the Mangoky river and as such the protection and restoration of watersheds upstream are important to ensure sustainability of investments made. The project has two main components: (i) put in place enabling environment for private sector investment in agro-industry; (ii) improve agricultural production in a sustainable manner and improve market access. The project will develop four aggregation centers each with a surface of 25 ha to attract agro-industrial private sectors. There is also scope to promote micro-irrigation projects, and the project will use this opportunity to promote sustainable practices while identifying and promoting genetic agricultural diversity to promote improved landscape management and restore degraded areas.

GEF incrementality: The GEF project will strengthen capacities on landscape restoration techniques for the production systems targeted by the PTASO project and promote biodiversity conservation and protection of the upstream watersheds linked to the rehabilitated areas. Nature-based value chains such as honey and agroforestry will be supported and linked to the aggregation centers which will be supported by the PTASO project. The water resource associations set up by the PTASO project will also be supported and potential for possible PES schemes will be explored. FLR and biodiversity will be mainstreamed into Communal Development Plans.

The **‘Sustainable Landscapes in Eastern Madagascar’** programme (2018-2023) funded by the Green Climate Fund and implemented by Conservation International and the European Investment Bank aims to implement sustainable landscape measures to enhance resiliency of smallholders, reduce GHG emissions and channel private finance into climate-smart investments in agriculture and renewable energy that transform livelihoods. The Project’s vision is to facilitate a pathway out of a vicious cycle of resource depletion and increased vulnerability. To achieve this, the public sector interventions will focus on working directly with farmers in the Ambositra Vondrozo Forest Corridor (*known by its French abbreviation, COFAV*) and the Ankeniheny-Zahamena Forest Corridor (*known as CAZ*) landscapes to develop resilient farming communities. The project will build upon experience gained throughout this project promoting local territorial planning and management of the landscape while conserving the rich biodiversity and will work in the communes and villages currently not foreseen under the GCF project. The past experience and interventions carried out by different stakeholders (WWF, CI, CMP) will be used to further promote sustainable alternative livelihoods with a strong focus on coffee and essential oils. **The public sector interventions are activities designed to build adaptive capacity in the landscape, provide direct support to vulnerable smallholders with the tools and inputs needed to adopt sustainable agriculture techniques,** and build capacity of smallholders, community based organizations and local government services. The combined effect of these interventions will create the conditions necessary for smallholder farmers to access larger and longer-term funding such as that provided by the Investment Fund. The Investment Fund will provide private capital to grow

enterprises that have developed a basic resilience, strengthening local markets and completing the pathway out of vulnerability, while contributing to climate change adaptation and mitigation.

GEF incrementality: While the GCF project primarily focuses on climate resilience of smallholder farmer communities, GEF funding will focus primarily on integrated landscape planning and mainstreaming of FLR concerns into regional and communal plans and policies. Intersectoral coordination is critical and will be supported Promising nature-based value chains with a landscape restoration potential such as coffee and essential oils will be promoted and local cooperatives will be strengthened to plan and implement their business plans.

The **Madagascar Biodiversity Fund** has provided support to the Malgassy association **Asity Madagascar** which in collaboration with Birdlife International, has been the promotor of the recently established **New Protected Area of Mangoky-Ihotry Wetland Complex**. Asity been working since 2015 with local communities to promote the sustainable management and protection of the natural resources within the category V protected area. Their main focus is the management of the protected area, through reinforcing local capacities and setting up of local governance structures. They also developed socio-economic and biodiversity baseline studies for the area and in particular for those areas overlapping with the above mentioned project of AfDB to identify the status of forest and biodiversity. Currently Asity, in partnership with the Ministry of Agriculture, is undertaking an evaluation of potential sustainable alternative livelihoods that the current GEF project could build upon.

GEF incrementality: The GEF project will enhance the capacity to prioritize and plan for restoration interventions within the protected area and the buffer zone surrounding the PA (focusing on the Southern parts), and thus promote the establishment of potential corridors for biodiversity conservation. **The project will also strengthen existing or establish new localized natural resource governance frameworks (TGRN) to ensure BD conservation and FLR priorities are integrated and specific local regulations or by-laws are put in place to protect threatened species.** A strong focus will also be on supporting the promotion of nature-based solutions to enhance the livelihoods of communities living in the PA while reducing the pressure on the core area and the vulnerable species.

FAO Country support Programme:

FAO is implementing several programmes and projects in Madagascar in the areas of agricultural production, livestock, irrigation, emergency assistance, resilience and capacity building. Under the Technical Cooperation Project TCP/MAG/3606 FAO has worked with the National taskforce on FLR to identify opportunities to develop a national forest fund (NFF) while integrating Payment for Ecosystem services and Forest and Landscape Restoration. This project will build on the recommendations made. FAO is also providing technical assistance under the DEFIS programme to support small-scale producers to enhance productivity and improve their resilience to climate change.

GEF incrementality: The GEF project will focus on bringing the cooperatives into the overarching landscape planning, and promote SLM practices linked to restoration and biodiversity conservation. It will also look at bridging the gap between private sector investment and nature-based solutions. Building on ongoing efforts of the MEDD and depending on the maturity of the NFF at PPG stage (further assessments to be carried out), GEF funding could potentially be used to support the operationalization of the NFF by providing technical assistance to the operational team in charge of the NFF management and by testing it to set up and fund PES schemes at landscape level.

1.a.3. The proposed alternative scenario with a description of outcomes and components of the project :

The project will adopt an integrated approach at landscape scale in order to create synergies across ecosystems, stakeholders and sectors. It will support a transformational shift to more sustainable land use systems as it will directly impact the productive capacity of agricultural area in the lower reaches of the landscape, while restoring forest ecosystems and ensuring a more sustainable use of land and natural resources upstream.

The project is structured around three main components:

1. Establish the enabling conditions for integrated landscape management and biodiversity conservation by promoting wide-scale restoration in Madagascar ;
2. Implement effective Forest and Landscape (FLR) and Sustainable Land Management (SLM) practices in degraded landscapes and forests in the South and Center-East of Madagascar;
3. Catalyze sustainable and nature-based value chains both at local, national and international levels.

The project strategy will draw upon the Forest and Landscape Restoration approach, defined by the Global Partnership on Forest and Landscape restoration as “*a process that aims to regain ecological functionality and enhance human well-being in deforested or degraded landscapes. As a process, FLR is not an end in itself, but a means of regaining, improving, and maintaining vital ecological and social functions, in the long-term leading to more resilient and sustainable landscapes*” (Besseau et al. 2018, p. 18). FLR is built around six principles (see table 4 below). The key to ensuring that FLR reaches its full potential to transform lives and landscapes is to create working guidance and implementation frameworks based on these core principles that are co-designed and used by different actors and stakeholders.

Table 4. Six core principles of FLR (based on Besseau et al. 2018)

1. FOCUS ON LANDSCAPES	FLR takes place within and across entire landscapes, not individual sites, representing mosaics of interacting land uses and management practices under various tenure and governance systems. It is at this scale that ecological, social and economic priorities can be balanced.
2. ENGAGE STAKEHOLDERS AND SUPPORT PARTICIPATORY GOVERNANCE	FLR actively engages stakeholders at different scales, including vulnerable groups, in planning and decision-making regarding land use, restoration goals and strategies, implementation methods, benefit sharing, monitoring and review processes.

3. RESTORE MULTIPLE FUNCTIONS FOR MULTIPLE BENEFITS	FLR interventions aim to restore multiple ecological, social and economic functions across a landscape and generate a range of ecosystem goods and services that benefit multiple stakeholder groups.
4. MAINTAIN AND ENHANCE NATURAL ECOSYSTEMS WITHIN LANDSCAPES	FLR does not lead to the conversion or destruction of natural forests or other ecosystems. It enhances the conservation, recovery, and sustainable management of forests and other ecosystems.
5. TAILOR TO THE LOCAL CONTEXT USING A VARIETY OF APPROACHES	FLR uses a variety of approaches that are adapted to the local social, cultural, economic and ecological values, needs, and landscape history. It draws on latest science and best practice, and traditional and indigenous knowledge, and applies that information in the context of local capacities and existing or new governance structures
6. MANAGE ADAPTIVELY FOR LONG-TERM RESILIENCE	FLR seeks to enhance the resilience of the landscape and its stakeholders over the medium and long-term. Restoration approaches should enhance species and genetic diversity and be adjusted over time to reflect changes in climate and other environmental conditions, knowledge, capacities, stakeholder needs, and societal values. As restoration progresses, information from monitoring activities, research, and stakeholder guidance should be integrated into management plans.

The project will promote restoration interventions based on the national FLR strategy[1]¹, developed by the Government of Madagascar in 2017. The table below provides an overview of main restoration options and types of activities to be implemented in the selected landscapes. These options will be further defined and contextualized during the PPG phase.

Table 5: Restoration options in target landscape

Landscape	Options	Location and surface area potential	Project sites	Land status	Users	Types of restoration	Total estimated costs (\$/ha)
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Mosaic (agriculture/forest land)	Reforestation on degraded lands	Mainly on degraded savanna/shrub land/grasslands (3.8M ha)	Mangoky-Ihotry area (dry forests) COFAV area (low land , medium and highland rainforests)	Public, communal and private land.	Private, associations, communities. Certificates and land title possible.	Reforestation with species mainly for bio- energy. Protection against fires. Type: village and individual reforestation	515 (400 monetary + 115 non monetary)
	Restoration of natural forests	Forests in Western and North West Madagascar (7M ha)	Mangoky-Ihotry area (dry forests) COFAV area (low land , medium and highland rainforests)	Public land with transfer of management or not.	Private, associations, communities.	Protection of natural forests (natural regeneration) and enrichment planting. Protection against fires (including g fore breaks, fire management and survey and awaranness raising) . For Mangoky-Ihotry local vulnerable species identified are Katrafay (<i>Cedrelopsis grevei</i>), Farafatra (<i>Givotia madagascariensis</i>), hazomalagny, pallisandre.	177 (82 monetary + 95 non monetary)
	Restoration of agroforestry landscapes	All provinces	COFAV area (low land , medium and highland rainforests)	Public, communal and private land.	Private. Certificates and land title possible.	Plantation of woody and non-ligneous fallows	1225 (509 monetary + 716 non monetary)

Component 1: Strengthened enabling environment for FLR and biodiversity mainstreaming

Component 1 will equip local decision makers and community based organizations with tools to better plan, implement and monitor FLR interventions on the ground that are biodiversity friendly and aligned to LDN targets. This will be done by developing guidelines for municipal administrations to integrate sustainable land management and biodiversity conservation priorities and targets into Municipal Development Plans (SAC's) in alignment to the GELOSA Law – as well as by capacitating the decentralized forest and agricultural extension services on how to mainstream FLR and BD into extension programs that target also COBA's managed areas. Indeed, these services are often unaware of the existence of community based managed areas and TGRNs (which are rarely mapped or registered by the administration) and therefore do not actively support any particular development activity in these areas. In consequence these areas may end up not benefitting from improved agricultural measures, or technical innovations, implying a strong likelihood of the continuation of degrading practices.

Guidelines will also be developed for COBA's to ensure that biodiversity objectives and zoning plans are well integrated into TGRNs. These guidelines will be developed and implemented in partnership with the Ministry of Environment, the Ministry of Agriculture, Livestock and Fisheries and the Ministry of Land

Component 2: Wide scale Forest and landscape restoration implementation in targeted landscapes for improved biodiversity conservation

Under Component 2, the project will support the implementation of the National Strategy for Forest and Landscape Restoration and Green Infrastructure (NSFLR) approved in 2017, through the elaboration and implementation of selected Municipality Development Plans (SACs) that integrate BD conservation and FLR priorities building on the guidelines developed under Component 1. These SACs will in sum represent the landscape and will be developed in a participatory way through the participatory assessment for restoration options (ROAM) methodology in an effort to guarantee local buy in and ownership. This inclusive data collection and planning process will be an excellent opportunity to strengthen also cross-sectoral coordination both at the municipality and landscape level, serving as a mechanism to promote integrated land use planning.

In parallel, and complementary to ROAM, other tools combining geo-spatial information, with biophysical and climate data for ecological restoration – such as the Diversity4Restoration Tool - will be applied – for the selection of appropriate species and to identify seed sources for the project site that meet the desired restoration objectives (carbon sequestration, biodiversity conservation, recuperation of soil fertility and land productivity). Diversity4Restoration Tool also takes into account climate change when choosing appropriate material, and includes information about the propagation of more than 300 tree species. While ROAM will help collectively identify areas to be restored and restoration objectives, the Diversity4Restoration Tool will screen the functional traits of potential tree species and numbers expected to be able to survive under current and future climate conditions, according to results of suitability modeling. With functional traits it is meant both biological (morphological, physiological and reproductive traits among others) and non-biological traits (e.g. price per cubic meter of wood, conservation status according to IUCN, etc.) of tree species. Finally the tool

will help map out from which areas planting material should be sourced. The idea is that for each species, planting material is obtained both from populations growing under environmental conditions that are similar to those that occur at the restoration site today, as well as to those that are expected to occur at the restoration site in the future.

In addition to the Diversity4Restoration Tool, biodiversity data will be captured through the EX-ACT biodiversity module, which derives some useful quantitative and qualitative indicators which are conducive to enriching /improving biodiversity. A set of indicators will refer to the amount of area in which the activities implemented have an influence on biodiversity, for instance, reforestation, agroforestry and practices implemented on annual crops might improve suitability of the land as habitat for certain species. This refers to the relationship between biodiversity and land use. A second set of indicators are connected with the use of inputs, biomass and soil carbon generated, which can contribute to increase or decrease biodiversity. Results will present, in quantitative terms, the amount of hectares within the project where the biodiversity conditions have improved as well, as global biodiversity impact scoring, which allows to measure to which extent the project is able to generate a diverse system contributing to agricultural biodiversity, by taking into account certain activities and management practices which influence biodiversity. The module is based on a series of confirmed statements with regard to biodiversity from which a set of indicators is derived: (i) increasing forest and agroforestry areas within a locality-watershed- project area should increase biodiversity; (ii) annual crops with compost, manure, crop diversity, rotation, no tillage contribute to high biodiversity; (iii) increasing areas of application of such practices will increase biodiversity; (iv) decrease of pesticide and increase of compost use do contribute to increase biodiversity; (v) improving pasture does generate both soil carbon and biomass which both drive to enriched biodiversity; (vi) additional biomass is supportive to biodiversity; (vii) incremental soil carbon does increase biodiversity in soils; (viii) scaling up effect of increased biodiversity with wider improved areas.

During the PPG phase, available tools will be further assessed to understand what could be used to measure also quantitative indicator related to metrics of biodiversity (i.e number of species benefitting from project interventions), thus allowing for an integration of habitat species modeling in the prioritization of areas for restoration and conducting an assessment on how the variety of interventions proposed would impact native species present on the site.

Component 2 will also support community based organizations and institutions (COBA's) to redynamise existing, or establish new, localized-management contracts (TGRNs) ensuring that FLR and biodiversity conservation objectives are well defined.

While outcome 2.1 will target degraded forest and agricultural land surrounding PAs, outcome 2.2 will focus interventions within PAs. Outcome 2.1 will include the implementation of SLM, SFM, and BD conservation practices over approx. 6,000 hectares of degraded area - in partnership with the DEFIS and AfDB co-financing projects. Proposed practices include, soil and water conservation measures, the selection of better performing seeds to drought-stress conditions (e.g. for rice, cassava and maize, including intercropping with i.e sorghum, millet and sesame), climate-smart agricultural practices and agroforestry (e.g. for cash crops such as coffee, pepper, vanilla and clove) and the establishment of native fast-growing species for timber/charcoal production to reduce pressures on the PAs. Moreover, based on the results from the Diversity4Restoration Tool, local nurseries will be set up (or existing ones strengthened) and seed banks and seed fairs will be organized to enable producers to have access to seeds and trees locally.

Outcome 2.2 will focus interventions within PAs targeting about 6,000ha. More specifically, by (i) updating existing PA Management Plans (PAG) based on findings from the assessments carried out under Component 2; (ii) proposing restoration options in biodiversity rich zones of the PAs core zones; (iii) implementing SLM/SFM interventions such as agro-forestry, improved fire management, wood-fuel plantations and SLM practices to enhance productivity in PAs productive zones. This in turn, will have a positive impact on improving the effective management of PAs and their METT score, while also promoting the active participation of local communities in the revision of the PAG. GEF funds under Outcome 2.2 will also be used to reinforce the capacity of local communities to be more prominently included in both planning, management and controlling of locally-managed areas within the category V PAs. The target PAs have three main zones: core zone, sustainable utilization of natural resources and controlled occupation. The technical capacity of local stakeholders to implement sustainable land management and agricultural practices in the last two zones will also assist in releasing the pressure on the core zones and important forested areas for provision of ecosystem services and products

Component 3: Increased investment for improved SLM, BD and livelihoods diversification

Component 3 of the project will on one hand, identify and promote nature-based and sustainable value chains and on the other, establish mechanisms to increase public and private funding towards restoration work.

In the watersheds covered by the co-financing projects (DEFIS and PTASO) and in the buffer zones of the Protected Areas, the project will strengthen capacities of agricultural producers and cooperatives on landscape restoration techniques applied to the most promising value chains (mainly rice and maize in the Mangoky-Ihotry complex area, and coffee, essential oils and a few non timber forest products such as honey and selected medicinal plants in the COFAV corridor area). Restoration actions around these value chains will be inscribed within the communal restoration plans (developed under Component 2). Moreover, the project will support producers in developing bankable business plans and in identifying financing partners. These include commercial actors willing to green their value chains (e.g. raphia, coffee or clove value chains, essential oil value chain).

Component 3 will also look into establishing funding windows/channels for restoration work within: (i) domestic public funds such as the National Forest Fund, the FDA (Fonds de Developpement Agricole) and the Regional Agricultural Fund (all of which are already active and running in Madagascar); (ii) domestic private funding targeting national private sector companies who are either already involved in restoration work (e.g. Agrivet, Agrifarm and Symabio) or interested in fulfilling their Corporate and Social Responsibility (CSR) or interesting in establishing a public-private partnership (e.g. forestry plantation in a périmètre de reboisement through a forest concession scheme); (iii) external private funding with Equity Impact Funds such as Althelia (already active in Madagascar) or the Moringa Partnership (Banque Rothschild) on several agroforestry value chains of high interest for them (coffee, essential oils etc.) and; (iv) external public funding such the new Land Degradation Neutrality Fund managed by MIROVA (Natixis Bank).

Component 4: Project Monitoring, Evaluation and Knowledge Management.

This Component other than establishing the project's M&E system (that includes the monitoring of the GEF Core Indicators, as well as the project's mid-term and final evaluation) will focus on knowledge dissemination through the development of a communication strategy and the production of knowledge products showcasing lessons learnt to

be presented at national and international fora's such as the AFR100 Initiative where Madagascar might as well play a leading role in advancing the agenda on ecosystem restoration in the context of the UN Decade on Ecosystem Restoration.

[1] Stratégie nationale sur la restauration des paysages forestiers et des infrastructures vertes à madagascar, 2017 (https://afr100.org/sites/default/files/07-RPF_MDG_SNRPF.pdf)

[2] www.diversity4restoration.org

[3] See Annex 1, pg 41-45: http://www.fao.org/fileadmin/templates/ex_act/EX-ACT_MRV/MRV_Quick_Guidance.pdf

1.a.4. Alignment with GEF focal area and/or impact program strategies.

The project will adopt an integrated landscape management and restoration approach that will directly contribute to two GEF Focal Areas (FA) and two FA objectives (*BD 1.1 and LD 1.3*).

The project will support activities to facilitate the involvement of local communities in the sustainable management of forest and agricultural land at landscape level, raising awareness on the importance of ecosystem restoration for the conservation of biodiversity and the provision of ecosystem goods and services (including genetic diversity). By applying a landscape approach, the project will focus interventions in both protected areas and the surrounding production land – with the recognition that these are strongly connected and inter-dependent land uses. Indeed, even though certain areas have Protected Area Status in Madagascar, degradation still takes place due to illegal activities, expansion of agriculture, firewood and charcoal collection, and as such rich biodiverse habitats get fragmented, or the overall diversity and quality of the PA is diminished. The project will identify such hotspots with the local communities thereby enhancing local ownership, which in combination with the development of downstream value chains such as tourism, bee-keeping, fuel and wood plantations, ensures the longer term protection and biodiversity status. The emphasis of the project is indeed in restoring and sustainably utilizing the ecosystem services provided by the broader landscape, and this cannot be done working in protected areas only. The surrounding productive land also needs to be managed differently in order to protect the PAs from further degradation. The project is designed to mainstream biodiversity conservation objectives and practices into the forestry and agriculture sector which are the key sectors impacting GEB's. The target groups are local actors, community based organizations and institutions and decentralized administrations and services. The project is therefore aligned with BD 1.1 three pronged approach (spatial and land-use planning and improving and changing production practices, and developing policy and regulatory frameworks and financial mechanisms) and LD 1.3.

1.a.5. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

GEBs will be directly generated by restoring 1,500 hectares of degraded forests and landscapes (*Core Indicators 3*), thus sustainably improving food systems, livelihoods and incomes of 8,000 beneficiaries (*Core Indicator 11*). With 6,000 hectares of land under improved practices, the project will contribute to core indicators 4 and will generate

multiple ecosystems services. The project will also improve management efficiency of 6,000 hectares of protected areas for improved biodiversity conservation and sustainable use of natural resources.

During PPG the amount of emissions which will be directly sequestered and avoided will be calculated through Ex-Act MRV toolkit. (*Core Indicator 6*).

The table below provides a summary of key ecosystem services linked to main restoration options identified in Madagascar's national FLR strategy.

Restoration options	Ecosystem services	Level	Explanation
Reforestation on degraded lands	Mitigation of carbon emissions	++	Medium, less dense forest is generated, but carbon is sequestered.
	Fight against erosion	+++	Strong, protection of soils improves productivity, reduces siltation downstream.
	Improvement of water resources	++	Medium, improved soil and humus conditions lead to improved water retention.
	Biodiversity	++	Medium, a minimum of 10% of the surface area needs to be reforested using local species. Studies in DIANA have showcased positive influence of plantations on avifauna.
	Cultural value	+	Weak, Introduced species are not fully integrated in national patrimony.
Restoration of degraded natural forests	Mitigation of carbon emissions	+++	Strong, natural forest act as a carbon stock
	Fight against erosion	+++	Strong, trees will stabilize soils through roots and prevent further erosion.
	Improvement of water resources	+++	Strong, forests retain water in the humus of their soils a large amount of water gradually released.
	Biodiversity	+++	Strong, the restoration of natural forests improves considerably the conservation of species, flora and fauna, and modifies the local climate.
	Cultural value	+++	Strong, plants in the forests are used for a variety of medicinal and astrological reasons.
Restoration of agroforestry landscapes	Mitigation of carbon emissions	+++	Strong, agroforestry plantations are excellent carbon sinks

	Fight against erosion	+++	Strong, agroforestry plantations protect soils and improves local land conditions.
	Improvement of water resources	+++	Strong, agroforestry plantations retain water in the humus of their soils a large amount of water gradually released.
	Biodiversity	++	Medium, avifauna especially promoted and improved local climate and conservation of species.
	Cultural value	++	Medium, agroforestry allows local people to develop multi-usage plantations.

1.a.6. Innovativeness, sustainability and potential for scaling up.

The project will promote an integrated landscape approach both at the planning and implementation stage to support the shift to more sustainable food and land use systems. This will not only positively influence productivity of agricultural areas, it will also enhance the provision of necessary ecosystem functions and services and protecting the rich and unique biodiversity within the targeted landscapes. The project will support the establishment of local stakeholder platforms which will be capacitated to use innovative planning and M&E tools for integrated land use planning. Through adopting the local-centered governance approach through transfer of management contracts, local communities will be leading the planning and implementation of the project interventions and this will ensure, ownership and local buy in and therefore, **sustainability** in the long-term.

The development of online decision-making toolkit, such as the Diversity4Restoration Tool, for identifying accurate seed supply source for specific restoration objectives will provide local and national stakeholders the opportunity to efficiently plan in an integrated manner across the landscapes.

While promoting Forest and Landscape Restoration, the project will catalyze **innovative** approaches and technologies that support sustainable production and intensification through restoration techniques/options, agroforestry/conservation agriculture and climate smart agriculture. Specifically, the project will catalyze best practices and technologies for the sustainable intensification of rice in the Mangoky-Ihotry area and coffee agroforestry production in COFAV area. Innovations associated with agricultural and forest management businesses (*e.g. promising agricultural value chains and markets, forest management long-term contracts with private actors engaged in restoration, etc...*) will also be actively developed in the project in order to attract new investors (*Impact Investors*). Good examples exist in other countries (such as Kenya) where the World Resources Institute and Fledge have implemented a Land Accelerator programme to boost the capacity of nature-based entrepreneurs that will contribute to reduced degradation and/or restoration of landscapes. By linking these entrepreneurs with potential investors, private finance can flow towards forest and landscape restoration. Collaboration with Forest and Farm Facility (FFF) will also be promoted to learn from their experience in enhancing the capacity of cooperatives and business development.

The project also aims to look at the different existing national and regional funds (Agricultural Fund, Biodiversity Fund and Forest Fund) to identify and test specific windows for promoting FLR interventions. Valuable lessons can be learned from work carried out on domestic forest funds (including by FAO) and as explained above several successful models exist in other countries (for example in Costa Rica, Rwanda, Vietnam, and Morocco) where it has been shown to be powerful mechanism to mobilize resources for restoration and reforestation. The legal political context and the existence of a localized mechanism to transfer the rights to manage natural resources to local communities

(GELOSE) provides an excellent platform to develop such a NFF. Such a NFF in place ensures a self-sustaining country-driven long-term financing for FLR. Beyond financing FLR field operations, the NFF will also reinforce basic needs of the forest administration, including for adequate staffing, equipment, control and enforcement capacities (it is to be noted that major gaps remain in the staffing of the forest administration at the regional and communal levels, currently preventing sustainability of any projects interventions. The NFF is thus key in supporting the conditions for an improved capacity and staffing of the forest administration).

1b. Project Map and Coordinates

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

Exact geographic coordinates of each sites where GEF investments will be done will be available only after the planning processes both at regional and communal levels in the targeted watersheds of Madagascar

The project will cover the regions of Atsimo-Adrefana and Haute-Matsiatra focusing on the districts of Morombe, Fianarantsoa, Ambalavao, Vohibato, Isandra and Lalangina, as illustrated in Figure 5

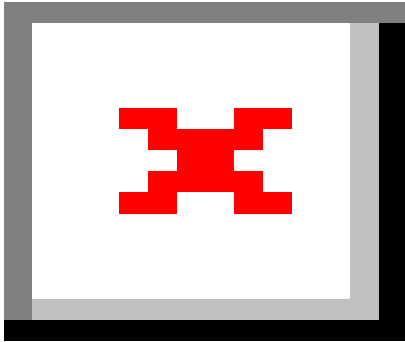


Figure 5. Selected landscape (FAO, 2019)

Both regions have severe issues with regards to land degradation. In total 45.90% of the land area is degraded according to SDG 15.3.1. indicator analysis.

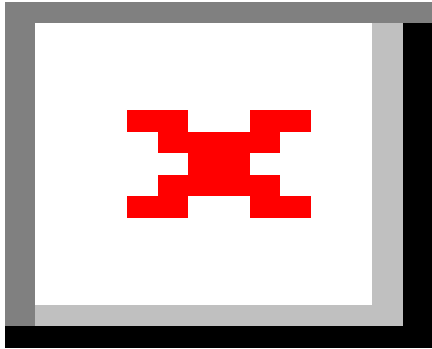


Figure 6. Degradation map in selected landscape (FAO, 2019)

2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

Stakeholders both at national and in the targeted regions were involved in the preparation of this Project Identification Form (PIF). This included numerous public and individual meetings facilitated by a scoping mission to discuss key Forest and Landscape Restoration options in the several targeted districts. The PIF was developed in partnership with the

Ministry of Environment and Sustainable Development (MEDD) and presented to the national Forest and Landscape Restoration Committees (*involving key national stakeholders from both the public sector, the civil society and private partners*) in Tananarive on March 8, 2019 and several regional stakeholder meetings which took place in June 2019. The final project design will fully be discussed with all key local stakeholders and decision-makers both at regional, district and communal levels.

Key stakeholders and partners for the consultation process during the PPG phase are already identified. These include several institutions representative of targeted stakeholder groups (*e.g. CNAF for consultation of multiple Farmer Organizations, the National Committee on Forest and Landscape Restoration, the coordination group of donors for rural development with its secretariat hosting within FAO office in Madagascar, the federation of rural women or the Climate Smart Agriculture Task Force*). A detailed stakeholder engagement plan will be prepared at the inception of the PPG phase to ensure their proper inclusion to consultations. Surrounding the COFAV corridor several good initiatives have been identified led by faith-based organizations on sustainable land management, restoration and reforestation practices which will be useful to build upon for peer to peer learning and knowledge exchange.

Stakeholder	Stakes, role and responsibilities in the project	Consultation at PIF stage
Ministry of Environment and Sustainable Development (MEDD)	The MEDD is the proposed executing partner to be confirmed during PPG. They will be directly responsible for implementing the priorities identified for GEF support. They will coordinate the overall project preparation and activities and ensure consistency in the project. The decentralized bodies will also play a crucial role in coordination of all stakeholders at the regional level, while providing technical support through their agents in the field.	MEDD led the scoping mission to develop the PIF and facilitated national and local stakeholder meetings.
Other Government Ministries	The following administrations and their respective decentralized bodies in the selected municipalities were identified as key stakeholders, and will be consulted during the PPG preparation: Ministry of Agriculture, Livestock and Fisheries (MAEP), Ministry of Energy, Water and Hydrocarbons (ME), Ministry of Mines and strategic resources (MM), Ministry of Territorial Planning, Habitat and Public works (MAHT), Ministry of Population, social protection and promotion of women (MP)	Decentralized services under MEDD and MAEP have been consulted during scoping mission.
NGOs/CSOs	Conservation and Rural Development NGOs active in the selected landscape, such as TANDAVANALA, the national federation of rural women, Asity Madagascar, Confederation of Farmer Organizations (Fekritama), faith-based organizations will be involved in project design to ensure knowledge sharing.	During scoping mission, consultation meetings were organized with all relevant partners in targeted landscapes.
Local communities/Beneficiaries	Participatory gender-responsive approaches will be used throughout the project, from preparation to implementation, to ensure local communities and CSOs will be engaged in planning, implementing and monitoring of planned interventions. Through the established localized management contracts (CFM, COBA), local communities will be in the driver seat to manage their resources in collaboration with decentralized government institutions.	During PPG local stakeholders will be thoroughly consulted, as during scoping mission representatives on NGO/civil society and decentralized Ministry and government institutions were consulted to provide overview of ongoing and planned interventions at the local level.

Stakeholder	Stakes, role and responsibilities in the project	Consultation at PIF stage
Indigenous Peoples	At the start of the PPG it will be assessed if the project interventions will impact or work in areas inhabited by Indigenous Peoples and if so the FPIC approach will be followed to ensure full involvement of the IPs during the planning stage of the project.	
Research institutions	Different research institution will be consulted, knowledge consolidated and shared, and synergies sought with ongoing research initiatives to support the project objectives. Institutions of interest may include the Centre Valbio, Institut Supérieure de Technologie (IST), Centre National de Recherche sur l'Environnement (CNRE), Research institution for development (IRD).	During scoping mission, consultation meeting was organized with all relevant partners in targeted landscapes.
Private Sector	Several stakeholders from the private sector will be consulted and engaged during the PPG phase, in order to consolidate partnerships and ensure buy-in. Key stakeholders include: Aromania for essential oils and associated cooperative, potential mining companies. Key Small and Medium size enterprises active in the targeted value chains; Agri-Business processing companies active in the selected landscape and other partners at local and national level for coffee, rice and honey. Also potential impact investors at national and international level will be consulted during PPG. Public-private partnership will be also explored for rehabilitation of degraded forest station.	
All other potential co-financiers	Will be consulted and involved during the PPG phase.	UNDP, GIZ, AfDB and IFAD were all consulted during scoping mission.
FAO	GEF Agency for this project. Will coordinate the PPG in close collaboration with Government.	Co-facilitated scoping mission

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.

The table above summarizes how stakeholders will be engaged during Project preparation (PPG) and how they were consulted during PIF design.

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).

Taking into account men's and women/s different roles, responsibilities, and gender norms, this project will seek to understand and respond to the different needs, concerns and challenges that men and women face in investing in practices such as climate-smart agriculture or agro-forestry. **This project has the potential to significantly improve gender equity and women's empowerment within the context of forest and landscape restoration initiatives.** Women bring different perspectives in maintaining forest resources that benefit not only certain individuals but to a larger extent families and communities, and make up 49% of the population in the targeted areas.

The situation of women in Madagascar is complex and ambiguous. Indeed, if the parity is reached in certain fields, like primary education teaching or forestry higher education, the disparity is clear on their participation in the political life, their access to employment and income generation. Thus they cannot influence the orientation of national strategies and, especially budget decisions on national and local development programmes. In Madagascar, women are disadvantaged by insecure access and property rights to forest, tree and land resources, by discrimination and male bias in service provisions like credit and technology, and by being excluded from policy formulation and decision making at the household, community and national levels. At this stage women are not involved enough in decision making process for the land use planning. They realize only a fraction of the benefits and tend to be involved in decision making only when forest and tree resources are already degraded. Moreover, women's lack of formal education, employment and personal networks inhibits their ability to influence resource allocation.

To address the existing gender gaps, already relatively well identified in the evaluation published by the FAO Representation in Madagascar (2016), the project will pay a particular attention to this existing gap both on the occasion of the consultations to be organized during the PPG phase as well as during the implementation of the project itself. Specific areas where gender equity and women's empowerment will be improved during this project include:

- Involving actively women into planning and coordination bodies of the project, e.g. the coordination bodies regional/communal FLR/SLM planning committees to be established in the context of the Component 1 and the representative of the Federation of rural women (28 000 members) will be a member of the Project Steering Committee ;
- Ensuring that both male and female smallholder farmers have equitable access to the information, services, technology and support that this project will provide on Forest Landscape Restoration practices (including climate-smart agriculture, agroforestry or agro-ecology practices) ;
- Targeting to reach equally male and female smallholders (50-50) for deployment of finance (*small grants instruments, microfinance, micro-projects local calls for income generation activities etc...*);

- Providing additional outreach, education, specialized services etc..... as needed to ensure that female farmers are able to participate and benefit from this project's activities;
- Incorporating discussion and reflection about the gender implications of forest and landscape restoration to all training and educational materials produced through this project (*including into policy briefs, management plans and policies when possible*);
- Tracking the participation and benefit sharing of male and female participants through sex-disaggregated data and using that data to inform adaptive management of the project (*the list of relevant disaggregated indicators will be proposed by a specialized monitoring expert during the PPG phase*).

To provide sound technical assistance and methodological support to the implementation of these activities, the project will include a part time gender specialist to be supported by the FAO gender team within HQ.

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.

Local and international private sector companies with an interest in the landscape (e.g. Tozzi Green, Bionexx) will support the identification and promotion of sustainable Value Chains (VC).

This Value Chains development will include:

- i. identification of good practices related to biodiversity conservation and FLR, value chains and key partners;
- ii. supporting commercialization and profitability analysis (*including partnership arrangements for restored areas management and long term exploitation*);
- iii. securing private investments through marketplaces development;
- iv. maintaining investment solvability and promoting upscaling at national level.

The project will facilitate the mobilization of the national private sector on Forest and Landscape Restoration initiatives (*e.g. Agrivet, Agrifarm and Symabio*) in the context of their respective Social and Environmental Responsibility Strategy (*e.g. through the organization of market places with both project promoters and project investors*). The partnership with the baseline project funded by the Green Climate Fund (GCF), supported by Conservation International (CI) and involving several private partners such as Althelia, will be a key opportunity to explore the preparation of new bankable projects with other Equity Impact Funds such as the Moringa Partnership (*Banque Rothschild*) on several agroforestry value chains of interest for them (*pepper, coffee, essential oils etc....*) and to explore the possible involvement of the recently launched Land Degradation Neutrality Fund managed by MIROVA (*Nexity Bank*). Partnerships will be also sought with private companies engaged in supporting the GoM with national reforestation targets [such as the private company BEAM (Bois Et Aggloméré de Madagascar) who is looking to reforest 40,000 hectares/year in Madagascar]. WWF has worked in the COFAV corridor with the company Aromania in Ambositra to sell certified (Ecocert) organic essential oils and this could be scaled up.

5. Risks

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)

The table below summarizes the risks and their levels, as well as the mitigation strategies that the project will put in place to manage risks. During the PPG phase, project risks will be reassessed and updated as needed.

Risk	Level	Mitigation measures
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Changes or reductions in Government priorities in relation to reforestation and restoration	Low: the Government's commitment is expressed in a number of major policy documents	The project will focus strongly on demonstrating the feasibility, cost-effectiveness and social and sustainability benefits achievable through appropriate restoration approaches.
Political instability	Medium	There is a risk that due to ongoing political instability, the project could experience delays, particularly if the forthcoming elections lead to further instability at the regional level. The project will carefully monitor the political situation and will ensure that the capacity for delivering the project is built at multiple levels in order to avoid delays.
Continued compartmentalization and mistrust between actors in relation to conservation and development goals	Medium: attitudes are ingrained and dominant narratives strongly focus on the conflicts between economic development and conservation	The project will provide concrete demonstrations of "win-win" situations in which conservation and development goals are reconciled in relation to forest restoration and will invest strongly in awareness-raising and the facilitation of dialogue
Local poverty undermines restoration and conservation efforts (<i>i.e. improved agricultural practices take several years to produce effective results and poor rural populations may not be willing to wait for positive results</i>)	Medium: markets and prices for agricultural and tree crops tend to be volatile and producers may have limited ability to influence them.	Under project components 2 and 3, activities will be designed to support local communities during the process of identifying, developing and implementing improved agroforestry or climate smart agricultural practices in synergies with market demands so they will see livelihoods improvements while awaiting the medium-to longer term benefits of their FLR initiatives
Lack of clear land and resource tenure overlapping jurisdictions and conflicting land claims	Medium: these forms of uncertainty are widespread but can to some extent be avoided through site selection	The project will support the review of tenure models of relevance to restoration (<i>based on field experiences + support dialogue + conflict resolution mechanisms</i>) and will promote the matching of forest and landscape restoration models with local tenure conditions
Detachment of local management associations from the community and facilitate elite capture	Medium: evaluation of past conservation efforts have shown the importance of transparency and equality with regards to Community-Based Natural Resource Management	The project is supportive of traditional access and tenure as well as rights-based natural resource use. The issue will be further pinpointed during the PPG phase.

*The project was screened against Environmental and Social risks in line with FAO's and GEF's Environmental and Social Safeguards, and rated as **low risk** (see certification in annex). The risk level will be further re-assessed at PPG following FAO's stakeholder engagement processes. The Agency will make sure that all mitigation measures vis a vis any potential adverse impact will be duly considered in the CEO-endorsement package.*

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 following projects are not considered as potential cofinancing, but important lessons can be learned and synergies built during project implementation:

The GEF project **A Landscape Approach to conserving and managing threatened Biodiversity in Madagascar with a focus on the Atsimo Andrefana Spiny and Dry Forest Landscape** implemented by UNDP from 2017-2022 aims to protect biodiversity within the Atsimo Andrefana Landscape 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 implemented by the Ministry of Ecology, Environment, the Sea and the Forests in collaboration with the TANY MEVA foundation and SAGE in the Atsimo Andrefana region. A two-pronged approach is being used: first it will strengthen resource use governance at the landscape level by developing and implementing a Landscape Level Land-Use Plan that explicitly incorporates biodiversity conservation needs and prescribes land uses with a view to mitigating threats—the BD LUP. Second, the project will work with local communities to strengthen conservation on communal lands, addressing existing threats to biodiversity linked to artisanal livelihoods and subsistence activities. The project will work with communities to establish and operationalize multi-use 'Community Conservation Areas' (CCAs), including by putting in place measures to ensure the sustainable utilization of wild resources and conservation-friendly farming. A total of seven new Community Protected Areas category V (IUCN) will receive temporary protection in 2020 and in line with the Region's commitment to reforest 4000 ha each year, one of the main interventions that will be promoted is the development of agroforestry to enhance livelihoods and protect the watershed areas. The current project will build on this and enhance sustainable management of these areas within the boundaries of the lower Mangoky watershed taking into consideration restoration and biodiversity priorities.

Support programme on the Management of the Environment (PAGE/GIZ, 2015-2020). The project aims to enhance the protection, sustainable management and resilience to climate change impacts of natural resources in and around the protected areas, including in the region of Atsimo Andrefana. The project is built on five components: (i) improve conditions to protect and sustainably manage natural resources by the potential stakeholders; (ii) improve framework to improve and professionalize the value chains for energy and biomass; (iii) strengthen political, legal and institutional framework for sustainable management of natural resources and territorial planning, (iv) integrate ecological and social sustainability in artisanal mining; and (v) support to enhance resilience against climate change impacts. A Regional Territorial Management Plan (SRAT) has been elaborated following a participative approach and will form the basis of planned interventions by this project. The project will build on the experience and network established to reinforce capacity towards improved localized governance and support the local communities to elaborate and implement Communal Territorial Management Plans (SAC) taking into consideration biodiversity and restoration concerns.

Synergies will also be sought with the following GEF/GCF/IFAD/WB projects currently implemented in other regions of Madagascar:

Initiative	Objectives/Brief description of how it is linked to the project	Coordination
Conservation and Improvement of Ecosystem Services for the Atsinanana Region through Agroecology and the Promotion of Sustainable Energy Production UNEP/GEF 2018-2022	To optimise to sustainable land use management, biodiversity conservation, renewable household energy security and climate change mitigation for the benefit of local communities in Madagascar	Information will be shared on experiences and successful cases will be capitalize and disseminated on a common knowledge platform
Conservation and Sustainable Use of Biological Diversity in the Northwestern Landscape (Boeny region) CI/GEF 2018-2021	To strengthen the long-term conservation and sustainable use of biodiversity in the northwestern landscape of Madagascar	Will build on project's experiences through knowledge sharing events to be organized under the Umbrella of the National Committee on Forest and Landscape Restoration
Sustainable Agriculture Landscape Project (PADAP) (WB/GEF 2016-2021)	Increase access to improved irrigation services and agricultural inputs and strengthen the integrated management of natural resources in the targeted landscapes by the local actors and to provide immediate and effective response to an Eligible Crisis or Emergency.	Will build on project's experiences The mid-term evaluation of this WB/GEF project, to be implemented in 2019, will be particularly a key tool during the PPG phase to adapt the ILM/FLR planning approaches with Communes/COBAs in the two targeted watersheds
Programme d'appui au financement de l'agriculture et aux filières inclusives dans le sud de Madagascar (AFAFI-SUD (11e FED, 2019-2024)	To sustainable reduce poverty and improve food and nutrition security of rural communities in south and south-east Madagascar.	Information will be shared on experiences and successful cases will be capitalize and disseminated on a common knowledge platform
Forest and Farm Facility Phase II Climate Resilient Landscapes and Improved Livelihoods (FAO, 2018-2022)	Forest and Farm Producer Organisations (FFPOs) including women, youth and Indigenous Peoples are the primary agents of change for climate resilient landscapes and improved livelihoods	Information will be shared, and project will build on experience/expertise of ongoing project to support business incubation and cooperative capacity development

Institutional structure:

The Ministry of Environment and Sustainable Development (MEDD) will be the main government counterpart and will have the overall executing and technical responsibility for the project with FAO providing technical oversight as GEF Agency. The MEDD will coordinate all efforts to implement the project's components, aligning with other initiatives and assuring that all deadlines are achieved and that the project's results are discussed throughout all national and relevant sub-national institutions to be involved during the implementation phase. **The National Committee on Forest and Landscape Restoration, coordinated by the MEDD with the support of key FLR partners, will be an excellent umbrella to ensure the coordination of this project with other relevant initiatives.**

The Project Steering Committee (PSC) will be established at the beginning of the project and will be chaired by the designated representative of the Minister of Environment and Sustainable Development (MEDD). The members of the PSC will each assure the role of a Focal Point for the project in their respective organization.

The members of the National Committee of Forest and Landscape Restoration will be invited to join this PSC to ensure an optimal coordination with all partners/projects already engaged in restoration initiatives in Madagascar. It will also involve representatives of key national civil society organizations such as the CNAF (Comité National d'Agriculture Familiale), the Federation of Rural Women and the Union of Agribusiness enterprises and representatives of the relevant decentralized entities within the targeted regions/districts.

A **Project Management Unit (PMU)** will be funded by the GEF and established within the MEDD at national and regional levels. The main functions of the PMU, following the guidelines of the Project Steering Committee, will be to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU, at national level, will be composed of a National Project Coordinator (NPC) supported by a specialized experts in M&E and Knowledge Management and an Administrative/Finance Assistant. In each of the two targeted watershed a full time regional coordinator will be responsible for project implementation at regional/communal levels. These regional coordinators will be Land Use expert to be able to bring their technical expertise to the project.

The Food and Agriculture Organization (FAO) will be the GEF Implementing Agency for the Project, providing project cycle management services as established in the GEF Policy. FAO, as GEF Implementing Agency, holds overall accountability and responsibility to the GEF for delivery of the results.

During the PPG process, the operational capacity assessment will be conducted of the Ministry of Environment and Sustainable Development with the intention of the Ministry of Environment and Sustainable Development being the main executing partner for the project. Other likely national executing partners include: Decentralized regional Ministry institutions and Ministry of Agriculture. The Ministry of Environment and Sustainable Development has also indicated that given the integrated, cross sectoral nature of the project's restoration work, it may want FAO to provide execution support of some targeted technical activities under the project.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments 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

In 2003 Madagascar adopted a **National Action Plan (NAP) to fight against the desertification** and in 2015 this NAP was aligned in accordance with the Sustainable Development Goal 15 which was adopted by the General Assembly of the United Nations. The Government of Madagascar committed to **achieve Land Degradation Neutrality (LDN) by 2030** through the definition of voluntary national targets in 2015. The FLR interventions proposed through this project will contribute to the specific measures identified by the government and highlighted in below table.

Specific targets
Improve productivity and carbon stock in agro-pastoral zones
Increase green infrastructure area
Reduce conversion of forests into other types of vegetation cover by 2030
Reduce conversion of wetlands into other types of vegetation cover by 2030
Measures identified to achieve LDN by 2030
Integrate LDN principle into territorial planning
Integrate LDN principle into development and implementation of sectoral strategies
Promote every year sustainable agriculture practices on 200 000ha by 2025
Reduce pastoral fires by 2030
Restore every year 400 000 ha of degraded landscapes through the promotion of green infrastructure by 2025
Strengthen the capacity to innovate across the different sectors through sustainable land management practices
Mobilize financial incentives to promote research on sustainable land management linked to biodiversity and climate change

Table 4. LDN specific targets and measures

Through multiple key multilateral environmental agreements, GoM's also endorsed measures are conducive to this voluntary pledge. **GoM's Intended Nationally Determined Contribution (INDC, 2016) under UNFCCC aims at reducing 30 MtCO₂ of GHG emissions by 2030 and mainstreaming adaptation, including through practices that restore land** (*reforestation for habitat connectivity, for conservation, for sustainable timber production, restoration of natural forests and agroforestry*), **transform food systems and reduce deforestation** (*dissemination of intensive rice farming techniques, arboriculture, conservation agriculture, agro-ecology, climate-smart agriculture (CSA) and improved stoves*). **GoM's Land Degradation Neutrality (LDN) targets under UNFCCC (2017) aim to achieve Land Degradation Neutrality by 2030, including by**

improving productivity and carbon stocks in cultivated and grazing areas, increasing green infrastructure, practicing sustainable agriculture over 200 000 hectares and restoring 400 000 hectares of landscapes yearly by 2025.

GoM's **National Biodiversity Strategy and Action Plan** (NBSAP 2015-2025) under CBD promotes habitat loss reduction, sustainable production plans for agriculture and forestry, ecosystem restoration and resilience. By 2025, the NBSAP aims to have effective measures set up to effectively reduce the loss of biodiversity, to ensure the provision of essential ecosystem services and equitable sharing of benefits from biodiversity, for social welfare, economic and environmental development of current and future generations.

The project will contribute to the overarching Strategic Objectives of the NBSAP:

Strategic objective NBSAP 2015-2025
Objective 3: In 2025, at the latest, inappropriate and negative incentives on biodiversity will be eliminated or gradually reduced to minimize negative impacts. while positive incentives for conservation and sustainable use of biodiversity and natural resources will be developed and applied
Objective 4: In 2025, the Malagasy government and stakeholders at all levels will take appropriate steps to implement sound management plans of resources and maintain the impact of the use of natural resources within ecological limits secure
Objective 5: By 2025 , the rate of degradation , fragmentation and loss of habitats or ecosystems is reduced
Objective 7: In 2025 , all areas under agriculture, aquaculture and forestry are managed according to the plan of sustainable production, ensuring an integrated approach to biodiversity conservation
Objective 11: In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas , especially the areas of particular importance for biodiversity and ecosystem services , are adequately preserved in ecologically representative systems of protected areas and are efficiently managed by different strategic approaches
Objective 13 : By 2025, the genetic diversity of crops , domestic animals and their wild relatives and other species in social and cultural value is maintained and promoted sustainable
Objective 14: In 2025 , terrestrial ecosystems including forests, marine and coastal , sweet - brackish water including mangroves and lentic environments that provide essential services, particularly water supply and those that contribute to health, livelihoods and human well -being are protected and restored. And equitable access to ecosystem services is ensured for all, taking into account the gender approach
Objective 15 : By 2025, ecosystem resilience and the contribution of terrestrial, freshwater and marine mitigation and adaptation to climate change are strengthened, including restoration of at least 15% of degraded ecosystems and the fight against desertification
Objective18: In 2025, the initiatives put in place to protect traditional knowledge , innovations and practices of local communities relevant to biodiversity. The traditional sustainable use of biodiversity and their contribution to conservation are respected , preserved and maintained
Objective19 : In 2025, knowledge and basic science related to biodiversity , its values, its operation and its state are widely shared with policymakers and applied all the trends and consequences of its loss are mitigated and improved

The country has developed a **National REDD+ Strategy** in 2018 with four strategic objectives to which this project will contribute:

- improve political, legal, institutional and financial framework, necessary for good governance of the resources and the implementation of REDD+
 - promote land use planning and utilization
 - promote sustainable management and valorization of forest resources
 - improve living conditions of local communities through the implementation of alternatives to unsustainable agricultural practices and utilization of fuel wood
- Policies and strategies of the Government of Madagascar (GoM) call for locally-anchored inclusive growth (*National Development Plan, 2015-2019*), based on natural capital valorization and agricultural competitiveness and modernization [*Sectoral Programme on Agriculture, Livestock and Fisheries (PSAEP), 2016-2020*]. This project is following similar approach anchored in local institutions and communities.

With regards to land use and land tenure, the 2005 land policy reform heralded significant changes in land administration, establishing that untitled land could no longer be presumed to belong to the State. Slowing down in 2009, the reform re-started in 2015 with the updated Land Policy Letter which confirmed a clear commitment for strengthening municipal ownership in land tenure management and land use plans (*opening the door for the preparation of ‘‘Schémas d’Aménagement Communaux’’*).

Countries of the Indian Ocean Commission (COI) largely depend on imports to cover their needs for rice, cassava, maize and fruits. Madagascar represents 98% of the agricultural area of COI and intends to become its key food producer within the Regional Programme for Food and Nutrition Security (PRESAN, 2017-2022), with the objective to improve food security and the regional trade balance of COI. The project will also focus on enhancing productivity in landscapes surrounding the Protected Areas linked to promising food value chains.

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.

Throughout the project’s lifetime, knowledge products and knowledge-sharing workshops will be developed to share the results of the project to all relevant stakeholders and further their engagement in the project. In addition, the project will participate, as is relevant and appropriate, in scientific, policy-based, and/or any other national seminars or networks that may be of benefit to project implementation. Specifically, the project will ensure coordination in terms of avoiding overlap, sharing best practices and generating knowledge products of best practices in the area of biodiversity conservation, forest and landscape restoration practices and landscape management approaches with the similar on-going projects in the targeted regions. When relevant knowledge sharing events will be organize with other country/partners of the COI (Commission de l’Océan Indien).

The project will also benefit from another GEF-funded programme (The Restoration Initiative) under implementation for which online Community of Practices have been established to share best practices and lessons learned between the TRI focus countries and beyond. As such a wealth of information and experience can be catalyzed to inform the proposed project. Collaboration will be also prioritized with the GEF-6 project on Building and Strengthening Madagascar’s National Capacity to Implement the Transparency

Elements of the Paris Agreement to share information and knowledge to integrate within the NDC framework. Eventually exchange visits will be organized with COI / SADC (Southern African Development Community) members facing similar challenges on Forest and Landscape Restoration.

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
Mr. Lala Noelison Jacques Ranaivomanana	Operational Focal Point and General Secretary of the Ministry of the Environment	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (MEDD)	2/26/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Figure 3: Map with the eight targeted priority watersheds for Forest and Landscape Restoration

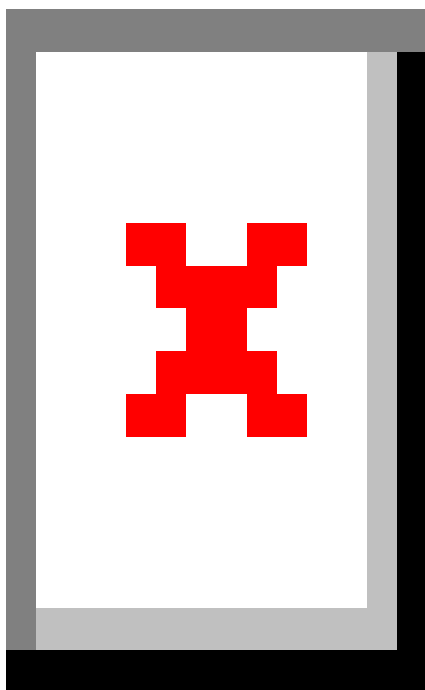


Figure 4 : Map of the current level of degradation (SDG 15) in the selected watersheds/districts

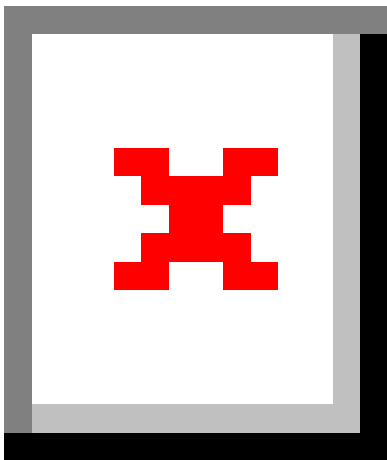


Figure 7: Map showing overview of cofinancing projects in project area

